

# **QMonitor: The 2009 Report on the Performance of Ontario's Health Care System**

## **2009 Technical Report**

**Prepared by the Institute for Clinical Evaluative Sciences  
for the Ontario Health Quality Council**

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**Ontario Telemedicine Network**  
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## **1.0 Introduction to the Technical Report**

The Institute for Clinical Evaluative Sciences (ICES) entered into a contract with Ontario Health Quality Council (OHQC) in 2007 to work collaboratively to identify a set of indicators that could be used in OHQC reports and provide data on those indicators. This year, in conjunction with external partners, we present the 2009 Report on Ontario's Health System (herein referred to as the 2009 Report) and this accompanying Technical Report.

The purpose of the Technical Report is to provide public access to details of the process that ICES used to generate indicator results. This information will be useful to others interested in replicating the indicators presented in the 2009 Report. Further details on the process and methods used to select the indicators in the 2009 Report can be obtained from the OHQC.

The indicator results presented in the 2009 Report came from two general areas. Approximately half of the indicators were obtained by ICES staff from public documents or through data requests from organizations external to ICES and the OHQC. The other half of indicators were calculated at ICES using registry, administrative and survey data housed at ICES.

This Technical Report is organized into three sections. Indicators that were sourced from reports or organizations outside of ICES or the OHQC are listed in Section 2. Each external data source includes a short description of the data and who to contact for more information. Section 3 provides a summary of the indicators that were calculated at ICES. This section includes descriptions of all the databases at ICES that were used to calculate indicators, a discussion and rationale for the use of crude and standardized rates, a description of how we identified that an indicator shows a trend over time and complete definitions for all indicators. The final section is the appendix.

## 2.0 Indicators from External Data Sources

This section lists the organizations and data sources for indicators that were not produced by ICES; in other words, organizations external to ICES and the OHQC whose data were presented in the 2009 Report. Each data source is briefly described with links to where additional information can be found. The indicators drawn from each data source are listed in a table at the end of each data source detailing which indicators in the 2009 Report were drawn from each data source.

### 2.1 *Commonwealth Fund International Health Policy Survey of Sicker Adults*

*The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults* was conducted by Harris Interactive Inc. on behalf of The Commonwealth Fund. Additional country-specific support for the survey came from the Health Council of Canada, the Commissaire à la Santé du Québec, Ontario Health Quality Council, Haute Autorité de Santé (France), the Foundation for Quality and Efficiency in Health Care (Germany), the Centre for Quality of Care Research (WOK; Netherlands), and the UK Health Foundation.

Telephone interviews were carried out with nationally representative samples of adults age 18 and over who reported being in poor/fair health, having a serious illness, disability, hospitalization, or major surgery in the past two years. The survey was conducted in Australia, Canada, France, Germany, the Netherlands, New Zealand, the United Kingdom, and the United States. Fieldwork in all countries took place between March 3 and May 30, 2008. Country-level data was weighted by age, sex, region and education. Further details can be found online at <http://www.commonwealthfund.org/Content/Surveys/2008/2008-Commonwealth-Fund-International-Health-Policy-Survey-of-Sicker-Adults.aspx>.

Twelve indicators in the report were drawn from *The 2008 Commonwealth Fund International Health Policy Survey of Sicker Adults*:

| Attribute  | Indicator                                                                                                                                                                       | Data Source                                                                        |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Accessible | Percentage of sicker adults who waited two or more hours for treatment after arriving in the emergency department, in Canada and select provinces, 2008                         | <i>Commonwealth Fund International Health Policy Survey of Sicker Adults, 2008</i> |
|            | Percentage of sicker adults who were able to see their doctor on the same or next day the last time they were sick or needed medical attention, in Ontario and by country, 2008 |                                                                                    |
|            | Percentage of sicker adults who saw a specialist within four weeks of being referred, in Ontario and by country, 2008                                                           |                                                                                    |
| Effective  | Percentage of sicker adults with diabetes who had their feet and eyes checked by a health professional in the last year in Ontario, Canada and other countries, 2008            |                                                                                    |

|                  |                                                                                                                                                                                                                                                                                   |  |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Patient-centered | Percentage of sicker adults who have a regular doctor or place or care who rate the over quality of medical care they received in the past 12 months as excellent or very good, in Ontario and by country, 2008                                                                   |  |
| Efficient        | Percentage of sicker adults who in the last two years often or sometimes felt their time was wasted because their medical care was poorly organized, in Ontario and by country, 2008                                                                                              |  |
|                  | Percentage of sicker adults who reported that in the last two years their test results, medical records or reasons for referrals were not available at the of their scheduled doctor's appointment, in Ontario and by country, 2008                                               |  |
|                  | Percentage of sicker adults who in the last two years felt tests were unnecessary because the test had already been done, in Ontario and by country, 2008                                                                                                                         |  |
| Integration      | Percentage of sicker adults (who have a doctor and have seen a specialist in the last two years) whose primary care provider seemed informed and up-to-date about the care received from their specialist in Ontario, Canada and other countries, 2008                            |  |
|                  | Percentage of sicker adults (taking medication) who, in the last two years, (always or often) had their doctors or pharmacists review and discuss all the different medications they were using, including medicines prescribed by other doctors, in Ontario and by country, 2008 |  |
|                  | Percentage of sicker adults (who saw or needed to see a specialist in the last two years) whose specialist had information on their medical history, in Ontario, Canada and other countries, 2008                                                                                 |  |
|                  | Percentage of sicker adults (with multiple conditions) whose doctor ever gave instructions for one of their chronic conditions that conflicted with what they have been told to do for another condition in Ontario, Canada and other countries, 2008                             |  |

## 2.2 Wait Time Information System

The Ontario Wait Time Information System (WTIS), a program of the Ontario Ministry of Health and Long-Term Care (MOHLTC), was the data source for the wait times related data on the cancer surgeries, joint replacement procedures, cataract surgery and diagnostic imaging procedures. Wait times data on cardiac services was provided separately by the Cardiac Care Network (see 3.3). Full details of the wait time data collection methodology including definitions, calculations, data sources, comprehensiveness (inclusion and exclusion criteria), limitations, comparisons, data quality and privacy considerations can be found online at [http://www.health.gov.on.ca/transformation/wait\\_times/providers/wt\\_data.html](http://www.health.gov.on.ca/transformation/wait_times/providers/wt_data.html). Up to date wait time data can be found at [www.ontariowaittimes.com](http://www.ontariowaittimes.com).

The following 90th percentile wait times and percent of procedures completed within target indicators were presented in the 2009 Report:

| Attribute  | Indicator                                                                                                                                                     | Data Source                                                                 |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Accessible | 90th Percentile wait times for cancer surgeries in Ontario, August/September, 2005 – December, 2008                                                           | <i>Wait Times Information System, Ministry of Health and Long-Term Care</i> |
|            | Average monthly proportion of patients getting cancer surgery within target timeframes by priority in Ontario, 2008                                           |                                                                             |
|            | 90th Percentile wait time for hip replacement, knee replacement and cataract surgeries in Ontario, August/September, 2005 – December, 2008                    |                                                                             |
|            | Average monthly proportion of patients getting hip replacement, knee replacement and cataract surgeries within target timeframes by priority in Ontario, 2008 |                                                                             |
|            | 90th Percentile wait times for MRI or CT scans in Ontario, August/September, 2005-December, 2008                                                              |                                                                             |
|            | Average monthly proportion of patients getting MRI or CT scans within target timeframes by priority in Ontario, 2008                                          |                                                                             |

## 2.3 Cardiac Care Network

The Cardiac Care Network (CCN) oversees the planning and provision of cardiac services in Ontario, which includes monitoring and measuring wait times to cardiovascular procedures in all regions of Ontario such as the priority cardiac services included in Ontario's Wait Times Strategy and that are presented in this Report. Target wait times for cardiac services differ from other wait times procedures in that each patient is assigned their own wait time target based on their unique health situation. The other wait time procedures (cancer, hip/knee replacement, cataract surgery and diagnostic imaging) have overarching targets that are applied to the whole population (but which vary according to one of 4 categories of disease severity). The patient specific cardiac procedure wait time target is called their Recommended Maximum Waiting Time (RMWT). Technical measurement details for each procedure can be found at [http://www.ccn.on.ca/3\\_1.php](http://www.ccn.on.ca/3_1.php).

The cardiac wait times measures included in the 2009 Report are:

| Attribute  | Indicator                                                                                                                                                                                                           | Data Source                 |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Accessible | 90 <sup>th</sup> percentile wait time for cardiac surgeries (angiography – all elective, angioplasty (scheduled PCI) – all urgency, bypass surgery – isolated elective) in Ontario, Aug/Sept 2005 to September 2008 | <i>Cardiac Care Network</i> |
|            | Average monthly proportion of patients getting angiography, angioplasty, bypass surgery within RWMT target timeframes by priority in Ontario, January-October 2008                                                  |                             |

## 2.4 Ontario Telemedicine Network

The Ontario Telemedicine Network (OTN) is one of the busiest and most comprehensive telemedicine programs in Canada. Using advanced information and communication technologies and electronic medical devices, OTN supports the delivery of clinical care, professional education and health-related administrative services to more than 440 sites across the province. OTN is an independent, not-for-profit organization funded by the MOHLTC. More information about OTN can be found through their website: [www.otn.ca](http://www.otn.ca).

OTN collects a broad range of data on volumes of telemedicine communication events. The core measure on clinical encounters is what was included in the 2009 Report. OTN provided ICES with the volumes of clinical calls data by LHIN and using StatsCan population files ICES calculated the rates per 100,000 population that are presented in the 2009 Report.

| Attribute  | Indicator                                                                                                      | Data Source                                                                                                           |
|------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Accessible | Rate of telemedicine use for clinical patient consultations per 100,000 population in Ontario, 2003/04-2007/08 | <i>Ontario Telemedicine Network and the Institute for Clinical Evaluative Sciences (for Ontario population files)</i> |
|            | Rate of telemedicine use for clinical patient consultations per 100,000 population across Ontario, 2007/08     |                                                                                                                       |

## 2.5 Ontario Ministry of Health and Long-term Care

Several indicators in the 2009 Report were provided by different divisions and branches within the Ministry of Health and Long-term Care (MOHLTC). The Health Analytics and Health Data Branches within the Health System Information Management and Investment Division collect and analyze data on topics ranging from financial data to disease incidence and health services utilization data.

The latest data on rate of patients acquiring C. Difficile in hospital is publicly available through the MOHLTC's website: [http://www.health.gov.on.ca/patient\\_safety/index.html](http://www.health.gov.on.ca/patient_safety/index.html).

The Primary Care Scorecard was developed by the Health System Strategy Division, MOHLTC to be used as a performance management tool that monitors and guides strategic decisions such as where to implements new health system performance improvement initiatives.

The Health Human Resources Strategy Division, MOHLTC provided us with the information to determine the number of first year health professional student placements indicator. Analysts acquired the most recent data from the Ministry's own databases, individual university admissions offices and related health care professional associations.

Technical details for each indicator can be obtained by contacting the OHQC. The following table lists the indicators presented in the 2009 Report that were calculated by or with data from the MOHLTC:

| Attribute  | Indicator                                                                                                                              | Data Source                            |
|------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Accessible | Median number of day to long-term care placement from acute care, community and overall in Ontario, 2006/07 to 2007/08 fiscal quarters | <i>Health Analytics Branch, MOHLTC</i> |
|            | Median number of day to long-term care placement from acute care, community and overall across Ontario, 2007/08                        |                                        |
|            | Percentage of long stay residents who are placed in their first choice long-term care homes across Ontario, August 2008                | <i>Health Data Branch, MOHLTC</i>      |

|                         |                                                                                                                                                    |                                                                             |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Safe                    | Rate of hospital acquired C. Difficile disease per 1,000 patient bed days in acute care hospitals in Ontario, August to December 2008              | MOHLTC                                                                      |
| Equity                  | Rate of potential years of life lost due to primary care sensitive conditions per 100,000 by gender in Ontario, 2001-2003                          | Primary Care Scorecard, MOHLTC                                              |
| Appropriately Resourced | Number of places for first-year students in Ontario, 2005/06 and 2007/08:                                                                          |                                                                             |
|                         | Undergraduate medical students                                                                                                                     | Physician Planning Unit, HHRPB, Ministry of Health and Long-Term Care, 2007 |
|                         | Training and assessment opportunities for international trained medical graduates                                                                  |                                                                             |
|                         | Register nurses (RN)                                                                                                                               | Register Nurses' Association of Ontario, 2006/07                            |
|                         | Nurse practitioners (NP)                                                                                                                           | Public Announcement, Ministry of Health and Long-Term Care, 2007            |
|                         | Pharmacists                                                                                                                                        | University of Waterloo and University of Toronto                            |
|                         | Midwives                                                                                                                                           | Public Announcement, Ministry of Health and Long-Term Care, 2007            |
|                         | Information systems and communication net expenses as a percentage of total net expenditure in select health sectors in Ontario, 2003/04 - 2007/08 | MOHLTC                                                                      |

## 2.6 Registry of the Canadian Stroke Network

The Canadian Stroke Network (CSN), one of Canada's Networks of Centres of Excellence ([www.nce.gc.ca](http://www.nce.gc.ca)), is a collaborative effort that brings together researchers, students, government, industry and the non-profit sector. The CSN puts Canada at the forefront of stroke research through its multidisciplinary research program, high-quality training for Canadian scientists and clinicians, and national and global partnerships. At present, the Network has more than 100 researchers at 32 universities across the country.

The Registry of the Canadian Stroke Network (RCSN) was established in 2001. Its mandate includes ongoing measurement and monitoring of the quality of stroke care delivery in Ontario. The stroke measures presented in the Report are also a part of the Ministry-LHIN accountability agreement performance indicator framework and calculated on a quarterly basis to meet the Ministry's reporting requirements. Further information on these indicators can be found by contacting the Canadian Stroke Network through their website: [www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca).

| Attribute | Indicator                                                                                                                | Data Source                                            |
|-----------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Effective | Percent of stroke patients with atrial fibrillation discharged with warfarin in Ontario, 2002/03-2007/08 fiscal quarters | <i>Registry of the Canadian Stroke Network Phase-3</i> |
|           | Percent of stroke patients with atrial fibrillation discharged with warfarin by Ontario stroke centres, 2007/08          |                                                        |
|           | Percent of stroke patients discharged on ASA or antithrombotic therapy in Ontario, 2002/03-2007/08 fiscal quarters       |                                                        |

## 2.7 Canadian Institute for Health Information

### 2.7.1 Continuing Care Reporting System

The Canadian Institute for Health Information (CIHI) developed the Continuing Care Reporting System (CCRS) to enhance the collection of standardized facility-based long-term care information for national comparative reporting. The data is collected using an internationally accepted standard, the Resident Assessment Instrument Minimum Data Set Version 2.0 (interRAI MDS 2.0). Details of the methods used to calculate the two indicators that use the CCRS data can be found online: [http://www.cihi.ca/cihiweb/dispPage.jsp?cw\\_page=services\\_ccrs\\_e](http://www.cihi.ca/cihiweb/dispPage.jsp?cw_page=services_ccrs_e) or by searching the CIHI website for the Continuing Care Reporting System.

| Attribute | Indicator                                                                                                                                       | Data Source                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Effective | Percent of long-term care nursing home residents experiencing worsening depression, Ontario 2006/07 to 2007/08 fiscal quarters                  | <i>Canadian Institute for Health Information, Continuing Care Reporting System (InterRAI MDS)</i> |
|           | Percent of long-term care nursing home residents experiencing deterioration in functional status, Ontario 2006/07 to 2007/08 by fiscal quarters |                                                                                                   |

### 2.7.2 2008 Health Indicators

Each year CIHI publishes the Health Indicators report with the results of a standard set of indicators for all provinces to be able to compare health status and health system performance. The final set of indicators is decided at a national consensus conference. The rationale, definitions, statistical model specification and data sources for all indicators can be found online at [http://www.icis.ca/cihiweb/dispPage.jsp?cw\\_page=tech\\_notes\\_2008\\_e](http://www.icis.ca/cihiweb/dispPage.jsp?cw_page=tech_notes_2008_e) or by searching the CIHI website for the 2008 Health Indicators Technical Notes.

The in-hospital hip fracture indicator was calculated using the Discharge Abstract Database. The results were risk-adjusted for age, sex, whether a surgical procedure was provided, and the presence of medical conditions that increase the chance of a fall.

| Attribute | Indicator                                                                                                         | Data Source                                      |
|-----------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Safe      | Risk-adjusted rate of in-hospital hip fracture per 1,000 inpatients in Ontario and Canada, 2000/2002 to 2004/2007 | <i>Canadian Institute for Health Information</i> |

### 2.7.3 Hospital Reports Research Collaborative 2005-2008

The Hospital Reports Research Collaborative started producing reports on the performance of Ontario's hospitals and other sectors within the health care system in 1999. The reports are now managed and produced by CIHI on an annually. Performance is assessed on a range of topics including clinical utilization and outcomes, financial performance, patient satisfaction and system integration and change. The 2009 Report draws on the research conducted in acute care and the emergency department and presents composite indicator data results from the patient satisfaction survey as well as summary scores on use of information technology from the system integration and change reports.

The analysis on patient satisfaction was conducted collaboratively among the Ontario Hospital Association (OHA), the National Research Corporation (NRC+Picker Canada), The University of Toronto, CIHI and approximately 90 participating Ontario hospital corporations. The acute care and emergency department reports used a modified version of the Picker Acute Care Survey that is used extensively in the United States and Europe. The Picker Acute Care Survey was modified, pilot tested and validated for a Canadian population.

The use of clinical information technology indicator was constructed to reflect the degree to which clinical information is available electronically to care providers inside and outside of the organization. Full technical details describing the survey design, administration, analytical approach and data quality is available online:

Full technical details regarding the survey questions, sampling techniques, sample sizes, inclusion/exclusion criteria, weighting and survey process are available online:

<http://www.hospitalreport.ca/downloads/year.html>.

The following Hospital Reports measures were used in this report:

| Attribute               | Indicator                                                                                                                                     | Data Source                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Patient-centered        | Patient satisfaction and patient experience score for hospitals in Ontario, 2003/04 to 2006/07                                                | <i>Hospital Report Research Collaborative. Hospital Report 2005: Acute Care - Patient Satisfaction; Hospital Reports 2006: Acute Care - Patient Satisfaction; Hospital Reports 2007: Acute Care - Patient Satisfaction; Hospital e-Scorecard Report 2008: Acute Care</i>                                                                          |
|                         | Patient satisfaction and patient experience score for emergency departments in Ontario, 2003/04 to 2006/07                                    | <i>Hospital Report Research Collaborative. Hospital Report 2005: Emergency Department - Patient Satisfaction; Hospital Reports 2006: Emergency Department - Patient Satisfaction; Hospital Reports 2007: Emergency Department - Patient Satisfaction; Hospital e-Scorecard Report 2008: Emergency Department</i>                                  |
| Appropriately Resourced | Score (out of 100) of selected Ontario acute-care hospitals on their use of clinical information technology by type of hospital, 2005 to 2008 | <i>Hospital Report Research Collaborative. Hospital Report 2005: Acute Care System Integration and Change Technical Summary; Hospital Report 2006: Acute Care System Integration and Change Technical Summary; Hospital Report 2007: Acute Care System Integration and Change Technical Summary; Hospital e-Scorecard Report 2008: Acute Care</i> |
| Integration             | Percent of Ontario patients                                                                                                                   | <i>Canadian Institute for Health Information.</i>                                                                                                                                                                                                                                                                                                 |

|  |                                                                                                                                                              |                                                                                   |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  | leaving acute inpatient care or the emergency department who did not know whom to contact if they needed care or had questions in Ontario, 2004/05 – 2006/07 | <i>The Picker acute care and emergency department surveys, 2004/05 to 2006/07</i> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

## 2.7.4 National Health Expenditure Database

The National Health Expenditure database (NHEX) provides an overview of all health spending in Canada, by spending category and source of funding. Data are extracted from diverse public documents, including national and provincial/territorial public accounts and other financial reports. Other sources include private insurance companies, AC Nielsen Canada and Statistics Canada. CIHI strives to ensure that the quality of the information in their data holdings is suited to its intended uses, and that data users are provided good information about data quality. Full technical details for the report are available online at:

[http://www.icis.ca/cihiweb/dispPage.jsp?cw\\_page=spend\\_nhex\\_e](http://www.icis.ca/cihiweb/dispPage.jsp?cw_page=spend_nhex_e).

The following indicator data were drawn from the NHEX and included in the report:

| Attribute               | Indicator                                                                                                             | Data Source                                                                          |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Appropriately Resourced | Total health expenditure as a percentage of gross domestic product by province, 1998, 2003 and 2008 – current dollars | <i>Canadian Institute for Health Information, National Health Expenditure Trends</i> |

## 2.8 Cancer Care Ontario

Cancer Care Ontario (CCO) is an agency of the MOHLTC and is responsible for continually improving cancer services. The Cancer Quality Council of Ontario (CQCO) is an advisory group that works with the CCO to monitor and publicly report on the performance of the cancer system and provide advice on planning and strategic priorities. Each year the two groups publish the Cancer System Quality Index (CSQI).

The CSQI is a system-wide monitor that tracks the quality and consistency of key services delivered across Ontario's cancer system - from prevention to end-of-life care. There are approximately 30 indicators in the index. Details on targets, rationale, interpretation, and technical aspects of the measure such as definitions and data quality comments can be found online at <http://www.cancercare.on.ca/qualityindex2007/index.html>.

The following indicators were requested from CCO and are available through the CSQI:

| Attribute | Indicator                                                                                                                   | Data Source                                         |
|-----------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Effective | Adjusted five-year relative survival ratio for patients with breast or colorectal cancers in Ontario 1991-1995 to 2001-2005 | <i>Cancer Care Ontario, Ontario Cancer Registry</i> |

|  |                                                                                                                                                                    |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | Percent treated with guideline recommended radiation following breast conserving surgery in Ontario, all patients having surgery between April 2005 and March 2008 |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

## 2.9 Institute for Safe Medication Practices, Canada

The Institute for Safe Medication Practices (ISMP) Canada is an independent national non-profit agency committed to the advancement of medication safety in all healthcare settings. ISMP Canada works collaboratively with the healthcare community, regulatory agencies and policy makers, provincial, national and international patient safety organizations, the pharmaceutical industry and the public to promote safe medication practices.

Part of ISMP Canada's mandate is to review and analyze medication incident and near-miss reports according to a hazard identification model, identify contributing factors and causes and make recommendations for the prevention of harmful medication incidents. As such, ISMP Canada enlists hospitals and other health care facilities to voluntarily and anonymously submit data on medication incidents and as of November 2008 there were 47 acute-care hospitals submitting data to ISMP Canada on a regular basis. More information on ISMP Canada can be found on their website: <http://www.ismp-canada.org/>.

| Attribute | Indicator                                                                                                                                                                                  | Data Source                                           |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Safe      | Percent of reported medication incidents resulting in harm or death by type of medication incident in Ontario, 2000-2008                                                                   | <i>Institute for Safe Medication Practices Canada</i> |
|           | Percent of reported medication incidents resulting in harm or death outcomes by National Coordinating Council for Medication Error Reporting and Prevention category in Ontario, 2000-2008 |                                                       |

## 2.10 Statistics Canada

### 2.10.1 Canadian Survey of Experiences with Primary Health Care

The Canadian Survey of Experiences with Primary Health Care (CSE-PHC) was conducted by Statistics Canada from April to June 2008 with the cooperation and support of the Canadian Institute for Health Information (CIHI) and the Health Council of Canada (HCC).

Its purpose was to measure experiences with the healthcare system, in particular with access and utilization of various types of primary health care services. Respondents were asked about visits with various doctors and clinics, emergency rooms as well as their prescription medication use. Special attention was given to people living with chronic conditions.

The information gathered in this survey refers to the 12 months leading up to the interviews, which were conducted from April to June 2008. The sample consisted of 16,482 adults in the 10 provinces and 3 territories. Further technical details can be found at: <http://www.statcan.gc.ca/daily-quotidien/090205/dq090205e-eng.htm>.

| Attribute           | Indicator                                                                                                                           | Data Source                                                                             |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Patient-centredness | Percent of respondents who felt their care from their primary care provider was patient centred in Ontario and rest of Canada, 2007 | <i>Statistics Canada, 2008; Canadian Survey of Experiences with Primary Health Care</i> |
|                     | Deal with anxiety and fears                                                                                                         |                                                                                         |
|                     | Enough time to explain test results                                                                                                 |                                                                                         |
|                     | Do not have language barriers to getting care                                                                                       |                                                                                         |
|                     | Asked about chronic disease goal setting                                                                                            |                                                                                         |
|                     | Know what each prescribed medication does                                                                                           |                                                                                         |
|                     | Know what to do at home to follow through on medical treatment                                                                      |                                                                                         |
|                     | Know different medical treatment options                                                                                            |                                                                                         |
|                     | Know how to prevent further problems with health conditions                                                                         |                                                                                         |

Note: Graphs shows percentage of respondents who “agreed” or “strongly agreed” with each statement

### **2.10.2 National Survey of the Work and Health of Nurses**

The National Survey of the Work and Health of Nurses was conducted in 2005 and was the first nationally representative survey to focus on nurses' working conditions and their physical and mental health. Nearly 19,000 nurses answered questions pertaining to their experiences and perceptions of work organization, including staffing, shift work, overtime and employee support

The survey also collected information on work stress, role overload, respect in the workplace and quality of patient care. The survey was produced through a partnership between CIHI and Health Canada. Technical information about the survey design can be found at:

<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=5080&lang=en&db=imdb&adm=8&dis=2>.

| Attribute               | Indicator                                                                                                                                                                        | Data Source                                                                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Appropriately Resourced | Percent of nurses, doctors (general practitioners/specialists) and all employed people reporting job dissatisfaction in Ontario, 2003 (all), 2005 (nurses) and 2007 (physicians) | <i>Statistics Canada. National Survey of the Work and Health of Nurses, 2005</i> |
|                         | Percent of nurses reporting not having enough time to do what is expected in their job and having low control over their job by province, 2005                                   |                                                                                  |
|                         | Percent of nurses reporting not having enough time to do what is expected in their job and having low control over their job by work setting in Ontario, 2005                    |                                                                                  |

### **2.11 University of Toronto, Pilot Long-term Care Home Residents and Family Satisfaction**

The Department of Health Policy Management and Evaluation conducted a pilot resident and family satisfaction survey on behalf of the Ontario Ministry of Health and Long Term Care and the Ontario Health Quality Council between November 2008 and January of 2009. The purpose of the study was to test two different pairs of resident and family survey instruments.

Thirty Long Term Care Homes were selected from the Greater Toronto and Greater Ottawa Areas, and Hamilton-Niagara regions. Homes were selected from these regions to be representative of for-profit, not-for-profit and municipal homes. The target sample was 60 residents and 120 families from each of the 30 participating homes. Resident sample targets were met in most homes and family response rate was 56%. Two surveys were randomly allocated to respondents (both family and resident) with a core set of common items included in the resident survey.

Further details regarding the survey and results can be found under the "Determinants of Quality in Ontario Long Term Care" at <http://www.hpme.utoronto.ca/about/research/kt/research.htm>. Seven questions about resident care with complementary resident and family responses and one resident-only question were included in this report:

| Attribute       | Indicator                                                                                                                                            | Data Source                                                                                       |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Patient-centred | Percent who rate quality of care/services in this long-term care home as excellent, very good/good, poor-fair, 2008                                  | <i>University of Toronto, Pilot Long-Term Care Home Residents and Family Satisfaction 2008/09</i> |
|                 | Percent who would recommend this long-term care home to others (yes, maybe, no), 2008                                                                |                                                                                                   |
|                 | Percent who feel encouraged to participate in decisions or whose family are involved in care as much as wanted (yes, sometimes, no), 2008            |                                                                                                   |
|                 | Percent who believe there are enough organized activities at their long-term care home during the week and on the weekends (yes, somewhat, no), 2008 |                                                                                                   |
|                 | Percent who believe that staff promptly answers call or whose family believes staff follows up on requests (yes, somewhat, no), 2008                 |                                                                                                   |
|                 | Percent who feel free to speak up when they are unhappy with their care (yes, sometimes, no), 2008                                                   |                                                                                                   |
|                 | Percent of resident who feel at home (yes, somewhat, no), 2008                                                                                       |                                                                                                   |

## **2.12 Ontario Physician Human Resources Data Centre and the College of Nurses of Ontario**

The Ontario Physician Human Resources Data Centre (OPHRDC) is the definitive source for information on physicians and postgraduate medical trainees in Ontario. OPHRDC has maintained a registry of all licensed physicians practicing in Ontario, the Active Physician Registry. From this registry the Centre produces numerous reports and analyses, including an annual report, Physicians in Ontario (PIO) and special reports based on the annual PIO dataset.

The College of Nurses of Ontario (CNO) is the governing body for the 145,000 registered nurses (RNs) and registered practical nurses (RPNs) in Ontario. The College is committed to sharing statistical information about Ontario nurses. The supply of RPNs is publicly available through their online data query tool, which can be found at: [http://www.cno.org/about/stats/dqt\\_disclaimer.htm](http://www.cno.org/about/stats/dqt_disclaimer.htm).

The rate of primary care physicians and primary care nurse practitioners in the populations was calculated at the Institute for Clinical Evaluative Sciences using Statistics Canada population estimates.

| Attribute               | Indicator                                                                                                         | Data Source                                                                            |
|-------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Appropriately Resourced | Supply of primary care physicians and primary care nurse practitioners per 100,000 population, Ontario, 2000-2007 | <i>Ontario Physician Human Resources Data Centre; The College of Nurses of Ontario</i> |

## 2.13 Workplace Safety and Insurance Board

Information on the frequency of work-related injury and disability in three sectors in the Ontario health care system was produced by the WSIB, using a standardized data resource termed the Enterprise Information Warehouse. The results were produced in consultation with the Institute for Work & Health and WSIB.

Tabulations of allowed time-loss and no-time loss claims between January 2002 and December 2007 inclusive are provided for health care employers in Ontario included in rate group 853 (Hospitals), rate group 851 (Homes for Nursing Care) and rate group 857 (Home care services). The estimate of the full-time equivalent insured workforce is based on payroll information provided by facilities to the WSIB in the course of administering premium payments. The rate of compensation claims per 100 full-time equivalent staff are reported in the table. Precise definitions of each rate group are available online:

<http://www.wsib.on.ca/wsib/wecm.nsf/public/h85301> to

<http://www.wsib.on.ca/wsib/wecm.nsf/public/h85308> (Hospitals)

<http://www.wsib.on.ca/wsib/wecm.nsf/public/h85101> (Homes for Nursing Care)

<http://www.wsib.on.ca/wsib/wecm.nsf/public/h85701> (Nursing Services)

Please contact the OHQC for further details on the definition.

| Attribute               | Indicator                                                                                          | Data Source                                              |
|-------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Appropriately Resourced | Reported injuries across largest health care employers per 100 FTE employees in Ontario, 2002-2007 | <i>Ontario Workplace Safety and Insurance Board 2008</i> |
|                         | Causes of lost-time injuries among Ontario healthcare workers, 2008                                |                                                          |

## 2.14 National Physician Survey

The overall goal of the National Physician Survey (NPS) project is to produce a comprehensive database documenting what all physicians in Canada are doing in their practices in response to both societal needs and personal and professional interests. The database also includes socio-demographic information, information on the work setting(s), patient care setting(s), patient access to care, practice profiles, allocation of time, income source, changes to practice, use of information technology and professional satisfaction. The survey is conducted once every three years. National and provincial results are publicly available online. See <http://www.nationalphysiciansurvey.ca/nps/> for results as well as technical information.

| Attribute               | Indicator                                                                         | Data Source                                            |
|-------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------|
| Appropriately Resourced | Percent of family physicians who use electronic medical records by province, 2007 | <i>2007 National Physician Survey — The College of</i> |

|  |                                                                                                                                                            |                                                                                                                          |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|  | Percent of family physicians who use electronic tools (electronic medical records) to improve quality in Ontario, 2007                                     | <i>Family Physicians of Canada, Canadian Medical Association, The Royal College of Physicians and Surgeons of Canada</i> |
|  | Percent of nurses, <b>doctors</b> and all employed people reporting job dissatisfaction in Ontario, 2003 (all), 2005 (nurses) and <b>2007 (physicians)</b> |                                                                                                                          |

## 2.15 Ontario Association of Community Care Access Centres

Community Care Access Centres (CCACs) are funded by the MOHLTC and provide local community-based health care services such as home care visits by nurses, physiotherapists, personal support staff, etc to address a variety of health needs such as palliative care, respite care, mental health, etc. The Ontario Association of Community Care Access Centres (OACCAC) represents CCACs in Ontario on issues pertaining to provincial health policy and other issues common to all CCACs such as performance improvement practice. The OACCAC collects and analyzes data on the services provided by CCACs. They can be contacted through their website <http://www.ccac-ont.ca> for more information on the OACCAC indicators presented in the Report:

| Attribute   | Indicator                                                                                                      | Data Source                                                 |
|-------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Integration | Percent of acute clients receiving first service within three days of referral to CCAC across Ontario, 2007/08 | <i>Ontario Association of Community Care Access Centres</i> |

## 3.0 Indicators Calculated by ICES

The basic process for producing indicator data at ICES involves developing a set of decision rules for calculating the numerator and denominators of an indicator. ICES uses a structured format called an indicator dataset creation plan (IDCP) to describe the decision rules. ICES analysts translate the IDCP into computer program code in a software program called SAS. The SAS program is used to analyze a defined data set and calculate indicator results.

An IDCP also contains other information that is needed to analyze data including the ICES databases used to create the data set, time frames, factors by which to stratify the data (i.e. by gender, age, region, etc), units of analysis for the crude rate, and additional details to calculate standardized rates (further information on each database and crude vs. standardized rates calculations are detailed below).

Detailed descriptions of each variable in the analysis are listed in the last half of the IDCP. Patient age is a variable that is commonly used in indicator calculations and using age as an example, the variable section of an IDCP should detail the specific variable name and which database to draw age information from. The IDCP should also detail the range of patient ages to include in the analysis as well as the age categories in the standardized rate calculation.

In the final section of this report, all the IDCPs for each indicator calculated by ICES in the 2009 Report are listed. The SAS code for each IDCP was not included because the code contains complex variable names and software macros that are specific to ICES. Readers that are interested in the SAS code should contact the OHQC. As part of the process for verifying the data, two analysts independently check the SAS program code to ensure that it is consistent with the decision rules laid out in the IDCP.

### 3.1 Data sources

A wide range of data sources was used to create the indicator data presented in the 2009 Report. The data sources used for each indicator are listed in each IDCP. A brief glossary for these data sources is provided below. Data from many of the data sources can be linked using unique identifiers.

#### *Registered Persons Data Base (RPDB)*

The RPDB provides basic demographic information about anyone who has ever received an Ontario health card number. Data supplied to ICES by MOHLTC is enriched with information from other ICES data sets.

#### *Ontario Health Insurance Plan (OHIP)*

Claims for fee-for-service physician services are paid through OHIP. These claims provide information on the type of service provided. Approximately 94% of Ontario physicians have a fee for service practice. Some of the alternate funding plans use shadow billing (that is, a record for the service appears in the OHIP database, although the fee paid may be shown as \$0.00). The data are supplied to ICES by the MOHLTC.

#### *Ontario Drug Benefit (ODB) plan*

Each time a prescription is dispensed under the ODB program a claim is submitted to the ODB for payment. This claim contains information on the drug dispensed. The ODB data used in the report were limited to claims for individuals 65 years of age and over. The data is supplied to ICES by the MOHLTC.

#### *Discharge Abstract Databases (DAD)*

The DAD is a data collection tool developed by CIHI to collect information on patients treated in acute care hospitals. Each time an individual is discharged from an acute care hospital the hospital submits to CIHI an electronic record that contains patient demographic, diagnostic and treatment data. The DAD is supplied to ICES by CIHI.

*National Ambulatory Care Reporting System (NACRS)*

NACRS is a data collection tool developed by CIHI to capture information on patient visits to emergency departments. The NACRS data used in this report are collected on a routine basis by all emergency departments (ED) in Ontario. NACRS is supplied to ICES by CIHI.

*National Rehabilitation Reporting System (NRS)*

The NRS is a data source developed by CIHI. It contains client data collected from participating adult inpatient rehabilitation facilities and programs across Ontario, Canada. The data is supplied to ICES by CIHI.

*Ontario Diabetes Database (ODD)*

The ODD contains all Ontario patients with diabetes identified since 1991. A patient is said to have diabetes if s/he had one hospital admission with a diabetes diagnosis recorded on the DAD or an OHIP claims with a diabetes diagnosis followed within two years by either an OHIP claim or a hospital admission with a diabetes diagnosis. The entire ODD is re-created yearly using updated OHIP, CIHI, and RPDB data.

*Ontario Myocardial Infarction Database (OMID)*

The Ontario Myocardial Infarction Database (OMID) is a database of patients hospitalized with a diagnosis of acute myocardial infarction (AMI) in Ontario between 1992 and 2006. It was created by linking together the following healthcare administrative databases: DAD, OHIP, ODB and RPDB. The OMID database contains information on demographic and clinical characteristics, outcomes, and health services used by patients hospitalized with an AMI. OMID was created by and is housed at ICES.

*Continuing Care Reporting System (CCRS)*

The Continuing Care Reporting System (CCRS) was developed to collect clinical and demographic information on residents receiving facility based continuing care services. Data for the CCRS is collected using the Resident Assessment Instrument (RAI) Minimum Data Set assessment instrument. The CCRS includes a wide range of continuing care services (for example, complex continuing care, extended/chronic care) and residential care providing 24-hour nursing services (for example, nursing home, home for the aged).

*Master Numbering System (MNS)*

The MNS dataset contains general institution number and location information for all institutions opened since April 1970, along with the 'open' and 'close' variables that indicate the time period during which the number was in use. There is one record for every institution number ever issued.

*CHF Cohort*

The CHF cohort is a database of all Ontarians diagnosed with CHF between 1994 and 2006 and includes both prevalent and incident cases. People with CHF were identified using data from three administrative databases: the OHIP database of physician billings, the DAD of inpatient records and the NACRS emergency department records. A person was identified as having CHF if they had an inpatient record with a diagnosis of CHF or if they had an OHIP billing or NACRS record with a CHF diagnosis followed by a second record (from any source) with a CHF diagnosis within 2 years. In the latter case, the diagnosis date is set to the date of the first CHF record. The CHF cohort was created by and is housed at ICES.

*Statistics Canada Post-Censal Population Files*

Statistics related to population size by sex, age and geographic area are collected in the census every four years by Statistics Canada. The latest post-censal population files are from 2001 and all estimates are of the population on July 1 of the given year. The data are supplied to ICES by Statistics Canada.

#### *Canadian Community Health Survey (CCHS)*

The CCHS is a national cross-sectional survey, conducted by Statistics Canada. The CCHS collects information related to health status, health care utilization and health determinants for the Canadian population. The target population of the CCHS includes household residents in all provinces and territories with the principal exclusion of populations on Indian Reserves, Canadian Forces Bases, in institutions and some remote areas.

#### *Primary Care Access Survey (PCAS)*

The PCAS is a cross-sectional voluntary telephone survey funded by the MOHLTC and conducted every three months by the Institute for Social Research (ISR) at York University. The survey is administered in both English and French. The survey began in January 2006. The long-term goal of PCAS is to put in place a program to measure, on an ongoing basis, access to family doctors in Ontario. Measuring access includes determining the number of people in Ontario who do not have a regular family doctor, along with their experiences in attaining care and their health and socio-demographic characteristics. Respondents are asked about their primary care needs, providers of care (regular/family doctor or another provider), how long they waited for care, and the extent to which they were satisfied with the care they received. Data collection is conducted on a quarterly basis.

## **3.2 Crude vs. Standardized Rates**

Unless otherwise stated all indicator results presented in the 2009 Report are crude rates (i.e. the rates as naturally observed in the population). Understandably, presenting crude rates makes it difficult to compare indicator results or performance between LHINs or over time since the population distributions are different. However, the benefit of presenting crude rates is that they tell the actual or true story of performance in each LHIN or at each point in time without any manipulation of the results. We believe this information is of more value to the public.

Standardized rates are presented for indicators in specific circumstances. Firstly, the outcome of interest is directly related to a population characteristic that biases the result in a way that is independent of the exposure. In this situation it cannot be determined with certainty that the indicator result is a consequence of the exposure therefore making the indicator is less meaningful. Secondly, the distribution of the characteristic in study population largely differs from the distribution of the characteristics in the standard population. This means that the sample population is such that it does not adequately represent the actual population. Standardization is useful if an indicator falls into both categories.

An example may help to explain. If mortality of diabetics is the outcome of interest and mortality is related to the age of the population independent of regular monitoring (i.e. the exposure) then standardized rates should be presented for this indicator. However, if the age distribution is exactly the same in the study population as in the standard population, then standardization is not necessary since the age distribution is not skewed in one direction or the other. If the sample is skewed because the study population has over sampled older people, then standardization is important.

In the 2009 Report, the indicators that present standardized results are:

| Indicator | Factors adjusted | Standard population |
|-----------|------------------|---------------------|
|-----------|------------------|---------------------|

|                                                                                                                                                                                                 |                                                                                                                                                            |                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Adjusted percent of people (aged 66+) with diabetes for more than a year who had a serious diabetes complication treated in the hospital in Ontario, 2003/2004 – 2007/2008 (Calculated by ICES) | Data is adjusted for age, sex and length of time since diabetes diagnosis.                                                                                 | Standard population is prevalent diabetes cases on April 1, 2006.                      |
| Adjusted five-year survival ratio for patients with breast or colorectal cancers in Ontario, 1991-1995 – 2001-2005 (Calculated by Cancer Care Ontario)                                          | Data is age-adjusted.                                                                                                                                      | Standard population is breast and colorectal cancer cases diagnosed between 1992-2001. |
| Risk-adjusted rate of in-hospital hip fracture per 1,000 inpatients in Ontario and Canada, 2000/2002 – 2004/2007 (Calculated by the CIHI)                                                       | Data are risk-adjusted for age, sex, whether a surgical procedure was provided, and the presence of medical conditions that increase the change of a fall. | N/A                                                                                    |

Where adjusted rates are presented, the characteristics and the standard population are noted under the graph.

### 3.3 *Determining a Trend*

Before stating that a trend in an indicator exists we need to be sure that the results show a consistent change and little if any fluctuation above and below prior time points. In the 2009 Report, on any indicator a trend was stated to exist only if the data met the ‘five time point rule’; that is, a trend exists only when one time point is higher than the previous point for five consecutive time points (in this case the results show an increasing trend). Similar, we say that a trend is decreasing only when one time point is lower than the previous time point for five consecutive time points. We were cautious to avoid stating that a trend exists when less than five time points were available. In these cases where less than five time points are available, the results were discussed in terms of the percent change in the most recent result relative to the baseline.

### 3.4 *Definitions of ICES Indicators*

## 2 Accessible

### 2.2 Access to Emergency Department

| Indicator title                                 | Percentage of emergency department visits completed within the recommended timeframe in Ontario, 2007/08 |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1) | NACRS<br>RPDB                                                                                            |
| The Indicator:                                  |                                                                                                          |

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Denominator (population) description                      | Yearly emergency department (ED) visits in 2007/08 fiscal year<br><br>Exclude: <ul style="list-style-type: none"><li>a. Non-Ontario residents, and those who cannot be assigned age from RPDB</li><li>b. Age &gt; 105</li><li>c. ED Length of Stay (LOS) is zero or negative</li><li>d. Planned ED visit</li><li>e. Patient left without being seen</li><li>f. Unassigned triage</li></ul>                                                                                               |                   |
| Numerator (Subset of denominator; restricted as follows:) | From the denominator, numerator subset restricted to the population that met the guideline                                                                                                                                                                                                                                                                                                                                                                                               |                   |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Three CTAS levels |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 100 ED visits     |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |
| Age                                                       | Age at the registration date.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |
| Sex                                                       | Get the patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
| Non Ontario resident                                      | A subject is considered as non-Ontario resident if variable VALIKN ≠ V or, the first two characters of variable RESCODE are NOT between '01' and '50' or, the first two characters of variable RESCODE equals to '22'.                                                                                                                                                                                                                                                                   |                   |
| Planned ED visit                                          | Variable VISITTYPE = 3, 4, or 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |
| Left without being seen                                   | Variable VISDISP[YYYY] = 2, or 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |
| Unassigned triage                                         | Variable TRIAGE ≠ 1, 2, 3, 4, or 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |
| LHIN                                                      | Get the patient's best LHIN assignment from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |
| ED Length of Stay (LOS)                                   | ED Length of Stay (in hours/minutes) is the time from the time patient registered/was triaged (take the earliest non-missing value of the registration time and the triage time) until the patient was discharged.<br>ED LOS = DISPTIME – REGTIME/ TRIAGETIME                                                                                                                                                                                                                            |                   |
| Met guideline                                             | Canadian Triage and Acuity Scale (CTAS) has 5 levels: 1 (resuscitation), 2 (emergent), and 3 (urgent)), 4 (less urgent – semi-urgent), and 5 (non-urgent).<br><br>The LOS guidelines are CTAS 1/2: 8 hours, CTAS 3: 6 hours, and CTAS 4/5: 4 hours.<br><br>Divide these people into 3 groups (CTAS levels 1 and 2; CTAS level 3; and CTAS levels 4 and 5). Determine the proportion of people within each of the three severity levels who ED LOS were within each guideline timeframes. |                   |

## 2.3 Access to Primary Care

|                 |                                                                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator title | Percent of adults (18+) without a regular medical doctor and of those the percent who are actively seeking a doctor in Ontario, 2005/2006 to 2007/2008 fiscal quarters |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1)          | PCAS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                             |
| The Indicator:                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                             |
| Denominator (population) description                     | All respondents aged 18 or above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                             |
| Numerator (Subset of denominator restricted as follows:) | Two separate calculates for two different denominators:<br>1. Have a regular medical doctor<br>2. Tried to find a family doctor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                             |
| Rates:                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                             |
| Crude Rate Calculation                                   | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Overall rate in each fiscal quarter (i.e. wave)<br><br>Rate by LHIN for 2007/08 (combine waves 6 through 9)<br><br>For 2007/08 (combine waves 6 through 9): <ul style="list-style-type: none"><li>◦ Age (two categories: 18-64, 65+)</li><li>◦ Sex</li><li>◦ Immigrant status (3 categories)</li><li>◦ Education</li><li>◦ Income</li></ul> |
|                                                          | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 100                                                                                                                                                                                                                                                                                                                                         |
| Details of Variables:                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                             |
| Variable                                                 | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                             |
| Age                                                      | AGE_2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                             |
| Sex                                                      | RGENDER: 1 = male, 5 = female                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                             |
| Having a regular medical doctor                          | FAMDOC: 1 = yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                             |
| Tried to find a family doctor                            | ND_4B: 1 = yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                             |
| Immigrant status                                         | <p>Create three categories:</p> <ol style="list-style-type: none"><li>1. Born in Canada</li><li>2. Immigrated less than 10 years ago</li><li>3. Immigrated less than 5 years ago</li></ol> <p>1. Born in Canada category calculation:<br/>Use variable name BIRTHPLA (waves 1, 2) and BIRTHPLACE (waves 3 onwards) where,<br/>1 = Canada<br/>2-? = other Countries</p> <p>Provide results for 1) born in Canada<br/>Also create a cohort of respondents not born in Canada for time since immigration calculation.</p> <p>Time since immigration categories:<br/>Restricting to those born outside of Canada, subtract year of interview (variable INTYEAR; all waves) from year of immigration (variable IMM_YR; all waves) to calculate time since immigration.</p> |                                                                                                                                                                                                                                                                                                                                             |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | <p>Create categories:</p> <p>2. time since immigration is 5 years or less</p> <p>3. time since immigration is 10 years or less</p> <p>Note: Respondents with invalid values (i.e. 9998 and 9999) are removed from the denominator but maintained for other analyses</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Education                  | <p>Variable name EDUC → ALL WAVES</p> <p>1=Less than high school</p> <p>2=Completed high school</p> <p>3=Some community college or technical school</p> <p>4=Completed community college or technical school</p> <p>5=Some university</p> <p>6=Completed Bachelor's Degree (Arts, Science, Eng, etc.)</p> <p>7=Post graduate training: MA, MSc, MLS, MSW, MBA, etc.</p> <p>8=Post graduate training: PhD, "doctorate"</p> <p>9=Professional Degree (Law, Medicine, Dentistry)</p> <p>98=Don't know</p> <p>99=Refused</p> <p>Divided into 4 categories:</p> <p>Less than high school = 1</p> <p>High school graduation = 2</p> <p>Some post-secondary = 3, 5</p> <p>Post-secondary graduation = 4, 6, 7, 8, 9</p> <p>Removed 98, 99 from the denominator</p> |
| Post-stratification weight | <p>All the rates have to be weighted and are to be calculated by using this weight.</p> <p>Provincial weight:</p> <p>Variable PROVGWT in waves 1, 4 to 9</p> <p>Variable PROVGWTW in wave 2 and 3</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

### 3 Effective

#### 3.2 Getting the right drugs to manage chronic disease

|                                                           |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Indicator title                                           |                                                                                                                 | Percentage of elderly patients (aged 66+) who filled a beta blocker, ACEI/ARB, statin or all three prescriptions within 90 days post-discharge for an AMI in Ontario, 2002/03-2007/2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Data sources (for descriptions see section 4.1)           |                                                                                                                 | ODB<br>DAD<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| The Indicator:                                            |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Denominator (population) description                      |                                                                                                                 | For fiscal years 2002/03 through 2007/08, all CIHI inpatient discharges with most responsible diagnosis of acute myocardial infarction.<br>ICD-10 codes: I21 and I22, and ICD-9 code: 410<br><br>Exclude: <ul style="list-style-type: none"><li>a. Not admitted to an acute care hospital</li><li>b. Age &lt; 65 at time of discharge (originally it's age &lt; 20, due to the drug data availability, we are limited to do the analysis for those aged 65 or above)</li><li>c. Age &gt; 105 at time of discharge (assume an error in the date of birth)</li><li>d. Invalid health card number</li><li>e. Not Ontario resident</li><li>f. Admitted to non-cardiac surgical service</li><li>g. Transferred from another acute care facility</li><li>h. AMI within past year</li><li>i. AMI coded as in-hospital complication</li><li>j. Died within 90 days of discharge from entire episode of care</li><li>k. Date inconsistency</li><li>l. Date of birth/sex missing</li></ul> |  |
| Numerator (Subset of denominator; restricted as follows:) |                                                                                                                 | Outcomes within 90 days after the discharge: <ul style="list-style-type: none"><li>1. Receiving beta-blocker</li><li>2. Receiving ACEI/AARB</li><li>3. Receiving Statin</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Rates:                                                    |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                               | Fiscal year<br>LHIN (2007 only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|                                                           | Unit of Rate(s) per:                                                                                            | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Details of Variables:                                     |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Variable                                                  | Definition                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Age                                                       | Age from RPDB                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Sex                                                       | Patient's sex from RPDB                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Non-Ontario resident                                      | Variable VALIKN ≠ V,<br>The first two characters of RESCODE are not between '01' and '50' or are equal to '22'. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| LHIN                                                      | Patient's best LHIN from RPDB                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Previous AMI                                              | A previous AMI is any discharge within the past year from the index                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |

|                                                                                   | admission date with AMI (DXTYPE='M'):<br>(ICD-9 codes 410 (AMI) and 412 (old MI),<br>ICD-10-CA codes I21 (acute myocardial infarction), I22 (subsequent myocardial infarction).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|-----------------|-------|--------------|-------|--------------------|-------|-----------------|-------|------------------|-------|------------------|-------|---------|-------|---------------------------|-------|--------------------|-------|----------------|-------|---------------|-------|------------|-------|---------------------------|-------|--------------|-------|-----------------|-------|---------|-------|----------------|-------|--------------|-------|--------------|-------|--------------|-------|------------------|-------|-------------|-------|------------------|-------|----------------------------|-------|-----------------|-------|
| Not admitted to non-acute care hospital                                           | Variable INSTTYPE ≠ AP or AT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| admitted to non-cardiac surgical service                                          | <p>Variable PRVSERV1 =<br/>00030, 00032, 00034, 00035, 00036, 00037, 00039, 00050, 00059,<br/>00060, 00062, 00064, 00073, 01000, 01001, 01002, 01003, 01004,<br/>01005, 01006, 01007, 01008, 01009, 01010, 01011</p> <table border="1"> <thead> <tr> <th>Specialities recognized by the Royal College of Physicians and Surgeons of Canada</th><th>CIHI Service Number</th></tr> </thead> <tbody> <tr><td>General Surgery</td><td>00030</td></tr> <tr><td>Neurosurgery</td><td>00032</td></tr> <tr><td>Orthopedic Surgery</td><td>00034</td></tr> <tr><td>Plastic Surgery</td><td>00035</td></tr> <tr><td>Thoracic Surgery</td><td>00036</td></tr> <tr><td>Vascular Surgery</td><td>00037</td></tr> <tr><td>Urology</td><td>00039</td></tr> <tr><td>Obstetrics and Gynecology</td><td>00050</td></tr> <tr><td>Colorectal Surgery</td><td>00059</td></tr> <tr><td>Otolaryngology</td><td>00060</td></tr> <tr><td>Ophthalmology</td><td>00062</td></tr> <tr><td>Psychiatry</td><td>00064</td></tr> <tr><td>General Surgical Oncology</td><td>00073</td></tr> <tr><td>Oral Surgeon</td><td>01003</td></tr> <tr><td>Dentistry Group</td><td>01000</td></tr> <tr><td>Dentist</td><td>01001</td></tr> <tr><td>Dental Surgeon</td><td>01002</td></tr> <tr><td>Orthodontist</td><td>01004</td></tr> <tr><td>Paedodontist</td><td>01005</td></tr> <tr><td>Periodontist</td><td>01006</td></tr> <tr><td>Oral Pathologist</td><td>01007</td></tr> <tr><td>Endodontist</td><td>01008</td></tr> <tr><td>Oral Radiologist</td><td>01009</td></tr> <tr><td>Dental Hygienist/Assistant</td><td>01010</td></tr> <tr><td>Dental Mechanic</td><td>01011</td></tr> </tbody> </table> | Specialities recognized by the Royal College of Physicians and Surgeons of Canada | CIHI Service Number | General Surgery | 00030 | Neurosurgery | 00032 | Orthopedic Surgery | 00034 | Plastic Surgery | 00035 | Thoracic Surgery | 00036 | Vascular Surgery | 00037 | Urology | 00039 | Obstetrics and Gynecology | 00050 | Colorectal Surgery | 00059 | Otolaryngology | 00060 | Ophthalmology | 00062 | Psychiatry | 00064 | General Surgical Oncology | 00073 | Oral Surgeon | 01003 | Dentistry Group | 01000 | Dentist | 01001 | Dental Surgeon | 01002 | Orthodontist | 01004 | Paedodontist | 01005 | Periodontist | 01006 | Oral Pathologist | 01007 | Endodontist | 01008 | Oral Radiologist | 01009 | Dental Hygienist/Assistant | 01010 | Dental Mechanic | 01011 |
| Specialities recognized by the Royal College of Physicians and Surgeons of Canada | CIHI Service Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| General Surgery                                                                   | 00030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Neurosurgery                                                                      | 00032                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Orthopedic Surgery                                                                | 00034                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Plastic Surgery                                                                   | 00035                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Thoracic Surgery                                                                  | 00036                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Vascular Surgery                                                                  | 00037                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Urology                                                                           | 00039                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Obstetrics and Gynecology                                                         | 00050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Colorectal Surgery                                                                | 00059                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Otolaryngology                                                                    | 00060                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Ophthalmology                                                                     | 00062                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Psychiatry                                                                        | 00064                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| General Surgical Oncology                                                         | 00073                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Oral Surgeon                                                                      | 01003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dentistry Group                                                                   | 01000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dentist                                                                           | 01001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dental Surgeon                                                                    | 01002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Orthodontist                                                                      | 01004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Paedodontist                                                                      | 01005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Periodontist                                                                      | 01006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Oral Pathologist                                                                  | 01007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Endodontist                                                                       | 01008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Oral Radiologist                                                                  | 01009                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dental Hygienist/Assistant                                                        | 01010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dental Mechanic                                                                   | 01011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Transferred from another acute care facility                                      | ICES computes the number of records related to a single episode or reason to visit the hospital using a variable called EPIVISIT. For this indicator, discharge records subsequent to the first discharge record in the same episode of care are excluded (exclude EPIVISIT does not equal 1).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Died within 90 days of discharge                                                  | <p>Variable DTHDATE from RPDB represents the date of death</p> <p>Variable DDATE from DAD represents date of discharge for episode of care</p> <p>Calculate date of death minus date of discharge and exclude if less than or equal to 90 days</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Data inconsistency                                                                | Variable DTHDATE from RPDB represents the date of death                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                   |                     |                 |       |              |       |                    |       |                 |       |                  |       |                  |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |              |       |                 |       |         |       |                |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |

|                                                          |                                                                                                                                                               |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                          | Variable ADMDATE from DAD represents the admission date<br>Exclude records with data inconsistency where death occurs before admission, or: DTHDATE < ADMDATE |
| Receiving beta-blocker within 90 days post-discharge     | A prescription within 90 days post discharge (from entire episode of care) of any beta-blocker listed in Appendix A.                                          |
| Receiving ACEI/AARB within 30 and 90 days post-discharge | A prescription within 90 days post discharge (from entire episode of care) of any ACEI/AARB listed in Appendix A.                                             |
| Receiving Statin within 30 and 90 days post-discharge    | A prescription within 90 days post discharge (from entire episode of care) of any statin listed in Appendix A.                                                |

|                                                                  |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator title</b>                                           |                                                | Percent of elderly patients (aged 66+) with diabetes who filled a ACEI/ARB, statin or both prescriptions in the past year in Ontario, 2003/04-2007/2008                                                                                                                                                                                                                                                                                                     |
| <b>Data sources (for descriptions see section 4.1)</b>           |                                                | ODB<br>RPDB<br>ODD                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>The Indicator:</b>                                            |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Denominator (population) description</b>                      |                                                | For fiscal years 2003/04 to 2007/08, all patients with diabetes as of the day prior to the beginning of the fiscal year of interest identified in Ontario Diabetes Database (ODD).<br><br>Exclude:<br>a. Age at the beginning of fiscal year of interest < 66,<br>b. Age at the beginning of fiscal year of interest > 105,<br>c. Invalid sex,<br>d. Incident diabetes cases (i.e. Registered in ODD for <1 year prior to start of fiscal year of interest) |
| <b>Numerator (Subset of denominator; restricted as follows:)</b> |                                                | At least on script for the following drugs within previous year:<br>1. ACE inhibitor / AARB,<br>2. Antilipemic,<br>3. Both of the above                                                                                                                                                                                                                                                                                                                     |
| <b>Rates:</b>                                                    |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Crude Rate Calculation</b>                                    | <b>Crude Rate(s) by:</b>                       | Fiscal years<br>LHIN (2007/08 only)                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                  | <b>Unit of Rate(s) per:</b>                    | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Details of Variables:</b>                                     |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Variable</b>                                                  | <b>Definition</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Age                                                              | Age at Apr. 1 of each fiscal year from RPDB.   |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Sex                                                              | Patient's sex from RPDB                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LHIN                                                             | Patient's LHIN assignment from RPDB            |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ACE/ARB use                                                      | Prescription for any ACEI/AARB in Appendix B   |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Antilipemic use                                                  | Prescription for any Antilipemic in Appendix B |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Indicator title                                           | Percentage of elderly patients (aged 66+) who filled an ACEI/ARB prescription within 90 days post-discharge for CHF in Ontario, 2002/2003 – 2007/2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    |
| Data sources (for descriptions see section 4.1)           | ODB<br>RPDB<br>DAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |
| Denominator (population) description                      | For fiscal years 2003/04 to 2007/08, all CIHI inpatient discharges with most responsible diagnosis of CHF (ICD-10 code: I50, and ICD-9 code: 428)<br><br>Exclude: <ul style="list-style-type: none"><li>a. Admitted to hospital that is not specifically an acute care treatment hospital;</li><li>b. Age &lt; 65 at time of discharge (originally it's age &lt; 20, due to the drug data availability, we are limited to do the analysis for those aged 65 or above);</li><li>c. Age &gt; 105 at time of discharge (assume an error in the date of birth);</li><li>d. Invalid health card number;</li><li>e. Not Ontario resident;</li><li>f. Admitted to surgical service;</li><li>g. Transferred from another acute care facility;</li><li>h. CHF within the past THREE years;</li><li>i. CHF coded as in-hospital complication;</li><li>j. Died within 90 days of discharge;</li><li>k. Date inconsistency (&lt;DTHDATE&lt;ADMDATE);</li><li>l. Date of birth/sex missing (i.e., incident cases)</li></ul> |                                    |
| Numerator (Subset of denominator; restricted as follows:) | Receiving ACEI/AARB within 90 days after the discharge date of entire episode of care.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Fiscal year<br>LHIN (2007/08 only) |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100                                |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    |
| Age                                                       | Age at the index discharge obtained from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |
| Sex                                                       | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |
| Non-Ontario resident                                      | VALIKN ≠ V,<br>The first two characters of RESCODE are not between '01' and '50' or are equal to '22'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |
| LHIN                                                      | Patient's LHIN assignment from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    |
| Previous CHF                                              | A previous CHF is any discharge within the past THREE years from the index discharge date with CHF (DXTYPE='M'):<br>ICD-9 codes 428,<br>ICD-10-CA codes I50.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |
| Admitted to hospital that is                              | Variable INSTTYPE in DAD does not equal 'AT' or 'AP'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |

| not specifically an acute care treatment hospital                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------|-----------------|-------|--------------|-------|-----------------|-------|--------------------|-------|-----------------|-------|------------------|-------|------------------|-------|------------------------|-------|---------|-------|---------------------------|-------|--------------------|-------|----------------|-------|---------------|-------|------------|-------|---------------------------|-------|-----------------|-------|---------|-------|----------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|------------------|-------|-------------|-------|------------------|-------|----------------------------|-------|-----------------|-------|
| admitted to surgical service (non-cardiac and cardiac surgeries)                 | <p>Variable PRVSERV1 =<br/>00030, 00031, 00032, 00034, 00035, 00036, 00037, 00038, 00039, 00050, 00059, 00060, 00062, 00064, 00073, 01000, 01001, 01002, 01003, 01004, 01005, 01006, 01007, 01008, 01009, 01010, 01011</p> <table> <tr> <th>Specialties recognized by the Royal College of Physicians and Surgeons of Canada</th><th>CIHI Service Number</th></tr> <tr><td>General Surgery</td><td>00030</td></tr> <tr><td>Neurosurgery</td><td>00032</td></tr> <tr><td>Cardiac Surgery</td><td>00031</td></tr> <tr><td>Orthopedic Surgery</td><td>00034</td></tr> <tr><td>Plastic Surgery</td><td>00035</td></tr> <tr><td>Thoracic Surgery</td><td>00036</td></tr> <tr><td>Vascular Surgery</td><td>00037</td></tr> <tr><td>Cardiothoracic Surgery</td><td>00038</td></tr> <tr><td>Urology</td><td>00039</td></tr> <tr><td>Obstetrics and Gynecology</td><td>00050</td></tr> <tr><td>Colorectal Surgery</td><td>00059</td></tr> <tr><td>Otolaryngology</td><td>00060</td></tr> <tr><td>Ophthalmology</td><td>00062</td></tr> <tr><td>Psychiatry</td><td>00064</td></tr> <tr><td>General Surgical Oncology</td><td>00073</td></tr> <tr><td>Dentistry Group</td><td>01000</td></tr> <tr><td>Dentist</td><td>01001</td></tr> <tr><td>Dental Surgeon</td><td>01002</td></tr> <tr><td>Oral Surgeon</td><td>01003</td></tr> <tr><td>Orthodontist</td><td>01004</td></tr> <tr><td>Paedodontist</td><td>01005</td></tr> <tr><td>Periodontist</td><td>01006</td></tr> <tr><td>Oral Pathologist</td><td>01007</td></tr> <tr><td>Endodontist</td><td>01008</td></tr> <tr><td>Oral Radiologist</td><td>01009</td></tr> <tr><td>Dental Hygienist/Assistant</td><td>01010</td></tr> <tr><td>Dental Mechanic</td><td>01011</td></tr> </table> | Specialties recognized by the Royal College of Physicians and Surgeons of Canada | CIHI Service Number | General Surgery | 00030 | Neurosurgery | 00032 | Cardiac Surgery | 00031 | Orthopedic Surgery | 00034 | Plastic Surgery | 00035 | Thoracic Surgery | 00036 | Vascular Surgery | 00037 | Cardiothoracic Surgery | 00038 | Urology | 00039 | Obstetrics and Gynecology | 00050 | Colorectal Surgery | 00059 | Otolaryngology | 00060 | Ophthalmology | 00062 | Psychiatry | 00064 | General Surgical Oncology | 00073 | Dentistry Group | 01000 | Dentist | 01001 | Dental Surgeon | 01002 | Oral Surgeon | 01003 | Orthodontist | 01004 | Paedodontist | 01005 | Periodontist | 01006 | Oral Pathologist | 01007 | Endodontist | 01008 | Oral Radiologist | 01009 | Dental Hygienist/Assistant | 01010 | Dental Mechanic | 01011 |
| Specialties recognized by the Royal College of Physicians and Surgeons of Canada | CIHI Service Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| General Surgery                                                                  | 00030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Neurosurgery                                                                     | 00032                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Cardiac Surgery                                                                  | 00031                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Orthopedic Surgery                                                               | 00034                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Plastic Surgery                                                                  | 00035                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Thoracic Surgery                                                                 | 00036                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Vascular Surgery                                                                 | 00037                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Cardiothoracic Surgery                                                           | 00038                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Urology                                                                          | 00039                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Obstetrics and Gynecology                                                        | 00050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Colorectal Surgery                                                               | 00059                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Otolaryngology                                                                   | 00060                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Ophthalmology                                                                    | 00062                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Psychiatry                                                                       | 00064                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| General Surgical Oncology                                                        | 00073                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dentistry Group                                                                  | 01000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dentist                                                                          | 01001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dental Surgeon                                                                   | 01002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Oral Surgeon                                                                     | 01003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Orthodontist                                                                     | 01004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Paedodontist                                                                     | 01005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Periodontist                                                                     | 01006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Oral Pathologist                                                                 | 01007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Endodontist                                                                      | 01008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Oral Radiologist                                                                 | 01009                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dental Hygienist/Assistant                                                       | 01010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Dental Mechanic                                                                  | 01011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Transferred from another acute care facility                                     | ICES computes the number of records related to a single episode or reason to visit the hospital using a variable called EPIVISIT. For this indicator, discharge records subsequent to the first discharge record in the same episode of care are excluded (exclude EPIVISIT not equal to 1).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Died within 90 days of discharge                                                 | <p>Variable DTHDATE from RPDB represents the date of death</p> <p>Variable DDATE from DAD represents date of discharge for episode of care</p> <p>Calculate date of death minus date of discharge and exclude if less than or equal to 90 days</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |
| Receiving ACEI/AARB within 90 days post-discharge                                | A prescription of ACEI/AARB in Appendix C prescribed within 90 days post discharge date of entire episode of care                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                  |                     |                 |       |              |       |                 |       |                    |       |                 |       |                  |       |                  |       |                        |       |         |       |                           |       |                    |       |                |       |               |       |            |       |                           |       |                 |       |         |       |                |       |              |       |              |       |              |       |              |       |                  |       |             |       |                  |       |                            |       |                 |       |

### 3.4 Reducing complications of chronic disease

| Indicator title                                                                        |                                                                                                                                                                                                                                         | Percent of newly diagnosed diabetes patients (aged 20+) who had acute complications treated in emergency department or hospital in the year after diagnosis in Ontario, 2002/2003 – 2006/2007                                                                                                                                                                       |  |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Data sources (for descriptions see section 4.1)                                        |                                                                                                                                                                                                                                         | ODD<br>NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                |  |
| The Indicator:                                                                         |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Denominator (population) description                                                   |                                                                                                                                                                                                                                         | Population newly diagnosed with diabetes, by fiscal year, for 2002/03 through 2006/07<br><br>Exclude:<br>a. Age < 20 at the time of diagnosis. This will exclude most, if not all, type I diabetics.<br>b. Age > 105 at the time of diagnosis (suspect that ages > 105 are coding errors).<br><br>NOTE: 2007/08 is not included because we need a year of follow-up |  |
| Numerator (Subset of denominator; restricted as follows:)                              |                                                                                                                                                                                                                                         | Occurrence of at least one of the following adverse events within 365 days after the day of the initial of diagnosis:<br>1. emergency department (ED) visits for hyperglycemia,<br>2. emergency department (ED) visits for hypoglycemia,<br>3. hospitalization for hyperglycemia,<br>4. hospitalization for hypoglycemia,                                           |  |
| Rates:                                                                                 |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Crude Rate Calculation                                                                 | Crude Rate(s) by:                                                                                                                                                                                                                       | Overall (all years)<br>LHIN (2007/08)                                                                                                                                                                                                                                                                                                                               |  |
|                                                                                        | Unit of Rate(s) per:                                                                                                                                                                                                                    | 100                                                                                                                                                                                                                                                                                                                                                                 |  |
| Details of Variables:                                                                  |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Variable                                                                               | Definition                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Age                                                                                    | Date of birth from RPDB. Age when diabetes first diagnosed (variable DIAGDATE) from ODD.                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Sex                                                                                    | Patient's sex from RPDB                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Emergency department (ED) visits for hyperglycemia within 1 years of initial diagnosis | ED visits within the year after initial diagnosis with the following ICD-10 codes:<br>E101, E110, E111, E130, E131, E140, E141, R739, E100 (2006/07), E1368 (2006/07), E1468 (2006/07)                                                  |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Emergency department (ED) visits for hypoglycemia within 1 years of initial diagnosis  | ED visits within the year after initial diagnosis with the following ICD-10 codes:<br>ICD-10 codes: E15, E160, E161, E162, E1063, E1163, E1363, E1463                                                                                   |                                                                                                                                                                                                                                                                                                                                                                     |  |
| Hospitalization for hyperglycemia within 1 years of initial diagnosis                  | Inpatient hospitalization within the year after initial diagnosis with the following ICD-10 codes:<br>ICD-10 codes: E101, E110, E111, E130, E131, E140, E141, R739, E100 (2006/07), E1368 (2006/07), E1468 (2006/07)<br>DXTYPE = M or 1 |                                                                                                                                                                                                                                                                                                                                                                     |  |

|                                                                      |                                                                                                                                                                                          |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hospitalization for hypoglycemia within 1 years of initial diagnosis | Inpatient hospitalization within the year after initial diagnosis with the following ICD-10 codes:<br>ICD-10 codes: E15, E160, E161, E162, E1063, E1163, E1363, E1463<br>DXTYPE = M or 1 |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                  |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator title</b>                                           |                                                                                                              | Adjusted percent of people (aged 66+) with diabetes for more than a year who had a serious diabetes complication treated in the hospital in Ontario, 2003/2004 – 2007/2008                                                                                                                                                                                                      |
| <b>Data sources (for descriptions see section 4.1)</b>           |                                                                                                              | ODD<br>DAD<br>RPDB                                                                                                                                                                                                                                                                                                                                                              |
| <b>The Indicator:</b>                                            |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Denominator (population) description</b>                      |                                                                                                              | All cases of diabetes that are prevalent on April 1 of each fiscal year from FY2003/04 to FY2007/08<br>Exclude:<br>a. Age < 66 on April 1 of fiscal year of interest,<br>b. Age > 105 on April 1 of fiscal year of interest,<br>c. Invalid sex,<br>d. In ODD <1 year prior to April 1 of fiscal year of interest (i.e., were incident in year prior to fiscal year of interest) |
| <b>Numerator (Subset of denominator; restricted as follows:)</b> |                                                                                                              | Occurrence of the first adverse event between April 1 and March 31 of fiscal year of interest for each outcome listed below:<br>1. Death,<br>2. AMI,<br>3. Stroke,<br>4. Peripheral vascular disease (PVD),<br>5. The first occurrence of any of the above                                                                                                                      |
| <b>Rates:</b>                                                    |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Standardized Rate Calculation</b>                             | <b>Method:</b>                                                                                               | Direct                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                  | <b>Standard population:</b>                                                                                  | Prevalent cases of diabetes on April 1, 2006                                                                                                                                                                                                                                                                                                                                    |
|                                                                  | <b>Standardized by:</b>                                                                                      | Age (66-74, 75+ ), sex, length of time since diabetes diagnosis                                                                                                                                                                                                                                                                                                                 |
|                                                                  | <b>Standardized Rate(s):</b>                                                                                 | Overall (all years)<br>LHIN (2007/08)                                                                                                                                                                                                                                                                                                                                           |
| <b>Details of Variables:</b>                                     |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Variable</b>                                                  | <b>Definition</b>                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                 |
| Age                                                              | Patient's age on April 1 of each FY from RPDB                                                                |                                                                                                                                                                                                                                                                                                                                                                                 |
| Length of time since diabetes diagnosis                          | April 1 of fiscal year of interest – diagnosis date (variable DIAGDATE from ODD). Dichotomize into <5 vs. 5+ |                                                                                                                                                                                                                                                                                                                                                                                 |
| LHIN                                                             | Patient's best LHIN assignment on Apr. 1 of fiscal year of interest from RPDB                                |                                                                                                                                                                                                                                                                                                                                                                                 |
| Death                                                            | Death date from RPDB                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                 |
| Cardiac hospitalization                                          | CIHI-DAD record with DXCODE or INCODE associated with AMI, PTCA, CABG:                                       |                                                                                                                                                                                                                                                                                                                                                                                 |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | ICD-10 codes: I21, I22 (DXTYPE1=M),<br>CCI codes : 1IJ50, 1IJ57, 1IJ76,<br>Exclude if procedure associated with diagnosis of an aneurysm<br>(ICD10 codes I67.1, I71, I72, I60, I77.0, I79.0, Q14.1, Q24.5,<br>Q25.4, Q25.7, Q27.3, Q27.8, Q28.0-28.3)                                                                                                                                                                                                                                                                                                                                                                  |
| Stroke                  | CIHI-DAD record with DXCODE or INCODE associated with Stroke,<br>TIA<br>1. ICD10 codes I60, I61, I63, I64, G46.1, G45, G46.4, G46.5,<br>G46.6, G46.7 (DXTYPE1=M)<br>Exclude G45.4<br>2. CCI codes: 1JE50, 1JE57, 1JE76, 1JX50, 1JX57, 1JX76,<br>1JW50, 1JW57, 1JW76, 1JW35HHC1, 1JW35HAC1]<br>Exclude all records with a diagnosis code of aneurysm<br>[ICD10: I67.1, I71, I72, I60, I77.0, I79.0, Q14.1, Q24.5,<br>Q25.4, Q25.7, Q27.3, Q27.8, Q28.0-28.3 ]                                                                                                                                                           |
| Hospitalization for PVD | CIHI-DAD record with INCODE associated with amputation or<br>revascularization for PVD<br>1. CCI codes: 1VQ93, 1VC93, 1VG93, 1WL93, 1WA93, 1WE93,<br>1WJ93, 1WM93<br>Exclude all upper leg or foot amputations if in conjunction with<br>ICD10: C40, C41, C46.1, C47, C49, D160, M46.2, M46.2, M86,<br>M87, M89.6, M90.0-M90.5, Q00, Q38-Q40, S02.0, S09.0, S04.0,<br>S15, S25, S25, T26<br>2. CCI codes: 1KG50, 1KG57, 1KG76, 1KG35HAC1,<br>1KG35HHC1<br>Exclude all records with a diagnosis code of aneurysm: ICD10:<br>I67.1, I71, I72, I60, I77.0, I79.0, Q14.1, Q24.5, Q25.4, Q25.7,<br>Q27.3, Q27.8, Q28.0-28.3 |

### 3.5 Getting it right the first time: Avoiding returns to hospital or emergency

| Indicator title                                 | Rate of readmission to the emergency department or acute care within 30 days of being discharged for AMI in Ontario, 2002/2003-2007/2008                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1) | DAD<br>NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| The Indicator:                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Denominator (population) description            | All discharges in which AMI was the most responsible diagnosis from April 1, 2002 to Feb 28, 2008. NOTE: March 2008 is not included because 30 days of follow-up is needed.<br><br>Exclude:<br>a. Invalid IKN, not Ontario resident, or if date of birth/sex missing,<br>b. Age < 20 at time of diagnosis,<br>c. Age > 105 at time of diagnosis (assume an error in the date of birth),<br>d. Previous discharge in the past year in which AMI is the most responsible diagnosis,<br>e. Died < 30 days after discharge from episode of care, |

|                                                                                |                                                                                                                                                                                                                     |                                       |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
|                                                                                | f. Admitted to hospital that is not specifically an acute care treatment hospital,<br>g. Admitted to non-cardiac surgical service,<br>h. Transfers between acute care institutions,<br>i. In-hospital complication. |                                       |
| Numerator<br>(Subset of denominator;<br>restricted as follows:)                | AMI Readmission to ED/acute care within 30 days of being discharged from the episode of care for AMI hospitalization.                                                                                               |                                       |
| Rates:                                                                         |                                                                                                                                                                                                                     |                                       |
| Crude Rate Calculation                                                         | Crude Rate(s) by:                                                                                                                                                                                                   | Overall (all years)<br>LHIN (2007/08) |
|                                                                                | Unit of Rate(s) per:                                                                                                                                                                                                | 100                                   |
| Details of Variables:                                                          |                                                                                                                                                                                                                     |                                       |
| Variable                                                                       | Definition                                                                                                                                                                                                          |                                       |
| Age, Sex                                                                       | Get patient's age and sex from RPDB                                                                                                                                                                                 |                                       |
| LHIN                                                                           | Get patient's best LHIN assignment from RPDB                                                                                                                                                                        |                                       |
| Invalid IKN; non-Ontario resident                                              | VALIKN ≠ V                                                                                                                                                                                                          |                                       |
| Admitted to hospital that is not specifically an acute care treatment hospital | Variable INSTTYPE in DAD does not equal 'AT' or 'AP'                                                                                                                                                                |                                       |
| Admitted to non-cardiac surgical service                                       | Variable PRVSERV1 =<br>00030, 00032, 00034, 00035, 00036, 00037, 00039, 00050, 00059, 00060, 00062, 00064, 00073, 01000, 01001, 01002, 01003, 01004, 01005, 01006, 01007, 01008, 01009, 01010, 01011                |                                       |
|                                                                                | Specialties recognized by the Royal College of Physicians and Surgeons of Canada                                                                                                                                    | CIHI Service Number                   |
|                                                                                | General Surgery                                                                                                                                                                                                     | 00030                                 |
|                                                                                | Neurosurgery                                                                                                                                                                                                        | 00032                                 |
|                                                                                | Orthopedic Surgery                                                                                                                                                                                                  | 00034                                 |
|                                                                                | Plastic Surgery                                                                                                                                                                                                     | 00035                                 |
|                                                                                | Thoracic Surgery                                                                                                                                                                                                    | 00036                                 |
|                                                                                | Vascular Surgery                                                                                                                                                                                                    | 00037                                 |
|                                                                                | Urology                                                                                                                                                                                                             | 00039                                 |
|                                                                                | Obstetrics and Gynecology                                                                                                                                                                                           | 00050                                 |
|                                                                                | Colorectal Surgery                                                                                                                                                                                                  | 00059                                 |
|                                                                                | Otolaryngology                                                                                                                                                                                                      | 00060                                 |
|                                                                                | Ophthalmology                                                                                                                                                                                                       | 00062                                 |
|                                                                                | Psychiatry                                                                                                                                                                                                          | 00064                                 |
|                                                                                | General Surgical Oncology                                                                                                                                                                                           | 00073                                 |
|                                                                                | Dentistry Group                                                                                                                                                                                                     | 01000                                 |
|                                                                                | Dentist                                                                                                                                                                                                             | 01001                                 |
|                                                                                | Dental Surgeon                                                                                                                                                                                                      | 01002                                 |
|                                                                                | Oral Surgeon                                                                                                                                                                                                        | 01003                                 |
|                                                                                | Orthodontist                                                                                                                                                                                                        | 01004                                 |

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|                                                                     | Paedodontist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 01005 |
|                                                                     | Periodontist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 01006 |
|                                                                     | Oral Pathologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01007 |
|                                                                     | Endodontist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 01008 |
|                                                                     | Oral Radiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01009 |
|                                                                     | Dental Hygienist/Assistant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 01010 |
|                                                                     | Dental Mechanic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 01011 |
| Transferred from another acute care facility                        | ICES computes the number of records related to a single episode or reason to visit the hospital using a variable called EPIVISIT. For this indicator, discharge records subsequent to the first discharge record in the same episode of care are excluded since they should not be thought of as readmissions (exclude EPIVISIT not equal to 1). It is, however, important to remember to use the discharge date of the <i>last</i> episode of care and calculate forward 30 days for the readmission rate calculation. |       |
| In-hospital complication                                            | Another diagnosis code exists with a DXTYPE '2'                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
| AMI readmission to ED/acute care within 30 days of being discharged | <p>Readmission to acute care: Most responsible diagnosis (DXTYPE='M' without additional DXTYPE='2') of AMI (ICD-10 codes: I21/I22) within 30 days of being discharged.</p> <p>Readmission to ED: NACRS ED visit with DX10CODE = I21/I22 within 30 days of being discharged.</p>                                                                                                                                                                                                                                         |       |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator title                                 | Rate of readmission to the emergency department or acute care within 30 days of being discharged for CHF in Ontario, 2002/2003-2007/2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Data sources (for descriptions see section 4.1) | DAD<br>NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| The Indicator:                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Denominator (population) description            | <p>All discharges in which CHF was the most responsible diagnosis from April 1, 2002 to Feb 28, 2008. NOTE: March 2008 is not included because 30days of follow-up is needed.</p> <p>Exclude:</p> <ul style="list-style-type: none"> <li>j. Invalid IKN, non Ontario resident, or if date of birth/sex missing,</li> <li>k. Age &lt; 20 at time of diagnosis,</li> <li>l. Age &gt; 105 at time of diagnosis (assume an error in the date of birth),</li> <li>m. Previous discharge in the past three years in which CHF is the most responsible diagnosis,</li> <li>n. Died &lt; 30 days after discharge from episode of care,</li> <li>o. Admitted to hospital that is not specifically an acute care treatment hospital,</li> <li>p. Admitted to surgical service,</li> <li>q. Transfers between acute care institutions,</li> <li>a. In-hospital complication.</li> </ul> |
| Numerator                                       | CHF Readmission to ED/acute care within 30 days of being                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                                |                                                                                                                                                                                                                    |                                       |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| (Subset of denominator; restricted as follows)                                 | discharged from the hospital with CHF diagnosis                                                                                                                                                                    |                                       |
| Rates:                                                                         |                                                                                                                                                                                                                    |                                       |
| Crude Rate Calculation                                                         | Crude Rate(s) by:                                                                                                                                                                                                  | Overall (all years)<br>LHIN (2007/08) |
|                                                                                | Unit of Rate(s) per:                                                                                                                                                                                               | 100                                   |
| Details of Variables:                                                          |                                                                                                                                                                                                                    |                                       |
| Variable                                                                       | Definition                                                                                                                                                                                                         |                                       |
| Age, Sex                                                                       | Get patient's age and sex from RPDB                                                                                                                                                                                |                                       |
| LHIN                                                                           | Get patient's best LHIN assignment from RPDB                                                                                                                                                                       |                                       |
| Invalid IKN; non-Ontario resident                                              | VALIKN ≠ V                                                                                                                                                                                                         |                                       |
| Admitted to hospital that is not specifically an acute care treatment hospital | Variable INSTTYPE in DAD does not equal 'AT' or 'AP'                                                                                                                                                               |                                       |
| Admitted to surgical service                                                   | Variable PRVSERV1 =<br>00030, 00031, 00032, 00034, 00035, 00036, 00037, 00038, 00039, 00050, 00059, 00060, 00062, 00064, 00073, 01000, 01001, 01002, 01003, 01004, 01005, 01006, 01007, 01008, 01009, 01010, 01011 |                                       |
|                                                                                | Specialties recognized by the Royal College of Physicians and Surgeons of Canada                                                                                                                                   | CIHI Service Number                   |
|                                                                                | General Surgery                                                                                                                                                                                                    | 00030                                 |
|                                                                                | Neurosurgery                                                                                                                                                                                                       | 00032                                 |
|                                                                                | Cardiac Surgery                                                                                                                                                                                                    | 00031                                 |
|                                                                                | Orthopedic Surgery                                                                                                                                                                                                 | 00034                                 |
|                                                                                | Plastic Surgery                                                                                                                                                                                                    | 00035                                 |
|                                                                                | Thoracic Surgery                                                                                                                                                                                                   | 00036                                 |
|                                                                                | Vascular Surgery                                                                                                                                                                                                   | 00037                                 |
|                                                                                | Cardiothoracic Surgery                                                                                                                                                                                             | 00038                                 |
|                                                                                | Urology                                                                                                                                                                                                            | 00039                                 |
|                                                                                | Obstetrics and Gynecology                                                                                                                                                                                          | 00050                                 |
|                                                                                | Colorectal Surgery                                                                                                                                                                                                 | 00059                                 |
|                                                                                | Otolaryngology                                                                                                                                                                                                     | 00060                                 |
|                                                                                | Ophthalmology                                                                                                                                                                                                      | 00062                                 |
|                                                                                | Psychiatry                                                                                                                                                                                                         | 00064                                 |
|                                                                                | General Surgical Oncology                                                                                                                                                                                          | 00073                                 |
|                                                                                | Dentistry Group                                                                                                                                                                                                    | 01000                                 |
|                                                                                | Dentist                                                                                                                                                                                                            | 01001                                 |
|                                                                                | Dental Surgeon                                                                                                                                                                                                     | 01002                                 |
|                                                                                | Oral Surgeon                                                                                                                                                                                                       | 01003                                 |
|                                                                                | Orthodontist                                                                                                                                                                                                       | 01004                                 |
|                                                                                | Paedodontist                                                                                                                                                                                                       | 01005                                 |
|                                                                                | Periodontist                                                                                                                                                                                                       | 01006                                 |
|                                                                                | Oral Pathologist                                                                                                                                                                                                   | 01007                                 |

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|                                                                     | Endodontist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 01008 |
|                                                                     | Oral Radiologist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 01009 |
|                                                                     | Dental Hygienist/Assistant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 01010 |
|                                                                     | Dental Mechanic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 01011 |
| Transferred from another acute care facility                        | ICES computes the number of records related to a single episode or reason to visit the hospital using a variable called EPIVISIT. For this indicator, discharge records subsequent to the first discharge record in the same episode of care are excluded since they should not be thought of as readmissions (exclude EPIVISIT not equal to 1). It is, however, important to remember to use the discharge date of the <b>last</b> episode of care and calculate forward 30 days for the readmission rate calculation. |       |
| In-hospital complication                                            | Another diagnosis code exists with a DXTYPE '2'                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
| CHF readmission to ED/acute care within 30 days of being discharged | <p>CHF readmission to acute care:<br/>Readmission diagnosis of I50 within 30 days of being discharged. Check inpatient admissions only. DXTYPE='M'</p> <p>CHF readmission to ED:<br/>NACRS ED visit with DX10CODE = I50 within 30 days of being discharged.</p>                                                                                                                                                                                                                                                         |       |

| Indicator title                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Rate of readmission to the emergency department within 3 days of being discharged for asthma in Ontario, 2002/2003-2007/2008 |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1)           | DAD<br>NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                              |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                              |
| Denominator (population) description                      | <p>Yearly ED visits for Asthma from 2002/03 to 2007/08</p> <p>Diagnosis of asthma:</p> <ul style="list-style-type: none"> <li>a. Most responsible diagnosis, dx10code1 =: J45; OR</li> <li>b. Most responsible diagnosis, dx10code1 in: (R05, R060, R062, J96) AND any other diagnosis code =: J45; AND</li> <li>c. For either of the two diagnosis above, all patients were discharged to place of residence home (variable VISDISP[YYYY] = '01' or VISDISP2005 = '15').</li> </ul> <p>Exclude:</p> <ul style="list-style-type: none"> <li>a. Non-Ontario residents, and those who cannot be assigned age/sex from RPDB,</li> <li>b. Age &lt; 18</li> <li>c. Age &gt; 45</li> <li>d. Initial ED visits with admit/registration/triage date of March 29, 2008 or later (since there won't be enough follow-up data),</li> <li>e. Transferred to another ED</li> </ul> |                                                                                                                              |
| Numerator (Subset of denominator; restricted as follows:) | <p>Numerator is all return ED visits within 3 days (72 hrs) of the index ED visit (definition below).</p> <p>Count all visits in the denominator. Count all return visits within 72 hours in the numerator. For example, if a patient has three ED visits in close succession, the patient will contribute 3 counts to the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                              |

|                                   | denominator and may contribute 2 counts to the numerator.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Rates:                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Crude Rate Calculation            | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Overall (all years)<br>LHIN (2007/08) |
|                                   | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 100 asthma ED visits                  |
| Details of Variables:             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Variable                          | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |
| Invalid IKN; non-Ontario resident | VALIKN ≠ V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |
| Age                               | Age at the registration date. Get from RPDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |
| Sex                               | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| LHIN                              | Patient's best LHIN assignment from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |
| Transferred to another ED         | Variable TO_TYPE = E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |
| Return ED visit within 72 hours   | <p>The subsequent ED visit is a return visit if:</p> <p>0 hours &lt; (follow-up start time – index visit end time) &lt;= 72 hours,</p> <p>Subsequent ED visit is for asthma (dx10code1 =: 'J45' or (dx10code1 in: ('R05', 'R060', 'R062', 'J96') and any other diagnosis code =: 'J45'),</p> <p>Case is urgent or emergent (triage level 1, 2, or 3)</p> <p><u>Exclude</u> from the numerator planned visits and those seen by non-ED providers (visit type 3 or 5)</p> <p>Visit start time is the earliest of (01Apr2002, triage time, registration time). Visit end time is the time the visit was completed.</p> |                                       |

### 3.5.1 Keeping people healthy in long-term care

| Indicator title                                 | Rate per 100 person-years of ED visits of potentially preventable conditions by Long Term Care residents in Ontario, 2002/2003-2007/2008                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1) | OHIP<br>ODB<br>NACRS<br>DAD<br>RPDB<br>CCRS<br>MNS                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>The Indicator:</b>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Denominator (population) description            | <p>All LTC residents (see definition below) from 2002/03 to 2007/08.</p> <p>Exclude:</p> <ol style="list-style-type: none"> <li>Subjects with an invalid IKN or non-Ontario resident,</li> <li>Duplicate record for SERVDATE within IKN,</li> <li>Residents aged &lt; 65 or &gt; 105 on April 1 of each fiscal year of interest (selecting Apr 1 instead of Oct 1 will ensure resident eligible for ODB during look back),</li> <li>Dead on or prior to October 1 of each fiscal year of interest,</li> </ol> |

|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                             |                                                           |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
|                                                                  | e. Invalid sex and age values                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                             |                                                           |
| Numerator<br>(Subset of denominator;<br>restricted as follows:)  | Number of potentially preventable ED visits (see definition) during follow up period as defined in the person-years definition.<br><br>Exclude:<br>a. Associated codes for each condition (defined in the table below)                                                                                                                                                                                                                                 |                                                                                                                                                             |                                                           |
| Rates:                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                             |                                                           |
| Crude Rate Calculation                                           | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                      | Overall (all years)<br>LHIN (2007/08)                                                                                                                       |                                                           |
|                                                                  | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100 person years                                                                                                                                            |                                                           |
| Details of Variables:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                             |                                                           |
| Variable                                                         | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                             |                                                           |
| Age                                                              | Age on Apr. 1 of fiscal year from RPDB. (to allow ODB records to be captured)                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                             |                                                           |
| Sex                                                              | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                             |                                                           |
| LTC residents                                                    | Currently data that identifies LTC residents of Ontario is not fully available; therefore the following algorithm is used to identify people who are most likely LTC residents. Two or more records with unique dates between June 1 and September 30 of the year of interest that meet either of the following conditions:<br>a. OHIP record having a fee code starting with "W" where the INST type = 'NH' or 'HF'<br>b. ODB record with an LTC flag |                                                                                                                                                             |                                                           |
| Invalid IKN or non-Ontario resident                              | VALIKN ≠ V                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                             |                                                           |
| Conditions presenting to the ED that are potentially preventable | Diagnostic codes for potentially preventable conditions (Use "main problem", i.e. DX10CODE1):                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                             |                                                           |
|                                                                  | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                              | ICD-10-CA                                                                                                                                                   | Exclude                                                   |
|                                                                  | Angina                                                                                                                                                                                                                                                                                                                                                                                                                                                 | I20<br>I2382<br>I240<br>I248<br>I249                                                                                                                        | Cases with surgical procedure (CCI procedure: 1*, 2*, 5*) |
|                                                                  | Asthma                                                                                                                                                                                                                                                                                                                                                                                                                                                 | J45                                                                                                                                                         |                                                           |
|                                                                  | Cellulitis*                                                                                                                                                                                                                                                                                                                                                                                                                                            | L03                                                                                                                                                         | Cases with surgical procedures (CCI: 1*, 2*, 5*)          |
|                                                                  | Chronic obstructive pulmonary disease (COPD)                                                                                                                                                                                                                                                                                                                                                                                                           | J41 – J44<br>J47<br>J20 (only when "other diagnosis" of J41-J44, J47 is present)<br>J12 – J16, J18 (only when "other diagnosis" of J41-J44, J47 is present) |                                                           |

|                                    |                                                                                                                                                |                                                                                                                                        |                                                                                                                   |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|                                    | Congestive heart failure (CHF)                                                                                                                 | I50<br>J81                                                                                                                             | Cases with surgical procedures (CCI: 1IJ50, 1HZ85, 1IH76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HB54, 1HD54) |
|                                    | Dehydration                                                                                                                                    | E86                                                                                                                                    |                                                                                                                   |
|                                    | Diabetes                                                                                                                                       | E101<br>E106, E107<br>E109<br>E110, E111<br>E116, E117<br>E119<br>E130, E131<br>E136, E137<br>E139<br>E140, E141<br>E146, E147<br>E149 |                                                                                                                   |
|                                    | Gastroenteritis*                                                                                                                               | K52 (other noninfective gastroenteritis and colitis)                                                                                   |                                                                                                                   |
|                                    | Grand mal seizure disorders                                                                                                                    | G40<br>G41                                                                                                                             |                                                                                                                   |
|                                    | Hypertension                                                                                                                                   | I100<br>I101<br>I11                                                                                                                    | Cases with surgical procedures (CCI: 1IJ50, 1HZ85, 1IJ76, 1HB53, 1HD53, 1HZ53, 1HB55, 1HD55, 1HZ55, 1HB54, 1HD54) |
|                                    | Hypoglycemia                                                                                                                                   | E162                                                                                                                                   |                                                                                                                   |
|                                    | Injury/fracture from a fall*                                                                                                                   | W00<br>W03-W08<br>W10                                                                                                                  |                                                                                                                   |
|                                    | Kidney/urinary tract infection                                                                                                                 | N10<br>N151<br>N11<br>N136<br>N390                                                                                                     |                                                                                                                   |
|                                    | Pneumonia                                                                                                                                      | J12 – J16<br>J18                                                                                                                       |                                                                                                                   |
|                                    | Severe ear, nose, or throat infection                                                                                                          | J02, J03<br>J312                                                                                                                       |                                                                                                                   |
|                                    | Transfer to continuing care                                                                                                                    | Use assess_date on CCRS                                                                                                                |                                                                                                                   |
| Admission to acute hospitalization | Use admdate on CIHI-DAD                                                                                                                        |                                                                                                                                        |                                                                                                                   |
| Death                              | Use dfthdate on RPDB                                                                                                                           |                                                                                                                                        |                                                                                                                   |
| LHIN                               | LHIN of patient from RPDB                                                                                                                      |                                                                                                                                        |                                                                                                                   |
| Person-years                       | Person years represent the total consecutive amount of time that each resident is followed until the first occurrence of any of the following: |                                                                                                                                        |                                                                                                                   |

|  |                                                                                                                                                                                              |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>a. Death,</li> <li>b. Acute care hospital admission,</li> <li>c. Transfer to Chronic Care,</li> <li>d. March 31 of fiscal year of interest</li> </ul> |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 4 Safe

### 4.2 Drug Safety

|                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Indicator title                                                                                           | Rate per 100 long-term care home residents with at least one potentially inappropriate prescription, 2002/2003 to 2006/2007                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |
| Data sources (for descriptions see section 4.1)                                                           | ODB<br>OHIP<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |
| The Indicator:                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| Denominator (population) description                                                                      | Residents of LTC facilities (see definition below) from 2002/03 to 2007/08.<br><br>Exclude:<br>a. Non- Ontario residents<br>b. Less than 65 years of age as of 120 days prior to the start of fiscal year of interest. (e.g. they must have been age 65 by December 1, 2006 for fiscal year 2007/08).<br>c. Those who died prior to the end of the fiscal year (e.g. prior to March 31, 2008 for fiscal year 2007/08),<br>d. Those who had no contact with the health care system in the 5 years prior to the start of the fiscal year (e.g. no contact after April 1, 2002 for fiscal year 2007/08) |                     |
| Numerator (Subset of denominator; restricted as follows:)                                                 | Filling one or more prescriptions for one of more inappropriate drugs at any time during the fiscal year of interest (see definition below)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |
| Rates:                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| Crude Rate Calculation                                                                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Overall (all years) |
|                                                                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100                 |
| Details of Variables:                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| Variable                                                                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |
| Age                                                                                                       | Age at April 1 of the fiscal year of interest. Age groups are 65-74, 75-84, and 85+.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |
| Sex                                                                                                       | Get the patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| Invalid IKN or non-Ontario resident                                                                       | VALIKN ≠ V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |
| Death date                                                                                                | Get the patient's date of death from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |
| Those who had no contact with the health care system in the 5 years prior to the start of the fiscal year | The Contact database at ICES contains information regarding RPDB eligibility status, history of health care contact and CAPE enrollment status. Check that there was at least one non-missing value for the variable ELIG during the 5 years of Contact data prior to the fiscal year of interest.                                                                                                                                                                                                                                                                                                   |                     |
| Community / nursing home resident                                                                         | A person is classified as LTC home resident if s/he has met ALL following criteria:<br>a. Any prescriptions with (LTC = '1') OR any 'W' OHIP fee code in OHIP in the period starting 120 days prior to the start of the fiscal year.<br>b. Any prescriptions with (LTC = '1') OR any 'W' OHIP fee code in the 120 days after the beginning of the fiscal year                                                                                                                                                                                                                                        |                     |

|                           |                                                                                                                                                                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | A person is classified as community resident if s/he has none of the above record. We code the person unclassified if s/he does not fall into either category.                                                                             |
| Inappropriate prescribing | <p>Yes if there is at least one drug from the drug list in Appendix D prescribed in the fiscal year of interest.</p> <p>Note: Appendix D excludes Hormone Replacement Therapy and low dose (less than or equal to 25mg) Amytriptylene.</p> |

### 4.3 Avoidable harm: Reducing falls, ulcers and infections in care settings

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Indicator title                                           | Rate of falls among seniors (aged 65+) resulting in an emergency department visit or inpatient hospitalization per 100 resident-years in long-term care homes in Ontario, 2002/2003 – 2007/2008                                                                                                                                                                                                                                                                                                          |                                |
| Data Sources (for descriptions see section 4.1)           | NACRS<br>DAD<br>OHIP<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |
| Denominator (population) description                      | LTC residents in the fiscal years 2002/03 to 2007/08.<br><br>Exclude: <ul style="list-style-type: none"><li>a. Residents aged &lt; 65 or &gt; 105 on of each fiscal year of interest</li><li>b. dead on or prior to October 1 of each fiscal year of interest,</li><li>c. Invalid sex and age values,</li><li>d. Invalid health card number,</li><li>e. Resident in palliative care</li></ul>                                                                                                            |                                |
| Numerator (Subset of denominator; restricted as follows:) | Falls in nursing homes resulting in an ED visit/inpatient hospitalization from October 1 to March 31 of each fiscal year of interest.                                                                                                                                                                                                                                                                                                                                                                    |                                |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |
| Standardized Rate Calculation                             | Crude Rate(s):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Overall (all years separately) |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 100 person years               |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |
| Age                                                       | Age at October 1 of the fiscal year of interest. From RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |
| Sex                                                       | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                |
| Death date                                                | Patient's date of death from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                |
| LHIN                                                      | Patient's LHIN of residence from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |
| LTC residents                                             | Currently data that identifies LTC residents of Ontario is not fully available; therefore the following algorithm is used to identify people who are most likely LTC residents. Two or more records with unique dates between June 1 and September 30 of the year of interest that meet either of the following conditions: <ul style="list-style-type: none"><li>a. OHIP record having a fee code starting with "W" where the INST type = 'NH' or 'HF'</li><li>b. ODB record with an LTC flag</li></ul> |                                |

|                                                    |                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Falls resulting in ED visit or inpatient admission | DAD-CIHI inpatient record with ICD-10-CA code W00 through W19 as pre-admit (M, 1, W, X, Y) condition or ED visit with ICD-10 code W00-W19 in any diagnosis code occurring during the follow-up period.                                                                                                                                      |
| Fiscal year                                        | The fiscal year in which the residents were located by using OHIP records                                                                                                                                                                                                                                                                   |
| Institution type                                   | Link the INST to the MNS data (/moh/inst/mns.sas7bdat) to find the INSTTYPE. We will not count the W claim if the INSTTYPE ≠ NH (nursing home) or ≠ HF (home for aged)                                                                                                                                                                      |
| Person-years                                       | Person years represent the total consecutive amount of time that each resident is followed until the first occurrence of any of the following: <ul style="list-style-type: none"> <li>a. Death,</li> <li>b. Acute care hospital admission,</li> <li>c. Transfer to Chronic Care,</li> <li>d. March 31 of fiscal year of interest</li> </ul> |

#### 4.4 Missed Diagnosis

|                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |
|--------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Indicator title                                              |  | Rate of missed AMI in the emergency department in Ontario, 2002/03 to 2007/08                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |
| Data sources (for descriptions see section 4.1)              |  | DAD<br>NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |
| The Indicator:                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |
| Denominator (population) description                         |  | <p>Inpatient admission with most responsible diagnosis of AMI (ICD-10 code I21.x) through emergency department each fiscal year (determined from discharge date) from 2002/03 to 2007/08.</p> <p>Exclude:</p> <ul style="list-style-type: none"><li>a. Non-Ontario residents,</li><li>b. Invalid sex and age values,</li><li>c. Age &lt; 20 or &gt; 105 on the date of index admission,</li><li>d. Date inconsistency</li><li>e. Admissions where patients have a history of AMI,</li><li>f. Non-first admission for AMI,</li><li>g. Non-first visit in episode of care,</li></ul> <p>After exclusions, each remaining AMI patient should have only one admission for AMI per time period. This admission is called the Index Admission. The ED visit that leads to this admission is called the Index ED visit (defined below).</p> |                                       |
| Numerator<br>(Subset of denominator; restricted as follows:) |  | <p>A Related ED visit (defined below) identified in the 7 days prior to the Index Admission with any of the specified diagnostic codes in the Main Problem field (DX10CODE1).</p> <p>Exclude:</p> <ul style="list-style-type: none"><li>a. Patients that were admitted to hospital during the ED visit.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |
| Rates:                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |
| Crude Rate Calculation                                       |  | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Overall (all years)<br>LHIN (2007/08) |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|-------------|------------|-------------|--------|-----|-----------------------------------------------|------------------------|----------------|---------------------|----------------------------|---------------------|
|                                                 | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 100 |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Details of Variables:                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Variable                                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Age                                             | Age at index admission from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Sex                                             | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Non-Ontario resident                            | A subject is considered as non-Ontario resident if:<br>Variable VALIKN ≠ V or,<br>The first two characters of variable RESCODE are NOT between '01' and '50' or,<br>The first two characters of variable RESCODE equals to '22'.                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Data inconsistency                              | Exclude patients who died before the start of each fiscal year.<br>Variable DTHDATE is before April 1 of each fiscal year of interest                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Admissions where patients have a history of AMI | Any discharges during the 12 months prior to the index admission with ICD-10 code: I21 in any DXTYPE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Non-first admission for AMI in the time period  | ICD10 code of 'I21' in any of the DX10CODE fields for any DXTYPE (diagnosis not limited to most responsible) with the admission date (ADMDATE) between 1 and 365 days prior to index admission (defined in the denominator).                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Non-first visit in episode of care              | An episode of care is a series of admissions to acute care, inpatient hospitals where admissions are linked because the patient was transferred from one hospital to another. ICES derived a variable called EPIVISIT to count the number of visits a patient makes to acute care or ED during one episode.<br>Variable EPIVISIT ≠ 1 when there is a non-first visit in an episode of care.                                                                                                                                                                                                                                                                       |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Index ED visit                                  | The Index ED visit is the ED visit that leads to the Index Admission (defined in the denominator), where a previously missed AMI is admitted.<br><br>The Index ED visit is defined using NACRS records where the variable TO_TYPE = 'I' and TO_ID = the KEY variable of the Index Admission.<br><br>Transferring ED visit(s) should be excluded and should not be picked up in the scan for related ED visits. Exclude transferring ED visits where TO_ID = NACRS and TO_TYPE=E.<br><br>When a patient was transferred from one ED directly to another before admission, the very first visit to the ED is considered the Index ED visit.                         |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Related ED visit                                | The Related ED visit is a previous ED visit where potential for an AMI was missed.<br><br>Related ED visits are identified in the 7 days prior to the Index Admission and must have any one or more of the following diagnostic codes in the Main Problem field (DX10CODE1): <table><tr><td>Diagnosis</td><td>ICD-10 code</td></tr><tr><td>Chest pain</td><td>R07.1-R07.4</td></tr><tr><td>Angina</td><td>I20</td></tr><tr><td>Shortness of breath/ Congestive heart failure</td><td>R06.0, R06.8, I50, J81</td></tr><tr><td>Abdominal pain</td><td>R10.1, R10.3, R10.4</td></tr><tr><td>Heartburn, esophagitis, or</td><td>R12, R13, K20, K21,</td></tr></table> |     | Diagnosis | ICD-10 code | Chest pain | R07.1-R07.4 | Angina | I20 | Shortness of breath/ Congestive heart failure | R06.0, R06.8, I50, J81 | Abdominal pain | R10.1, R10.3, R10.4 | Heartburn, esophagitis, or | R12, R13, K20, K21, |
| Diagnosis                                       | ICD-10 code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Chest pain                                      | R07.1-R07.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Angina                                          | I20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Shortness of breath/ Congestive heart failure   | R06.0, R06.8, I50, J81                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Abdominal pain                                  | R10.1, R10.3, R10.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |
| Heartburn, esophagitis, or                      | R12, R13, K20, K21,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |           |             |            |             |        |     |                                               |                        |                |                     |                            |                     |

|                                                                                                                                                                                                                                                       |                 |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|
|                                                                                                                                                                                                                                                       | gastritis       | K22.9, K23.8, K29, K30 |
|                                                                                                                                                                                                                                                       | Syncope/malaise | R42, R53, R55          |
| <p>Transferring ED visit(s) should be excluded and should not be picked up in the scan for related ED visits. Exclude transferring ED visits where TO_ID = NACRS and TO_TYPE=E.</p> <p>Exclude patients admitted to hospital during the ED visit.</p> |                 |                        |

| Indicator title                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Rate of missed SAH in the emergency department in Ontario, 2002/03 to 2007/08 |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1)           | DAD<br>NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                               |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                               |
| Denominator (population) description                      | <p>Inpatient admission with most responsible diagnosis of SAH (ICD-10 code 160.x) through emergency department each fiscal year (determined from discharge date) from 2002/03 to 2007/08.</p> <p>Exclude:</p> <ul style="list-style-type: none"><li>a. Non-Ontario residents,</li><li>b. Invalid sex and age values,</li><li>c. Age &lt; 18,</li><li>d. Date inconsistency</li><li>e. History of SAH or cerebral aneurysm in past 12 years,</li><li>f. Traumatic SAH admission</li><li>g. Non-first visit in episode of care.</li></ul> <p>After exclusions, each remaining SAH patient should have only one admission for SAH per time period. This admission is called the Index Admission. The ED visit that leads to this admission is called the Index ED visit (defined below).</p> |                                                                               |
| Numerator (Subset of denominator; restricted as follows:) | <p>A Related ED visit (defined below) identified in the 14 days prior to the Index Admission with any of the specified diagnostic codes in the Main Problem field (DX10CODE1).</p> <p>Exclude:</p> <ul style="list-style-type: none"><li>a. Index ED visit</li><li>b. ED visit that was transferred to index ED visit</li><li>c. ED visits that result in hospital admission where inpatient LOS is &gt; 24hrs</li></ul>                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                               |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Overall (all years)<br>LHIN (2007/08)                                         |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 100                                                                           |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                               |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                               |
| Age                                                       | Age at index admission. Use RPDB to derive the age.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                               |
| Sex                                                       | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                               |
| LHIN                                                      | Patient's best LHIN assignment from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Non-Ontario resident                                 | <p>A subject is considered as non-Ontario resident if:</p> <ol style="list-style-type: none"> <li>1. Variable VALIKN <math>\neq</math> V or,</li> <li>2. The first two characters of variable RESCODE are <b>NOT</b> between '01' and '50' or,</li> <li>3. The first two characters of variable RESCODE <b>equals</b> to '22'.</li> </ol>                                                                                                                                                                                                                                                                                                       |
| Fiscal year                                          | The fiscal year of index event's discharge date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| History of SAH or cerebral aneurysm in past 12 years | Discharges in DAD in the past 12 years prior to the Index Admission (defined in the denominator) where ICD-10 code: I60 (SAH) or I671 (cerebral aneurysm) or ICD-9 code 430 (SAH) or 4373 (cerebral aneurysm) for any variable DXTYPE.                                                                                                                                                                                                                                                                                                                                                                                                          |
| Traumatic SAH admission                              | Defined as DX10CODE1='I60' and a DXTYPE=9 with any of the following DX10CODEs: V01-V99, W03, W06-W09, W11-W17, W20-W45, W49-W60, W64-W77, W81, W83-W94, W99, X00-X19, X30-X39, X52, X58-X99, Y00-Y09, Y35, Y36                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Non-first visit in episode of care                   | <p>An episode of care is a series of admissions to acute care, inpatient hospitals where admissions are linked because the patient was transferred from one hospital to another. ICES derived a variable called EPIVISIT to count the number of visits a patient makes to acute care or ED during one episode.</p> <p>Variable EPIVISIT <math>\neq</math> 1 when there is a non-first visit in an episode of care.</p>                                                                                                                                                                                                                          |
| Index ED visit                                       | <p>The Index ED visit is the ED visit that leads to the Index Admission (defined in the denominator), where a previously missed SAH is admitted.</p> <p>The Index ED visit is defined using NACRS records where the variable TO_TYPE = 'I' and TO_ID = the KEY variable of the Index Admission.</p> <p>Transferring ED visit(s) should be excluded and should not be picked up in the scan for related ED visits. Exclude transferring ED visits where TO_ID = NACRS and TO_TYPE=E.</p> <p>When a patient was transferred from one ED directly to another before admission, the very last visit to the ED is considered the Index ED visit.</p> |
| Related ED visit                                     | <p>The Related ED visit is a previous ED visit where symptoms of SAH were missed.</p> <p>Related ED visits are identified in the 14 days prior to the Index Admission and must have any one or more of the diagnostic codes in Appendix E the Main Problem field (DX10CODE1).</p> <p>Transferring ED visit(s) should be excluded and should not be picked up in the scan for related ED visits. Exclude transferring ED visits where TO_ID = NACRS and TO_TYPE=E.</p> <p>Exclude patients admitted to hospital during the ED visit.</p>                                                                                                         |

## 6 Equitable

### 6.2 Equity in Access

Refer to the Accessible section above for additional indicators analyzed in the Equity section.

### 6.3 Equitable Effective Care

Refer to the Effective section above for additional indicators analyzed in the Equity section.

|                                                           |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator title                                           |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Hospital admission rate and rate of emergency department visits per 100 people for reasons related to asthma, congestive heart failure, or diabetes in Ontario (Errata: Visits by patients for asthma were calculated for emergency department visits only; not hospital admissions. The definition below produced the reported figures.) |
| Data sources (for descriptions see section 4.1)           |                                                                                                              | NACRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                           |
| The Indicator:                                            |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |
| Denominator (population) description                      |                                                                                                              | RPDB weighted population aged 18 or up from 2002/03 to 2007/08<br><br>Exclude:<br>a. Invalid IKN<br>b. Missing age or gender<br>c. Age < 18                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                           |
| Numerator (Subset of denominator; restricted as follows:) |                                                                                                              | Calculate two separate numerators for each fiscal year:<br>1. Hospital admissions for congestive heart failure or diabetes (defined below)<br>Exclude:<br>a. In-hospitalization complication<br>b. CHF patients with records stating specific CCI codes (defined below)<br><br>2. Emergency department visits for asthma or congestive heart failure or diabetes (defined below)<br>Exclude:<br>a. Transferred to another ED or overlapping ED visits |                                                                                                                                                                                                                                                                                                                                           |
| Rates:                                                    |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                            | Income (2007 only)                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                           |
|                                                           | Unit of Rate(s) per:                                                                                         | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                           |
| Details of Variables:                                     |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |
| Variable                                                  |                                                                                                              | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                           |
| Age                                                       | Age from weighted RPDB (defined at July 1) for denominator<br>Age at REGDATE for ED visit obtained from RPDB |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |
| Sex                                                       | Patient's sex from RPDB                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                           |

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                              |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--|-----------|--------|------------------------------------------------------------------------|--------|-----|----|--------------------------|------------|--------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------|----|
| Income quintile                                                        | Income is represented by the patient's neighbourhood-level income. Using the StatsCan postal code conversion file (PCCF) and the patient's postal code from RPDB, using variable INCQUINT.<br><br>For income level analysis only, exclude patients from denominator if INCQUINT missing.                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                              |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |
| Hospital admissions for asthma or congestive heart failure or diabetes | Occurring where the most responsible diagnosis (variable DXTYPE = M) for in-patient hospitalizations (DX10CODE) for the following conditions: <table><tr><td>Condition</td><td>ICD-10</td><td>Excluded if specific procedures are found in the same discharge record</td></tr><tr><td>Asthma</td><td>J45</td><td>NA</td></tr><tr><td>Congestive Heart Failure</td><td>I50.0, J81</td><td><b>CCI</b> 1.IJ.50, 1.HZ.85, 1.IJ.76, 1.HB.53, 1.HD.53, 1.HZ.53, 1.HB.55, 1.HD.55, 1.HZ.55, 1.HB.54, 1.HD.54</td></tr><tr><td>Diabetes</td><td>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</td><td>NA</td></tr></table> |                                                                                                              |  | Condition | ICD-10 | Excluded if specific procedures are found in the same discharge record | Asthma | J45 | NA | Congestive Heart Failure | I50.0, J81 | <b>CCI</b> 1.IJ.50, 1.HZ.85, 1.IJ.76, 1.HB.53, 1.HD.53, 1.HZ.53, 1.HB.55, 1.HD.55, 1.HZ.55, 1.HB.54, 1.HD.54 | 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 | NA |
| Condition                                                              | ICD-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Excluded if specific procedures are found in the same discharge record                                       |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |
| Asthma                                                                 | J45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA                                                                                                           |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |
| Congestive Heart Failure                                               | I50.0, J81                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>CCI</b> 1.IJ.50, 1.HZ.85, 1.IJ.76, 1.HB.53, 1.HD.53, 1.HZ.53, 1.HB.55, 1.HD.55, 1.HZ.55, 1.HB.54, 1.HD.54 |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA                                                                                                           |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |
| In-hospital complications                                              | Where, DXTYPE=M and 2 for asthma, congestive heart failure or diabetes patients                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                              |  |           |        |                                                                        |        |     |    |                          |            |                                                                                                              |          |                                                                                                                                     |    |

|                                                              |                                                             |                                                                                                                                     |                                                                                                       |
|--------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| ED visits for diabetes or asthma or congestive heart failure | Where DXTYPE=M and DX10CODE1 is one of the following codes: |                                                                                                                                     |                                                                                                       |
|                                                              | Condition                                                   | ICD-10                                                                                                                              | Excluded if specific procedures are found in the same discharge record                                |
|                                                              | Asthma                                                      | J45                                                                                                                                 | NA                                                                                                    |
|                                                              | Congestive Heart Failure                                    | I50.0, J81                                                                                                                          | CCI 1.IJ.50, 1.HZ.85, 1.IJ.76, 1.HB.53, 1.HD.53, 1.HZ.53, 1.HB.55, 1.HD.55, 1.HZ.55, 1.HB.54, 1.HD.54 |
|                                                              | 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 | NA                                                                                                    |
| Transfer to another ED or overlapping ED visits              | Variable TO_TYPE in NARCS = 'E', 'O'                        |                                                                                                                                     |                                                                                                       |

## 6.4 Equity of preventive health services

Refer to the Population Health section below for additional indicators analyzed in the Equity section.

## 6.5 Disparities in risk factors and healthy behaviours

Refer to the Population Health section below for additional indicators analyzed in the Equity section.

## 7 Efficient

### 7.2 Emergency department visits that might have been avoided

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              |  |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Indicator title                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Adjusted rate of visits to emergency departments in census metropolitan areas (CMAs) for conditions that could be treated elsewhere, per 100 persons, 2002/03 to 2006/07                                                                                     |  |
| Data Sources                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NACRS<br>RPDB                                                                                                                                                                                                                                                |  |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              |  |
| Denominator (population) description                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | All visits to EDs located within a CMA during fiscal years 2002 to 2007 (defined below)<br><br>Exclude:<br>a. Invalid IKN,<br>b. Missing LHIN, age or gender (found missing or invalid in RPDB),<br>c. Planned or scheduled visit,<br>d. Age < 1 or age > 74 |  |
| Numerator (Subset of denominator; restricted as follows:) |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ED visits that could be managed elsewhere (see definition)<br><br>Exclude:<br>a. Patients with CTAS levels of I, II, III<br>b. Admitted to hospital                                                                                                          |  |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              |  |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                    | Overall (all CMAs for all years)<br>CMAs by LHIN (for 2007/08 only)                                                                                                                                                                                          |  |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100                                                                                                                                                                                                                                                          |  |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              |  |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                              |  |
| Age                                                       | Age at the registration date.                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                              |  |
| Sex                                                       | Get the patient's sex from RPDBDEMO dataset by calling macro %getdemo                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                              |  |
| Invalid IKN                                               | Variable VALIKN ≠ V                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                              |  |
| Planned or scheduled visit                                | Variable VISITTYPE = 3, 4, or 5                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              |  |
| CTAS levels I, II, or III                                 | Variable TRIAGE = 1, 2, or 3                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                              |  |
| Admitted to hospital at ED discharge                      | Variable VISITDISP2002, VISITDISP2003, or VISITDISP2005 = 06 or 07<br>Note: Year 2007/08, checked values of admitting to hospitals                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                              |  |
| LHIN                                                      | Patient's best LHIN from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                              |  |
| Whether the ED is locate in a CMA                         | Census Metropolitan Area (CMA) is a geographical area created by Statistics Canada for the purposes of collecting and organizing data for large urbanized areas. CMAs are identified using StatsCan's Postal Code Conversion File (PCCF). To identify emergency department facilities that are located in CMAs, use NACRS variable AMINST to look up the postal code and then use PCCF to determine whether the postal code is located within a CMA. |                                                                                                                                                                                                                                                              |  |

|                                                              |                                                    |
|--------------------------------------------------------------|----------------------------------------------------|
| Conditions that could be managed elsewhere outside of the ED | Where DXTYPE = M is one of the codes in Appendix F |
|--------------------------------------------------------------|----------------------------------------------------|

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Indicator title                                           | Rate per 100 person-years of low acuity emergency department visits by long-term care residents in Ontario, 2002/2003 to 2007/2008                                                                                                                                                                                                                                                                                                                                          |                                       |
| Data sources (for descriptions see section 4.1)           | OHIP<br>ODB<br>NACRS<br>DAD<br>RPDB<br>CCRS<br>MNS                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Denominator (population) description                      | LTC residents in Ontario from 2002/03 to 2007/08 defined in person-years (defined below)<br><br>Exclude:<br>a. Subjects with an invalid IKN,<br>b. Duplicate record for SERVDATE within IKN,<br>c. Residents aged < 65 or > 105 on April 1 of each fiscal year of interest (selecting Apr 1 instead of Oct 1 will ensure resident eligible for ODB during look back),<br>d. Dead on or prior to October 1 of each fiscal year of interest,<br>e. Invalid sex and age values |                                       |
| Numerator (Subset of denominator; restricted as follows:) | Number of low acuity ED visits (see below for definition) during follow up period.                                                                                                                                                                                                                                                                                                                                                                                          |                                       |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Overall (all years)<br>LHIN (2007/08) |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 100 person years                      |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| Age                                                       | Age on Apr. 1 of fiscal year from RPDB. (to allow ODB records to be captured)                                                                                                                                                                                                                                                                                                                                                                                               |                                       |
| Sex                                                       | Patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Invalid IKN or non-Ontario resident                       | VALIKN ≠ V                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| LHIN                                                      | LHIN of patient from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |
| LTC residents                                             | Currently data that identifies LTC residents of Ontario is not fully available; therefore the following algorithm is used to identify people who are most likely LTC residents. Two or more records with unique dates between June 1 and September 30 of the year of interest that meet either of the following conditions:                                                                                                                                                 |                                       |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | <ul style="list-style-type: none"> <li>a. OHIP record having a fee code starting with “W” where the INST type = ‘NH’ or ‘HF’</li> <li>b. ODB record with an LTC flag</li> </ul>                                                                                                                                                                                                                                                                                                |
| Low acuity visits | <p>At triage, CTAS score of 4 or 5 AND resident returned to NH without hospital admission. Defined as follows:</p> <ul style="list-style-type: none"> <li>a. Where variable TO_TYPE = ‘ ‘<br/>AND</li> <li>b. VISDISP, VISDISP2003, or VISDISP2005 (depending on year) ≠ 6-14</li> </ul> <p>NOTE: This will not include residents who were either discharged or triaged but left without treatment (VISDISP: = 1-5) or who return to place of residence (VISDISP2005 =15).</p> |
| Person-years      | <p>Person years represent the total consecutive amount of time that each resident is followed until the first occurrence of any of the following:</p> <ul style="list-style-type: none"> <li>a. Death,</li> <li>b. Acute care hospital admission,</li> <li>c. Transfer to Chronic Care,</li> <li>d. March 31 of fiscal year of interest</li> </ul>                                                                                                                             |

### 7.3 Use of low-cost drugs that work as well as more expensive ones

| Indicator title                                           | Rate of prescribing a thiazide as their first antihypertensive medication per 100 elderly people, 2005/06 and 2007/08                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1)           | DAD<br>OHIP<br>ODB<br>RPDB<br>ODD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Denominator (population) description                      | <p>People newly diagnosed with hypertension (definition below) in Ontario from 2005/06 to 2007/08</p> <p>Exclude:</p> <ul style="list-style-type: none"> <li>a. Patient not at least 66 years old on index date</li> <li>b. Patients treated for hypertension in the 1 year prior to the index date (in order to restrict to patients diagnosed with hypertension for the first time)</li> <li>c. Patients who filled a prescription for one of the drugs on the “exclusion” list (see Appendix H) in the one year period prior to or on the index date.</li> <li>d. Patients with the most responsible diagnoses within the 3 years prior to the index date which suggest that the diuretics were prescribed for something other than hypertension (see definition below).</li> <li>e. Patients diagnosed with diabetes at any time prior to the index date (definition below).</li> </ul> |
| Numerator (Subset of denominator; restricted as follows:) | People whose first prescription was a thiazide (definition below).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Crude Rate Calculation                                          | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Overall (all years)<br>LHIN (2007/08) |
|                                                                 | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100                                   |
| Details of Variables:                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       |
| Variable                                                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Age                                                             | Age at the index date. Get date of birth from RPDB. Age groups are 66-74 and 75+.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |
| Sex                                                             | Get the patient's sex from RPDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |
| People newly diagnosed with hypertension                        | Anyone who filled a prescription for one of the drugs in Appendix G. The first such prescription for each person is the index date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |
| Diuretics were prescribed for something other than hypertension | Within the 3 years prior to the index date, there was at least one inpatient hospitalization with a most responsible diagnosis one of the following:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       |
|                                                                 | Exclusion diagnosis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ICD-10-CA codes                       |
|                                                                 | heart failure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | I50                                   |
|                                                                 | migraine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | G43                                   |
|                                                                 | ischaemic heart disease                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | I20, I21, I22, I23, I24, I25          |
|                                                                 | Paroxysmal tachycardia, other cardiac arrhythmias                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I47, I49                              |
|                                                                 | cerebral infarction (stroke), stroke not specified as haemorrhage or infarction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | I63, I64                              |
|                                                                 | some transient cerebral ischaemic attacks and related syndromes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | G450, G451, G452, G453, G458, G459    |
|                                                                 | some codes for vascular syndromes of brain in cerebrovascular diseases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | G464, G465, G466, G467                |
|                                                                 | Chronic nephritic syndrome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N03                                   |
|                                                                 | chronic renal failure, unspecified renal failure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | N18, N19                              |
|                                                                 | Alcoholic cirrhosis of liver, primary biliary cirrhosis, secondary biliary cirrhosis, biliary cirrhosis, unspecified, other and unspecified cirrhosis of liver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | K703, K743, K744, K745, K746          |
| Oesophageal varices                                             | I85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |
| Diagnosed with diabetes at any time prior to the index date     | ODD variable DIAGDATE is prior to or on the index date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |
| Prescribed a thiazide                                           | A thiazide is either a drug whose only active ingredient is some form of thiazide, or a drug which contains a thiazide plus amiloride, triamterene, or spironolactone.<br><br>A patient is considered to be taking a thiazide drug if the prescription(s) filled on the index date are found on the thiazide drug list in Appendix I.<br><br>In the event that a patient filled one prescription for a thiazide and a separate prescription for amiloride, triamterene, or spironolactone (DRUGNAME = AMILORIDE HCL, AMILORIDE HCL & HYDROCHLOROTHIAZIDE, TRIAMTERENE, TRIAMTERENE HYDROCHLOROTHIAZIDE, SPIRONOLACTONE, or SPIRONOLACTONE HYDROCHLOROTHIAZIDE), the patient is |                                       |

|  |                                     |
|--|-------------------------------------|
|  | considered to be taking a thiazide. |
|--|-------------------------------------|

## 7.4 Reduce unnecessary tests

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Indicator title                                              | Rate of pre-operative ECG and X-ray testing per 100 cataract procedures, 2002/03 to 2006/07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| Data sources (for descriptions see section 4.1)              | DAD<br>NACRS<br>OHIP<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |
| The Indicator:                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |
| Denominator (population) description                         | <p>Inpatient or outpatients with a hospital discharge record that indicates cataract surgery was performed (see definition).</p> <p>Exclude:</p> <ul style="list-style-type: none"><li>a. Invalid health card number or Ontario patient identifier,</li><li>b. Age/sex missing,</li><li>c. Patient age is &lt; 20 at the time of admission,</li><li>d. Patient age is &gt; 105 at the time of admission,</li><li>e. Non-elective admission,</li><li>f. Procedure was done previously or out of hospital procedure,</li><li>g. Patient was discharged dead</li></ul>                                                                                                                                                                                                                                                                                                                                                                          |                                       |
| Numerator<br>(Subset of denominator; restricted as follows:) | <p>Two kinds of pre-operating tests dated in the 30 days (i.e. 1 &lt;= admission date – OHIP servdate &lt;= 30) prior to admission for surgery (not the date of surgery):</p> <ul style="list-style-type: none"><li>1. Electrocardiograms (OHIP fee code G313)</li><li>2. Chest X-rays (fee codes X090, X091, and X092)</li></ul> <p>Rates of pre-operative ECG and chest X-ray testing are calculated as the number of patients receiving an ECG or chest X-ray (count one ECG even if the patient had more than 1 ECG, and count one chest X-ray even if the patient had more than one chest X-ray), respectively, in the 30 days prior to hospital admission divided by the total number of discharges (we are considering individual discharges, not episodes of care).</p> <p>Exclude:</p> <ul style="list-style-type: none"><li>a. Procedures performed on the day of surgery (since these are likely to be post-operative.)</li></ul> |                                       |
| Rates:                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |
| Crude Rate Calculation                                       | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Overall (all years)<br>LHIN (2007/08) |
|                                                              | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100                                   |
| Details of Variables:                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                       |
| Variable                                                     | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |
| Age                                                          | Date of birth from RPDB. Age at the admission date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |
| Sex                                                          | Get the patient's sex from RPDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |

| Invalid IKN                 | Variable VALIKN ≠ V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|---------|----------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|
| LHIN                        | Patient's best LHIN assignment from RPDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| Cataract Surgery            | <p>Cataract surgery was defined using the CIHI definition found at <a href="http://www.cihi.ca/cihiweb/en/downloads/WaitTimesReport_tech_Cataracts_e.pdf">www.cihi.ca/cihiweb/en/downloads/WaitTimesReport_tech_Cataracts_e.pdf</a></p> <p>Cataract surgery is identified using a combination of a procedure code AND diagnosis codes:<br/> CCI code: 1.CL.89 - (Excision total, lens. Includes: Lens extraction (for cataract) with or without insertion of intraocular lens prosthesis) in any position.<br/> AND<br/> ICD-10 codes: H25 - senile cataract, H26 - other cataract, or H28 - cataract and other disorders of lens in diseases classified elsewhere in any position</p> |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| Non-elective admission      | <p>Inpatient admissions were considered to be non-elective if:<br/> DAD variable ADMCAT ≠ L, or<br/> DAD variable ENTRY ≠ C, D, or P</p> <p><u>Outpatient procedures</u> were considered to be non-elective if:<br/> admission by ambulance (SDS variable ADMAMBUL = A, G, W, or C).</p>                                                                                                                                                                                                                                                                                                                                                                                               |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| Out of hospital procedure   | Variable INOOH[1-20] = 'Y'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| Patient was discharged dead | <p>Inpatient records: DISCHDISP = 07</p> <p>Outpatient records:</p> <table border="1"> <thead> <tr> <th>Fiscal year</th><th>Variable and Value</th></tr> </thead> <tbody> <tr> <td>2002/03</td><td>DISCHDISP = 07</td></tr> <tr> <td>2003/04</td><td>VISDISP2003 = 10</td></tr> <tr> <td>2004/05</td><td>VISDISP2003 = 10</td></tr> <tr> <td>2005/06</td><td>VISDISP2005 = 10</td></tr> <tr> <td>2006/07</td><td>VISDISP2005 = 10</td></tr> </tbody> </table>                                                                                                                                                                                                                          | Fiscal year | Variable and Value | 2002/03 | DISCHDISP = 07 | 2003/04 | VISDISP2003 = 10 | 2004/05 | VISDISP2003 = 10 | 2005/06 | VISDISP2005 = 10 | 2006/07 | VISDISP2005 = 10 |
| Fiscal year                 | Variable and Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| 2002/03                     | DISCHDISP = 07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| 2003/04                     | VISDISP2003 = 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| 2004/05                     | VISDISP2003 = 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| 2005/06                     | VISDISP2005 = 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |
| 2006/07                     | VISDISP2005 = 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                    |         |                |         |                  |         |                  |         |                  |         |                  |

## 9 Integrated

### 9.2 Smooth Handoffs from Hospital to Other Services

| Indicator title                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Percentage of stroke patients discharged from acute care to inpatient rehabilitation in Ontario, 2005/06-2007/08 |  |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--|
| Data sources (for descriptions see section 4.1)           | DAD<br>NRS<br>RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |  |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |  |
| Denominator (population) description                      | Inpatient hospitalization with a most responsible diagnosis of stroke (either pre-admission or post-admission while in hospital), with episode ending in each fiscal year from 2005/06 to 2007/08 (defined below)<br><br>Exclude: <ul style="list-style-type: none"><li>a. Invalid health card number or non-Ontario residents,</li><li>b. Missing age/sex,</li><li>c. Age &lt; 20 or age &gt; 105,</li><li>d. Patient died in hospital,</li><li>e. Previous stroke (defined below),</li><li>f. Episode LOS &gt; 30 days,</li><li>g. Transferred from specialized facilities (defined below),</li><li>h. Discharged after March 31, 2006</li></ul> |                                                                                                                  |  |
| Numerator (Subset of denominator; restricted as follows:) | Direct discharge to rehab facility (defined below)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |  |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |  |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Overall (all years)<br>LHIN (2007/08)                                                                            |  |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 100                                                                                                              |  |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |  |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |  |
| Age                                                       | Date of birth from RPDB. Age at the discharge date of the episode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                  |  |
| Sex                                                       | Get the patient's sex from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |  |
| Invalid IKN or non-Ontario resident                       | VALIKN ≠ V or the first two characters are NOT between '01' and '50' or are equal to '22'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |  |
| Most responsible diagnosis for stroke                     | For index event, identify stroke patients where dxtype = M and dx10code1 = I60, I61, I63, I64. The date that the index event occurs is the index admission date and is used to calculate the episode length of stay (LOS)<br>Note: Keep patient even if DXTYPE = 2, in other words, regardless of whether stroke occurred pre-admission or post-admission while in hospital                                                                                                                                                                                                                                                                        |                                                                                                                  |  |
| Patient died in hospital                                  | Variable DISCHDISP = '07' at the end of episode of care                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |  |
| Episode length of stay (LOS)                              | LOS is computed as follows: <ul style="list-style-type: none"><li>1. Compute difference between index admission date and the latest discharge date from the episode.</li><li>2. Subtract the ALOS (Alternate care LOS) of the last</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                  |  |

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | admission (i.e. the one with the latest discharge) in the episode                                                                                                                                                                                                                                                                                                                                |
| Previous stroke                         | Look back for 3 years (3 * 365 = 1,095 days) from the discharge date of the index episode for any discharge with diagnosis code I60, I62, I63, or I64 in any diagnosis type.<br><br>Note: Stroke is identified from a most responsible diagnosis of 'I60', 'I61', 'I63', 'I64'. The definition does not include 'I62' nor 'G45'. However, when excluding people with an earlier stroke, add I62. |
| Transferred from specialized facilities | The variable INSTFTYP from the index event = 2, 3, 4, 5, 7, or 9<br>2 general rehab hospital<br>3 chronic hospital<br>4 nursing home<br>5 psychiatric hospital<br>7 special rehabilitation hospital<br>9 home for aged                                                                                                                                                                           |
| Direct discharge to rehab facility      | There was a rehab admission (NRS) after the index admission and not later than (2 days after the episode discharge)                                                                                                                                                                                                                                                                              |

| Indicator title                                 | Percent of patients with fractures who received a bone mineral densitometry test in Ontario, 2004/05-2007/2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1) | OHIP<br>NACRS<br>DAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| The Indicator:                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Denominator (population) description            | <p>People aged 50+ who had a low trauma fracture that was possibly due to osteoporosis during fiscal years 2004/05 to 2007/08 that resulted in an ED visit or hospital admission.</p> <p>Exclude:</p> <ol style="list-style-type: none"> <li>Invalid IKN (valikn ne 'V');</li> <li>Age &lt; 50 and &gt; 105;</li> <li>Missing sex (i.e. the person is not in the RPDB);</li> <li>Patients who did not reside in Ontario at the time of the fracture;</li> <li>Patients who were dead on arrival in the ED or who died while in the ED or in the hospital;</li> <li>Patients who died within 6 months of the fracture (If they died within 6 months, we have no way of knowing whether they were scheduled to be tested but died first. At least one journal article suggests excluding those who do not have "significant expected longevity".);</li> <li>Patients with a hospital discharge (inpatient or same day) within two years prior to the fracture with a diagnosis of epilepsy, pathological fracture, or malignant neoplasm of the breast, bone, colon, rectum, or lung, or multiple myeloma. Also, exclude the fracture if any of these diagnoses are recorded in the same record as the fracture;</li> <li>Fractures that were not due to a minor fall. A minor fall is defined as a fall from no higher than standing level that is not associated with a transportation (e.g. car, bike) accident;</li> <li>Subsequent fractures for the same patient – retain only the first fracture;</li> <li>People who have "established or treated osteoporosis" (i.e.</li> </ol> |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                       |
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|                                                                 | those who have already had a BMD test within 2 years prior to the fracture, or who filled at least one prescription for an osteoporosis medication within 1 months prior to the fracture) As a limitation, note that we can only detect medication for people aged 65+. But anyone who is on medication should have had a BMD test prior to starting their medication (and should be monitored periodically with BMD tests after starting medication), therefore, looking for previous BMD testing should be sufficient.                                                                                                                                                                                                                                                                                                                                                |                                                                                                       |
| Numerator<br>(Subset of denominator;<br>restricted as follows:) | A BMD test (detected using OHIP data) within 6 months after the fracture date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                       |
| Rates:                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                       |
| Crude Rate Calculation                                          | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Overall (all years)                                                                                   |
|                                                                 | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Per 100 people with a fracture<br>(i.e. percentage of eligible people<br>who did not have a BMD test) |
| Details of Variables:                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                       |
| Variable                                                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                       |
| Age and sex                                                     | Obtain using RPDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                       |
| A low trauma fracture                                           | <p>A low trauma fracture is identified by having BOTH an external cause of injury code (see definition below) indicating the fracture was due to a minor fall (i.e. a fall that would not usually result in a fracture in someone with healthy bones) AND ALSO a diagnosis code of a fracture of the hip, ribs, spine, arm, shoulder, pelvis and/or leg (see definition below).</p> <p>If the record also indicates a transportation accident associated with the injury, the fracture will be EXCLUDED (see definition below)</p>                                                                                                                                                                                                                                                                                                                                      |                                                                                                       |
| External cause of injury codes that indicate a minor fall       | <p>Record must contain one of the following ICD-10-CA diagnosis codes:</p> <p>Low trauma falls (W00 – W10, W18, W19)</p> <p>W00    Fall on same level involving ice and snow</p> <p>W01    Fall on same level from slipping, tripping and stumbling</p> <p>W02    Fall involving skates, skis, sport boards and in-line skates</p> <p>W03    Other fall on same level due to collision with, or pushing by, another person</p> <p>W04    Fall while being carried or supported by other persons</p> <p>W05    Fall involving wheelchair and other types of walking devices</p> <p>W06    Fall involving bed</p> <p>W07    Fall involving chair</p> <p>W08    Fall involving other furniture</p> <p>W09    Fall involving playground equipment</p> <p>W10    Fall on and from stairs and steps</p> <p>W18    Other fall on same level</p> <p>W19    Unspecified fall</p> |                                                                                                       |

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fracture codes                                                         | <p>In NACRS (ED visits) and the same day surgery data, look in diagnosis code fields 1 to 3 to identify fractures. In DAD (inpatient hospitalization) look at only the most responsible diagnosis. Identify fracture patients in the ED and also in same day surgery/inpatient surgery. If the same fracture appears in both, then use the hospital data for assigning the type of fracture since we expect coding to be better than in ED.</p> <p>The following types of fractures will be considered as possibly due to osteoporosis:</p> <p><u>'Other Fractures' and fractures of the lower leg and ankle. (Data source – NACRS and CIHI; ICD-10 codes S32 (pelvis) and S82 (lower leg and ankle))</u></p> <p>S32.1 Fracture of sacrum<br/> S32.2 Fracture of coccyx<br/> S32.3 Fracture of ilium<br/> S32.4 Fracture of acetabulum<br/> S32.5 Fracture of pubis<br/> S32.7 Multiple fractures of lumbar spine and pelvis<br/> S32.8 Fracture of other and unspecified parts of lumbar spine and pelvis</p> <p>(Lower leg and ankle) ICD-10 codes S82)</p> <p>S82 Fracture of lower leg, including ankle<br/> S82.0 Fracture of patella<br/> S82.1 Fracture of upper end of tibia<br/> S82.2 Fracture of shaft of tibia<br/> S82.3 Fracture of lower end of tibia<br/> S82.4 Fracture of fibula alone<br/> S82.5 Fracture of medial malleolus<br/> S82.6 Fracture of lateral malleolus<br/> S82.7 Multiple fractures of lower leg<br/> S82.8 Fractures of other parts of lower leg<br/> S82.9 Fracture of lower leg, part unspecified</p> |
| Transport accidents                                                    | Do NOT include fractures if the record also contains any of the following external causes of injury: V01 – V99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Date of discharge from an inpatient stay                               | <p>For inpatient records, the date of discharge is the final discharge date for the episode of care.</p> <p>(Note: when there are multiple records for the same episode of care, they may not all contain a diagnosis for the fracture. As long as one of the records has a fracture, we will consider that the patient had a fracture. Then, find all records with the same "epi" value, in order to find out when the patient was finally fully discharged from the hospital.)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Exclusion criterion: dead on arrival in the ED or died in the hospital | <p>visdisp = '10' in the ED data and same day surgery data<br/> dischdisp = '07' in the inpatient hospital data.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| Exclusion criterion: ED visits transferred to same day or inpatient care                                                              | If the to type in the ED visit is 'S' (same day surgery) or 'I' (inpatient care), delete the hospital record. The patient was transferred to the hospital, and we believe the coding of the hospital record is more accurate. Thus, either the fracture will be picked up from SDS or the inpatient DAD, or – if it is not recorded in the hospital record – it we suspect the patient didn't really have a fracture.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Exclusion criterion: subsequent fractures in the same patient                                                                         | Retain only the first fracture during the year for each patient. Testing and treatment should be within 6 months of the <i>first</i> fracture.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Exclusion criterion: death within 6 months after the fracture                                                                         | Use RPDB to obtain date of death.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Exclusion criterion: hospital discharge in the two years prior to the fracture.                                                       | Any same day surgery or inpatient discharge where the date of discharge is within 2 years prior to the fracture date, and there is a diagnosis code (any dxttype <i>except</i> dxttype 3) of any one of the following. Also, exclude patients if one of the following codes appears in the ED, SAS, or inpatient record that identified the fracture. <ul style="list-style-type: none"> <li>a. epilepsy (ICD-10 G40),</li> <li>b. pathological fracture (ICD-10 M80, M84.4),</li> <li>c. malignant neoplasms of breast (ICD-10 C50), bone (ICD-10 C40, C41), colon (ICD-10 C18), rectum (ICD-10 C20), or lung (ICD-10 C34 )</li> <li>d. multiple myeloma (ICD-10 C90)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| BMD test (this is both an exclusion criterion, if it was before the fracture, and the outcome variable, if it was after the fracture) | <p>Below are the new OHIP fee schedule codes for BMD testing as of April 1, 2008:</p> <p>Baseline Test</p> <p>X145 - one site. . . . . 43.95 41.30</p> <p>X146 - two or more sites . . . . . 56.60 49.40</p> <p>Subsequent test - low risk patient</p> <p>X152 - one site. . . . . 43.95 41.30</p> <p>X153 - two or more sites . . . . . 56.60 49.40</p> <p>Subsequent test - high risk patient</p> <p>X149 - one site. . . . . 43.95 41.30</p> <p>X155 - two or more sites . . . . . 56.60 49.40</p> <p>Prior to April the codes are</p> <p>OHIP Codes for BMD testing:</p> <p>Low risk patient X152, X 153</p> <p>High risk patient X149, X155</p> <p>If the service date is within 2 years prior to the fracture, the patient is <i>excluded</i>. If the service date is within 6 months (183 days) <i>after</i> the fracture, the person had a timely BMD test. The numerator consists of people who did <i>not</i> have a test. If the fracture was treated on an inpatient basis, look for BMD tests any time from the date of admission to 6 months after the discharge date. That is, they might have been tested while in the hospital but if not we allow them 6 months after they are discharged.</p> |

## 10 Population Health

### 10.2 Prevention and early detection of disease

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                 |                          |
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| Indicator title                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Percent of the adult population aged 18+, the adult population 18+ with chronic disease and the elderly (aged 65+) who reported receiving a flu shot in the previous year in Ontario, 2001, 2003, 2005 and 2007                                                                                                                                 |                          |
| Data sources (for descriptions see section 4.1)           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CCHS                                                                                                                                                                                                                                                                                                                                            |                          |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                 |                          |
| Denominator (population) description                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Three groups of overall weighted CCHS population in 2001, 2003, 2005 and 2007:<br><div>1. General population 18+ years</div> <div>2. Chronic disease population 18+ years</div> <div>3. 65 years of age and older.</div><br>Exclude:<br><div>a. &lt; 65 years of age</div> <div>b. Invalid flu shot indication (if FLU_162 is 7, 8, or 9)</div> |                          |
| Numerator (Subset of denominator; restricted as follows:) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Receiving flu shot in the past year.                                                                                                                                                                                                                                                                                                            |                          |
| Rates:                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                 |                          |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                 | Overall rate (all years) |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                 | Per 100                  |
| Details of Variables:                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                 |                          |
| Variable                                                  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                 |                          |
| Age                                                       | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                 |                          |
| Sex                                                       | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                 |                          |
| Chronic disease (heart disease or diabetes) CAD           | Heart disease is determined using question CCCE_121 (do you have heart disease) in CCHS 3.1. In CCHS1.1, the variable name is CCCA_121. In CCHS2.1, the variable name is CCCC_121.<br><br>In CCHS1.1, the diabetes questions are CCCA_101 (do you have diabetes), CCCA_10A (diabetes when pregnant), and CCCA_10B (diabetes diagnosed other than when pregnant).<br><br>In CCHS2.1, the diabetes questions are CCCC_101 (do you have diabetes), CCCC_10A (diabetes diagnosed when pregnant), and |                                                                                                                                                                                                                                                                                                                                                 |                          |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | <p>CCCC_10B (diabetes diagnosed other than when pregnant)</p> <p>Diabetes is determined using question CCCE_101 (do you have diabetes) in CCHS3.1. However, if they answered “yes” to question CCCE_10A (were you pregnant when you were first diagnosed with diabetes) and also answered “no” to question CCCE_10B (other than during pregnancy, has a health professional ever told you that you have diabetes), then they do NOT have diabetes.</p> <p>CCHS 2007 variable CCC_121 (Do you have heart disease?)</p> <p>1 = Yes<br/>2 = No<br/>7 = Don't know<br/>9 = Not stated</p> <p>CCHS 2007 variable CCC_101 (Do you have diabetes?)</p> <p>1 = Yes<br/>2 = No<br/>6 = Don't know<br/>9 = Not stated</p> <p>CCHS 2007 variable CCC_10A (WERE YOU pregnant when YOU WERE first diagnosed with diabetes?)</p> <p>1 = Yes<br/>2 = No<br/>6 = Don't know<br/>9 = Not stated</p> <p>CCHS 2007 variable CCC_10B (Other than during pregnancy, has a health professional ever told YOU that YOU HAVE diabetes?)</p> <p>1 = Yes<br/>2 = No<br/>6 = Don't know<br/>9 = Not stated</p> <p>Chronic disease</p> <ul style="list-style-type: none"> <li>- yes if heart disease or diabetes (excluding gestational diabetes)</li> <li>- yes if CCC_121 = 1 or</li> <li>- yes if CCC_101 = 1, but not counted as diabetic if CCC_10A = 1 and CCC_10B = 2</li> </ul> |
| Receiving Flu shot in the past year | <p>CCHS 2007 variable FLU_162 (When did you have your last flu shot?)</p> <p>1 = Less than 1 year ago<br/>2 = 1 to &lt; 2 years ago<br/>3 = 2 years ago or more<br/>6 = Not applicable (i.e. FLU_160 = No)<br/>7 = Don't know<br/>8 = Refusal<br/>9 = Not stated</p> <p>Receiving Flu shot in the past year?<br/>Yes if FLU_162 = 1</p> <p>CCHS 2001 variable FLUA_162<br/>CCHS 2003 variable FLUC_162</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                  |                                                                                                                                                                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | CCHS 2005 variable FLUE_162                                                                                                                                                                                                                                                 |
| LHIN             | CCHS 2007 variable GEODLHN<br>Delete from the denominator if the answer is 99, keep in overall analysis                                                                                                                                                                     |
| Sampling weights | Sampling weights must be used for all estimates:<br>Use WTS_S for estimates by province, age, income and education,<br>Use variable FWGT from for estimates by LHIN.<br>Ensure sample is large enough to be released by referencing Statistics Canada's Release Guidelines. |

|                                                           |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                                   |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Indicator title                                           |                                                                                                                                                                                                                 | Percent of the receiving a flu shot in the previous year in Ontario, 2001, 2003, 2005 and 2007                                                                                                                                                                                                     |                                   |
| Data sources (for descriptions see section 4.1)           |                                                                                                                                                                                                                 | CCHS                                                                                                                                                                                                                                                                                               |                                   |
| The Indicator:                                            |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                                   |
| Denominator (population) description                      |                                                                                                                                                                                                                 | Overall weighted CCHS population aged 18 or above with a chronic disease in 2001, 2003, 2005 and 2007.<br><br>Two populations of interest:<br>1. General population 18+ years<br>2. Chronic disease population 18+ years<br><br>Exclude:<br>a. Invalid flu shot indication (FLU_162 is 7, 8, or 9) |                                   |
| Numerator (Subset of denominator; restricted as follows:) |                                                                                                                                                                                                                 | Receiving flu shot in the past year.                                                                                                                                                                                                                                                               |                                   |
| Rates:                                                    |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                                   |
| Crude Rate Calculation                                    | Crude Rate(s) by:                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                    | Overall rate (all years)          |
|                                                           | Unit of Rate(s) per:                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                    | Per 100 people (i.e. percentages) |
| Details of Variables:                                     |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                    |                                   |
| Variable                                                  |                                                                                                                                                                                                                 | Definition                                                                                                                                                                                                                                                                                         |                                   |
| Age                                                       | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                         |                                                                                                                                                                                                                                                                                                    |                                   |
| Sex                                                       | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                         |                                                                                                                                                                                                                                                                                                    |                                   |
| Receiving Flu shot in the past year                       | CCHS 2007 variable FLU_162 (When did you have your last flu shot?)<br>1 = Less than 1 year ago<br>2 = 1 to < 2 years ago<br>3 = 2 years ago or more<br>6 = Not applicable (i.e. FLU_160 = No)<br>7 = Don't know |                                                                                                                                                                                                                                                                                                    |                                   |

|                  |                                                                                                                                                                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p>8 = Refusal<br/>9 = Not stated</p> <p>Receiving Flu shot in the past year?<br/>Yes if FLU_162 = 1</p> <p>Delete from the denominator if FLU_162 is 7, 8, or 9</p> <p>CCHS 2001 variable FLUA_162<br/>CCHS 2003 variable FLUC_162<br/>CCHS 2005 variable FLUE_162</p>                   |
| LHIN             | <p>CCHS 2007 variable GEODLHN</p> <p>Delete from the denominator if the answer is 99 but keep in overall analysis</p>                                                                                                                                                                     |
| Sampling weights | <p>Sampling weights must be used for all estimates:<br/>Use WTS_S for estimates by province, age, income and education,<br/>Use variable FWGT from for estimates by LHIN.<br/>Ensure sample is large enough to be released by referencing<br/>Statistics Canada's Release Guidelines.</p> |

|                                                                  |                                                                                                                                   |                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Indicator title</b>                                           |                                                                                                                                   | Percent of Ontario women aged 50-69 years of age who reported having a mammogram in the 2 years prior to the survey in Ontario, 2001, 2003, 2005, 2007                                                                                                                                                       |
| <b>Data sources (for descriptions see section 4.1)</b>           |                                                                                                                                   | CCHS                                                                                                                                                                                                                                                                                                         |
| <b>The Indicator:</b>                                            |                                                                                                                                   |                                                                                                                                                                                                                                                                                                              |
| <b>Denominator (population) description</b>                      |                                                                                                                                   | <p>Overall weighted CCHS population of women age 50-69 years of age in 2001, 2003, 2005 and 2007.</p> <p>Exclude:</p> <ul style="list-style-type: none"> <li>a. Women &lt; 50 years of age,</li> <li>b. Women &gt; 69 years of age,</li> <li>c. Invalid mammography indication (MAM_32 = 7, 8, 9)</li> </ul> |
| <b>Numerator (Subset of denominator; restricted as follows:)</b> |                                                                                                                                   | Weighted number of women who reported having had a mammogram in the 2 years prior to the survey                                                                                                                                                                                                              |
| <b>Rates:</b>                                                    |                                                                                                                                   |                                                                                                                                                                                                                                                                                                              |
| <b>Crude Rate Calculation</b>                                    | <b>Crude Rate(s) by:</b>                                                                                                          | Overall (all years)<br>Income (2007 only)<br>Education (2007 only)                                                                                                                                                                                                                                           |
|                                                                  | <b>Unit of Rate(s) per:</b>                                                                                                       | Per 100 people (i.e. percentages)                                                                                                                                                                                                                                                                            |
| <b>Details of Variables:</b>                                     |                                                                                                                                   |                                                                                                                                                                                                                                                                                                              |
| <b>Variable</b>                                                  | <b>Definition</b>                                                                                                                 |                                                                                                                                                                                                                                                                                                              |
| Age at interview                                                 | <p>CCHS 2001 variable DHHA_AGE<br/>CCHS 2003 variable DHHC_AGE<br/>CCHS 2005 variable DHHE_AGE<br/>CCHS 2007 variable DHH_AGE</p> |                                                                                                                                                                                                                                                                                                              |
| Had mammogram within                                             | CCHS 2007 variable MAM_032 (When did you have your last                                                                           |                                                                                                                                                                                                                                                                                                              |

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| previous 2 years                             | <p>mammogram?)</p> <p>1 = Less than 6 months ago<br/> 2 = 6 months to &lt; 1 years ago<br/> 3 = 1 year to less than 2 years ago<br/> 4 = 2 years to less than 5 years ago<br/> 5 = 5 years ago or more<br/> 6 = Not applicable (i.e. MAM_030 (ever had a mammogram) = No)<br/> 7 = Don't know<br/> 8 = Refusal<br/> 9 = Not stated</p> <p>Receiving mammogram in the past 2 year?<br/> Yes if MAM_032 = 1, 2, 3</p> <p>CCHS 3.1 variable MAME_032<br/> CCHS 2.1 variable MAMC_032<br/> CCHS 1.1 variable MAMA_032</p> <p>Delete from the denominator if MAM_032 is 7, 8, or 9; same goes for all other years</p> |
| Reasons for no mammogram in previous 2 years | CCHS 2007 variables: MAM_36A – MAM_36O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Income                                       | <p>CCHS 2007 variable names: INCDRPR – provincial Rank of adjusted household income within the provincial household distribution</p> <p>Report income quintiles</p> <p>1-10 = deciles<br/> 99 = Not stated</p> <p>Combine deciles 1-2, 3-4, 5-6, 7-8, 9-10 to create quintiles.</p> <p>Delete from the denominator if the answer is 99, keep in overall analysis</p>                                                                                                                                                                                                                                             |
| Education                                    | <p>CCHS 2007 variable EDUDR04 (highest level of education – 4 levels)</p> <p>Delete from the denominator if the answer is 99, keep in overall analysis</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Sampling weights                             | <p>Sampling weights must be used for all estimates:</p> <p>Use WTS_S for estimates by province, age, income and education,<br/> Use variable FWGT from for estimates by LHIN.</p> <p>Ensure sample is large enough to be released by referencing Statistics Canada's Release Guidelines.</p>                                                                                                                                                                                                                                                                                                                     |

|                                                 |                                                                                                                                                                              |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator title                                 | Percent of Ontario women 20-69 years of age who reported having a Pap smear test in the 3 years prior to the survey in Ontario, 2001, 2003, 2005, 2007                       |
| Data sources (for descriptions see section 4.1) | CCHS                                                                                                                                                                         |
| The Indicator:                                  |                                                                                                                                                                              |
| Denominator (population) description            | <p>Overall weighted CCHS population of women age 20-69 years of age in 2001, 2003, 2005 and 2007.</p> <p>Exclude from denominator:</p> <p>a. Women &lt; 20 years of age,</p> |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                    |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|                                                                 | b. Women > 69 years of age,<br>c. Invalid pap indication (PAP_022 = 7, 8, 9),<br>d. Women who report not having a Pap smear test because of hysterectomy (PAP_26M=1),<br>e. <25 years of age for education analysis                                                                                                                                                                                                                                                                                                                                                                                           |                                                                    |
| Numerator<br>(Subset of denominator;<br>restricted as follows:) | Weighted number of women 20-69 who reported having had a Pap test in the 3 years prior to the survey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                    |
| Rates:                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                    |
| Crude Rate Calculation                                          | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Overall (all years)<br>Income (2007 only)<br>Education (2007 only) |
|                                                                 | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Per 100 people (i.e. percentages)                                  |
| Details of Variables:                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                    |
| Variable                                                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                    |
| Age at interview                                                | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                    |
| Sex                                                             | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                    |
| Had Pap smear test within previous 3 years                      | CCHS 2007 variable PAP_022 (When did you have your last PAP smear?)<br>1 = Less than 6 months ago<br>2 = 6 months to < 1 years ago<br>3 = 1 year to less than 3 years ago<br>4 = 3 years to less than 5 years ago<br>5 = 5 or more years ago<br>6 = Not applicable (i.e. PAP_020 = No)<br>7 = Don't know<br>8 = Refusal<br>9 = Not stated<br><br>Receiving PAP in the last three years?<br>Yes if PAP_022 = 1, 2, 3<br><br>CCHS 1.1 variable PAPA_022<br>CCHS 2.1 variable PAPC_022<br>CCHS 3.1 variable PAPE_022<br><br>Delete from the denominator if PAP_022 is 7, 8, or 9; same goes for all other years. |                                                                    |
| Reasons for no Pap test in previous 3 years                     | CCHS 2007 variables: PAP_26A – PAP_26O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                    |
| Income                                                          | CCHS 2007 variable names: INCDRPR – provincial<br>Rank of adjusted household income within the provincial household distribution<br>Report income quintiles<br>1-10 = deciles                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                    |

|                  |                                                                                                                                                                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | 99 = Not stated<br>Combine deciles 1-2, 3-4, 5-6, 7-8, 9-10 to create quintiles.<br>Delete from the denominator if the answer is 99, keep in overall analysis                                                                                                               |
| Education        | CCHS 2007 variable EDUDR04 (highest level of education – 4 levels)<br>Delete from the denominator if the answer is 9, keep for overall analysis                                                                                                                             |
| Sampling weights | Sampling weights must be used for all estimates:<br>Use WTS_S for estimates by province, age, income and education,<br>Use variable FWGT from for estimates by LHIN.<br>Ensure sample is large enough to be released by referencing Statistics Canada's Release Guidelines. |

|                                                           |  |                                                                                                                                                                                                                                                                                                                              |                                   |
|-----------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Indicator title                                           |  | Percent of Ontario men and women 50-74 years of age who reported having an FOBT (fecal occult blood test) in the 2 years prior to the survey in Ontario, 2001, 2003, 2005, 2007                                                                                                                                              |                                   |
| Data sources (for descriptions see section 4.1)           |  | CCHS                                                                                                                                                                                                                                                                                                                         |                                   |
| The Indicator:                                            |  |                                                                                                                                                                                                                                                                                                                              |                                   |
| Denominator (population) description                      |  | Overall weighted CCHS Ontario population age 50-74 years of age in 2003, 2005 and 2007.<br><br>Exclude from denominator:<br>a. Individuals < 50 years of age,<br>b. Individuals > 74 years of age,<br>c. Invalid FOBT indication (CCS_182 = 97, 99),<br>d. Those who have already had treatment for colon cancer (CCS_83E=1) |                                   |
| Numerator (Subset of denominator; restricted as follows:) |  | Weighted number of individuals who reported having had an FOBT in the 2 years prior to the survey.                                                                                                                                                                                                                           |                                   |
| Rates:                                                    |  |                                                                                                                                                                                                                                                                                                                              |                                   |
| Crude Rate Calculation                                    |  | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                            | Overall (all years)               |
|                                                           |  | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                         | Per 100 people (i.e. percentages) |
| Details of Variables:                                     |  |                                                                                                                                                                                                                                                                                                                              |                                   |
| Variable                                                  |  | Definition                                                                                                                                                                                                                                                                                                                   |                                   |
| Age at interview                                          |  | CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                     |                                   |
| Sex                                                       |  | CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                     |                                   |
| Had FOBT within previous 2 years                          |  | CCHS 2007 variable CCS_182 (When did you last have a FOBT?)<br>1 = Less than 1 year ago<br>2 = 1 to < 2 years ago<br>3 = 2 to < 3 years ago                                                                                                                                                                                  |                                   |

|                  |                                                                                                                                                                                                                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p>4 = 3 to &lt; 5 years ago<br/> 5 = 5 to &lt; 10 years ago<br/> 6 = 10 years ago or more<br/> 96 = Not applicable (i.e. CCS_180 = No)<br/> 97 = Don't know<br/> 99 = Not stated</p> <p>Receiving FOBT in the past 2 years?<br/> Yes if CCS_182 = 1, 2</p> <p>Delete from the denominator if CCS_182 is 97 or 99</p> |
| Sampling weights | <p>Sampling weights must be used for all estimates:<br/> Use WTS_S for estimates by province, age, income and education,<br/> Use variable FWGT from for estimates by LHIN.<br/> Ensure sample is large enough to be released by referencing<br/> Statistics Canada's Release Guidelines.</p>                         |

|                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |
|-----------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Indicator title                                           |  | Percent of men and women aged 65 who had a bone mineral densitometry assessment since turning 55 years of age, 2002/2003 – 2007/2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                        |
| Data sources (for descriptions see section 4.1)           |  | RPDB<br>OHIP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        |
| The Indicator:                                            |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |
| Denominator (population) description                      |  | For each fiscal year, the denominator is everyone who was 65 years old on the first day of the fiscal year (i.e. April 1) from 2003/03 to 2007/08. For example, for 2002/03, the denominator will be everyone who is 65 years old on April 1, 2002 and therefore born between April 2, 1936 and April 1, 1937.<br><br>Exclude:<br><div><div>a.</div>People who do not have a valid Ontario residence, on April 1, 2002<br/><div>b.</div>People who died during each fiscal year of interest (because they won't necessarily have a chance to have a BMD test before they die)</div>                                                                                                                                                                                         |                                        |
| Numerator (Subset of denominator; restricted as follows:) |  | Two different groups (from the denominator) form the numerator:<br><div><div>1.</div>Everyone who had a DEXA (dual energy X-ray absorptiometry) bone mineral density test between their 55<sup>th</sup> birthday and the start of the fiscal year (in the example of fiscal year 2002/03, this would be anyone who had a BMD test between the date of their 55<sup>th</sup> birthday and March 31, 2002).</div> <div>OR</div> <div><div>2.</div>Everyone who did NOT have a prior BMD test (and therefore needed one) who received a BMD test during the fiscal year (in the case of fiscal year 2002/03, drop anyone who did not have a BMD test between April 1, 2002 and March 31, 2003, inclusive).</div> <div>numerator = numerator 1+ numerator 2 / denominator</div> |                                        |
| Rates:                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |
| Crude Rate Calculation                                    |  | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Overall (all years)<br>Sex (all years) |

|                         | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 100 |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Variable                | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |
| Date of birth, Age, Sex | Identify people aged 65 using the RPDB.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |
| Living in Ontario       | Person's place of residence on the first day of the fiscal year from RPDB. A cnty value of 'OP' means the person was considered to be living outside Ontario. These people should be excluded from the denominator.                                                                                                                                                                                                                                                                               |     |
| Death date              | Obtain this from RPDB                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |
| BMD test                | <p>An OHIP record with a fee code of</p> <p>Fee codes used starting April 1, 2008</p> <p>Baseline test</p> <p>X145 (one site)</p> <p>X146 (two or more sites)</p> <p>Subsequent test, low risk patient</p> <p>X152 (one site)</p> <p>X153 (two or more sites)</p> <p>Subsequent test – high risk patient</p> <p>X149 (one site)</p> <p>X155 (two or more sites)</p> <p>Fee codes used prior to April 1, 2008</p> <p>X152 or X153 (low risk patients)</p> <p>X149 or X155 (high risk patients)</p> |     |

### 10.3 Risk factors and healthy behaviour

| Indicator title                                           | Percent of the population aged 12+ AND percent of the population 12+ with chronic disease who smoke daily in Ontario, 2001, 2003, 2005, 2007                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1)           | CCHS                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| The Indicator:                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Denominator (population) description                      | <p>All respondents aged 12 or above and those with chronic disease for 2001, 2003, 2005 and 2007.</p> <p>Two populations of interest:</p> <ol style="list-style-type: none"> <li>1. General population 12+ years,</li> <li>2. Chronic disease population 12+ years</li> </ol> <p>Exclude:</p> <ol style="list-style-type: none"> <li>a. Invalid type of smoking status</li> <li>b. &lt;25 years of age for education analysis</li> </ol> |
| Numerator (Subset of denominator; restricted as follows:) | Smoke daily                                                                                                                                                                                                                                                                                                                                                                                                                              |

| <b>Rates:</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Crude Rate Calculation                      | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Overall rate (all years)<br>Education (2007 only)<br>Income (2007 only) |
|                                             | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Per 100 people (i.e. percentages)                                       |
| <b>Details of Variables:</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |
| Variable                                    | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                         |
| Age                                         | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                         |
| Sex                                         | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_SEX<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                         |
| Education                                   | CCHS 2007 variable EDUDR04 (highest level of education – 4 levels)<br>Delete from the denominator if the answer is 9, keep for overall analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |
| Income                                      | CCHS 2007 variable names: INCDRPR – provincial<br>Rank of adjusted household income within the provincial household distribution<br>Report income quintiles<br>1-10 = deciles<br>99 = Not stated<br>Combine deciles 1-2, 3-4, 5-6, 7-8, 9-10 to create quintiles.<br>Delete from the denominator if the answer is 99, keep in overall analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                         |
| Chronic disease (heart disease or diabetes) | <p>Heart disease is determined using question CCCE_121 (do you have heart disease) in CCHS 3.1. In CCHS1.1, the variable name is CCCA_121. In CCHS2.1, the variable name is CCCC_121.</p> <p>In CCHS1.1, the diabetes questions are CCCA_101 (do you have diabetes), CCCA_10A (diabetes when pregnant), and CCCA_10B (diabetes diagnosed other than when pregnant).</p> <p>In CCHS2.1, the diabetes questions are CCCC_101 (do you have diabetes), CCCC_10A (diabetes diagnosed when pregnant), and CCCC_10B (diabetes diagnosed other than when pregnant)</p> <p>Diabetes is determined using question CCCE_101 (do you have diabetes) in CCHS3.1. However, if they answered “yes” to question CCCE_10A (where you pregnant when you were first diagnosed with diabetes) and also answered “no” to question CCCE_10B (other than during pregnancy, has a health professional ever told you that you have diabetes), then they do NOT have diabetes.</p> <p>CCHS 2007 variable CCC_121 (Do you have heart disease?)<br/>1 = Yes<br/>2 = No<br/>7 = Don't know<br/>9 = Not stated</p> |                                                                         |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <p>CCHS 2007 variable CCC_101 (Do you have diabetes?)<br/> 1 = Yes<br/> 2 = No<br/> 6 = Don't know<br/> 9 = Not stated</p> <p>CCHS 2007 variable CCC_10A (WERE YOU pregnant when YOU WERE first diagnosed with diabetes?)<br/> 1 = Yes<br/> 2 = No<br/> 6 = Don't know<br/> 9 = Not stated</p> <p>CCHS 2007 variable CCC_10B (Other than during pregnancy, has a health professional ever told YOU that YOU HAVE diabetes?)<br/> 1 = Yes<br/> 2 = No<br/> 6 = Don't know<br/> 9 = Not stated</p> <p>Chronic disease<br/> - yes if heart disease or diabetes (excluding gestational diabetes)<br/> - yes if CCC_121 = 1 or<br/> - yes if CCC_101 = 1, but if CCC_10A = 1 and CCC_10B = 2 then not counted as diabetic</p> |
| Smoke daily      | <p>CCHS 1.1 variable SMKADSTY = 1 (daily)<br/> CCHS 2.1 variable SMKCDSTY = 1 (daily)<br/> CCHS 3.1 variable SMKEDSTY = 1 (daily)<br/> CCHS 2007 variable SMKDSTY (Type of smoker)<br/> 1 = Daily<br/> 2 = Occasionally<br/> 3 = Always occasionally<br/> 4 = Former daily<br/> 5 = Former occasionally<br/> 6 = Never smoked<br/> 99 = Not stated</p> <p>Yes if SMKDSTY = 1<br/> Delete from denominator if answer is 99</p>                                                                                                                                                                                                                                                                                            |
| Sampling weights | <p>Sampling weights must be used for all estimates:<br/> Use WTS_S for estimates by province, age, income and education,<br/> Use variable FWGT from for estimates by LHIN.<br/> Ensure sample is large enough to be released by referencing<br/> Statistics Canada's Release Guidelines.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                 |                                                                                                                                            |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Indicator title                                 | Percent of the population aged 20+ AND percent of the population 20+ with chronic disease who are obese in Ontario, 2001, 2003, 2005, 2007 |
| Data sources (for descriptions see section 4.1) | CCHS                                                                                                                                       |
| The Indicator:                                  |                                                                                                                                            |
| Denominator (population) description            | All respondents aged 20 or above and those with chronic disease for 2001, 2003, 2005 and 2007.                                             |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                                                                 | Two populations of interest:<br>1. General population 20+ years,<br>2. Chronic disease population 20+ years<br><br>Exclude:<br>a. Invalid BMI,<br>b. <25 years of age for education analysis,<br>c. Women who are pregnant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                         |
| Numerator<br>(Subset of denominator;<br>restricted as follows:) | Obese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                         |
| Rates:                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |
| Crude Rate Calculation                                          | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Overall rate (all years)<br>Education (2007 only)<br>Income (2007 only) |
|                                                                 | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Per 100 people (i.e. percentages)                                       |
| Details of Variables:                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |
| Variable                                                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                         |
| Age                                                             | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                         |
| Sex                                                             | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                         |
| Chronic disease (heart disease or diabetes)                     | <p>Heart disease is determined using question CCCE_121 (do you have heart disease) in CCHS 3.1. In CCHS1.1, the variable name is CCCA_121. In CCHS2.1, the variable name is CCCC_121.</p> <p>In CCHS1.1, the diabetes questions are CCCA_101 (do you have diabetes), CCCA_10A (diabetes when pregnant), and CCCA_10B (diabetes diagnosed other than when pregnant).</p> <p>In CCHS2.1, the diabetes questions are CCCC_101 (do you have diabetes), CCCC_10A (diabetes diagnosed when pregnant), and CCCC_10B (diabetes diagnosed other than when pregnant)</p> <p>Diabetes is determined using question CCCE_101 (do you have diabetes) in CCHS3.1. However, if they answered “yes” to question CCCE_10A (where you pregnant when you were first diagnosed with diabetes) and also answered “no” to question CCCE_10B (other than during pregnancy, has a health professional ever told you that you have diabetes), then they do NOT have diabetes.</p> <p>CCHS 2007 variable CCC_121 (Do you have heart disease?)<br/>1 = Yes<br/>2 = No<br/>7 = Don't know<br/>9 = Not stated</p> |                                                                         |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <p>CCHS 2007 variable CCC_101 (Do you have diabetes?)</p> <p>1 = Yes<br/>2 = No<br/>6 = Don't know<br/>9 = Not stated</p> <p>CCHS 2007 variable CCC_10A (WERE YOU pregnant when YOU WERE first diagnosed with diabetes?)</p> <p>1 = Yes<br/>2 = No<br/>6 = Don't know<br/>9 = Not stated</p> <p>CCHS 2007 variable CCC_10B (Other than during pregnancy, has a health professional ever told YOU that YOU HAVE diabetes?)</p> <p>1 = Yes<br/>2 = No<br/>6 = Don't know<br/>9 = Not stated</p> <p>Chronic disease</p> <ul style="list-style-type: none"> <li>- yes if heart disease or diabetes (excluding gestational diabetes)</li> <li>- yes if CCC_121 = 1 or</li> <li>- yes if CCC_101 = 1, but if CCC_10A = 1 and CCC_10B = 2 then not counted as diabetes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Obese | <p>In CCHS 1.1, BMI was only calculated up to age 64. Therefore, you will have to calculate the BMI for everyone in 1.1, and then categorize it. When calculating BMI, <u>exclude</u> women who are pregnant (MAMA_37 = 1).</p> <p>In CCHS 1.1, height in metres is HWTADHTM. Weight in kilograms is HWTADWTK. BMI is defined as weight in kilograms divided by height in meters squared. (To make sure the equation is right, you can compare your values with the variable HWTADBMI, which contains the BMI for people aged 20-64. Once you have the BMI, the categories are defined as follows:</p> <p>BMI &lt; 18.50 = underweight<br/> 18.50 &lt;= BMI &lt; 25 = normal<br/> 25 &lt;= BMI &lt; 30 = overweight<br/> 30 &lt;= BMI &lt; 35 = obese (class I)<br/> 35 &lt;= BMI &lt; 40 = obese (class II)<br/> 40 &lt;= BMI = obese (class III)</p> <p>In CCHS 2.1, the variable name is HWTCDISW.</p> <p>In CCHS 3.1, variable HWTEDISW categorizes adults by BMI into underweight, normal weight, overweight, and obese (obese is further classified as I, II, or III). Create two groups of people (aged &gt;= 20 only): anyone who is overweight or obese, and only those who are obese.</p> <p>CCHS 2007 variable HWTDISW (BMI class for those aged 18+)</p> <p>1 = Underweight<br/> 2 = Normal weight<br/> 3 = Overweight<br/> 4 = Obese – class 1<br/> 5 = Obese – class 2</p> |

|                  |                                                                                                                                                                                                                                                                                                                                             |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | 6 = Obese – class 3<br>96 = Not applicable<br>99 = Not stated<br><br>Yes if HWTDISW = 4, 5, or 6<br>Delete from the denominator if answer is 96 or 99                                                                                                                                                                                       |
| Education        | CCHS 2007 variable EDUDR04 (highest level of education – 4 levels)<br>Delete from the denominator if the answer is 9, keep for overall analysis                                                                                                                                                                                             |
| Income           | CCHS 2007 variable names: INCDRPR – provincial Rank of adjusted household income within the provincial household distribution<br>Report income quintiles<br>1-10 = deciles<br>99 = Not stated<br>Combine deciles 1-2, 3-4, 5-6, 7-8, 9-10 to create quintiles.<br>Delete from the denominator if the answer is 99, keep in overall analysis |
| Sampling weights | Sampling weights must be used for all estimates:<br>Use WTS_S for estimates by province, age, income and education,<br>Use variable FWGT from for estimates by LHIN.<br>Ensure sample is large enough to be released by referencing Statistics Canada's Release Guidelines.                                                                 |

|                                                           |                      |                                                                                                                                                                                                                                                                                                                  |  |
|-----------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Indicator title                                           |                      | Percent of the population aged 12+ AND percent of the population aged 12+ with chronic disease reporting physical inactivity in Ontario, 2001, 2003, 2005, 2007                                                                                                                                                  |  |
| Data sources (for descriptions see section 4.1)           |                      | CCHS                                                                                                                                                                                                                                                                                                             |  |
| The Indicator:                                            |                      |                                                                                                                                                                                                                                                                                                                  |  |
| Denominator (population) description                      |                      | All respondents aged 12 or above and those with chronic disease for 2001, 2003, 2005 and 2007.<br><br>Two populations of interest:<br>1. General population 12+ years,<br>2. Chronic disease population 12+ years<br><br>Exclude:<br>a. Age < 12 at the time of interview,<br>b. Invalid physical activity index |  |
| Numerator (Subset of denominator; restricted as follows:) |                      | Physically inactive                                                                                                                                                                                                                                                                                              |  |
| Rates:                                                    |                      |                                                                                                                                                                                                                                                                                                                  |  |
| Crude Rate Calculation                                    | Crude Rate(s) by:    | Overall rate (all years)<br>Education (2007 only)<br>Income (2007 only)                                                                                                                                                                                                                                          |  |
|                                                           | Unit of Rate(s) per: | Per 100 people (i.e. percentages)                                                                                                                                                                                                                                                                                |  |
| Details of Variables:                                     |                      |                                                                                                                                                                                                                                                                                                                  |  |

| Variable                                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Age                                             | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Sex                                             | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_SEX<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Chronic disease (heart disease or diabetes) CAD | <p>Heart disease is determined using question CCCE_121 (do you have heart disease) in CCHS 3.1. In CCHS1.1, the variable name is CCCA_121. In CCHS2.1, the variable name is CCCC_121.</p> <p>In CCHS1.1, the diabetes questions are CCCA_101 (do you have diabetes), CCCA_10A (diabetes when pregnant), and CCCA_10B (diabetes diagnosed other than when pregnant).</p> <p>In CCHS2.1, the diabetes questions are CCCC_101 (do you have diabetes), CCCC_10A (diabetes diagnosed when pregnant), and CCCC_10B (diabetes diagnosed other than when pregnant)</p> <p>Diabetes is determined using question CCCE_101 (do you have diabetes) in CCHS3.1. However, if they answered “yes” to question CCCE_10A (where you pregnant when you were first diagnosed with diabetes) and also answered “no” to question CCCE_10B (other than during pregnancy, has a health professional ever told you that you have diabetes), then they do NOT have diabetes.</p> <p>CCHS 2007 variable CCC_121 (Do you have heart disease?)<br/> 1 = Yes<br/> 2 = No<br/> 7 = Don't know<br/> 9 = Not stated</p> <p>CCHS 2007 variable CCC_101 (Do you have diabetes?)<br/> 1 = Yes<br/> 2 = No<br/> 6 = Don't know<br/> 9 = Not stated</p> <p>CCHS 2007 variable CCC_10A (WERE YOU pregnant when YOU WERE first diagnosed with diabetes?)<br/> 1 = Yes<br/> 2 = No<br/> 6 = Don't know<br/> 9 = Not stated</p> <p>CCHS 2007 variable CCC_10B (Other than during pregnancy, has a health professional ever told YOU that YOU HAVE diabetes?)<br/> 1 = Yes<br/> 2 = No<br/> 6 = Don't know<br/> 9 = Not stated</p> <p>Chronic disease</p> |

|                     |                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | <ul style="list-style-type: none"> <li>- yes if heart disease or diabetes (excluding gestational diabetes)</li> <li>- yes if CCC_121 = 1 or</li> <li>- yes if CCC_101 = 1, but not counted as diabetic if CCC_10A = 1 and CCC_10B = 2</li> </ul>                                                                                                                    |
| Physical inactivity | <p>CCHS 2001 variable PACADPAI<br/>CCHS 2003 variable PACCDPAI<br/>CCHS 2005 variable PACEDPAI<br/>CCHS 2007 variable PACDPAI</p> <p>1 = active<br/>2 = moderate<br/>3 = inactive<br/>9 = Not stated</p> <p>Yes if variable = 3</p> <p>Delete from the denominator if the answer is 9</p>                                                                           |
| Education           | <p>CCHS 2007 variable EDUDR04 (highest level of education – 4 levels)</p> <p>Delete from the denominator if the answer is 9, keep for overall analysis</p>                                                                                                                                                                                                          |
| Income              | <p>CCHS 2007 variable names: INCDRPR – provincial Rank of adjusted household income within the provincial household distribution</p> <p>Report income quintiles</p> <p>1-10 = deciles<br/>99 = Not stated</p> <p>Combine deciles 1-2, 3-4, 5-6, 7-8, 9-10 to create quintiles.</p> <p>Delete from the denominator if the answer is 99, keep in overall analysis</p> |
| Sampling weights    | <p>Sampling weights must be used for all estimates:</p> <p>Use WTS_S for estimates by province, age, income and education,<br/>Use variable FWGT from for estimates by LHIN.</p> <p>Ensure sample is large enough to be released by referencing Statistics Canada's Release Guidelines.</p>                                                                         |

| Indicator title                                                                                                       |                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Percent of the population 12+ reporting inadequate fruit and vegetable consumption in Ontario, 2001, 2003, 2005, 2007 |                                                                                                                                                                      |
| Data sources (for descriptions see section 4.1)                                                                       | CCHS                                                                                                                                                                 |
| The Indicator:                                                                                                        |                                                                                                                                                                      |
| Denominator (population) description                                                                                  | <p>All respondents aged 12 or above and those with chronic disease for 2001, 2003, 2005 and 2007.</p> <p>Exclude:</p> <p>a. Age &lt; 12 at the time of interview</p> |
| Numerator (Subset of denominator; restricted as follows:)                                                             | Reporting inadequate fruit and vegetable consumption                                                                                                                 |
| Rates:                                                                                                                |                                                                                                                                                                      |

| Crude Rate Calculation                               | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                              | Overall (all years)               |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                                                      | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                           | Per 100 people (i.e. percentages) |
| Details of Variables:                                |                                                                                                                                                                                                                                                                                                                                                                |                                   |
| Variable                                             | Definition                                                                                                                                                                                                                                                                                                                                                     |                                   |
| Age                                                  | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                        |                                   |
| Sex                                                  | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                        |                                   |
| Reporting inadequate fruit and vegetable consumption | CCHS 2001 variable FVCAGTOT<br>CCHS 2003 variable FVCCGTOT<br>CCHS 2005 variable FVCEGTOT<br>CCHS 2007 variable FVCGTOT<br><br>The variable has 3 levels:<br>1 = less than 5 servings of fruit and vegetables per day,<br>2 = 5 to 10,<br>3 = more than 10,<br>9 = not stated<br><br>Yes if variable = 1<br><br>Delete from the denominator if the answer is 9 |                                   |
| Sampling weights                                     | Sampling weights must be used for all estimates:<br>Use WTS_S for estimates by province, age, income and education,<br>Use variable FWGT from for estimates by LHIN.<br>Ensure sample is large enough to be released by referencing<br>Statistics Canada's Release Guidelines.                                                                                 |                                   |

| Indicator title                                           | Percent of the population aged 12+ reporting regular heavy drinking in Ontario, 2001, 2003, 2005, 2007                                                                                                                                          |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data sources (for descriptions see section 4.1)           | CCHS                                                                                                                                                                                                                                            |
| The Indicator:                                            |                                                                                                                                                                                                                                                 |
| Denominator (population) description                      | All respondents aged 12 or above and those with chronic disease for 2001, 2003, 2005 and 2007.<br><br>Exclude:<br>a. Age < 12 at the time of interview depending on analysis,<br>b. Invalid drinking consumption index (ALC 3 = 96, 97, 98, 99) |
| Numerator (Subset of denominator; restricted as follows:) | Reporting regular heavy drinking                                                                                                                                                                                                                |
| Rates:                                                    |                                                                                                                                                                                                                                                 |

| Crude Rate Calculation | Crude Rate(s) by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Overall (all years)               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                        | Unit of Rate(s) per:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Per 100 people (i.e. percentages) |
| Details of Variables:  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                   |
| Variable               | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |
| Age                    | CCHS 2001 variable DHHA_AGE<br>CCHS 2003 variable DHHC_AGE<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_AGE                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |
| Sex                    | CCHS 2001 variable DHHA_SEX<br>CCHS 2003 variable DHHC_SEX<br>CCHS 2005 variable DHHE_AGE<br>CCHS 2007 variable DHH_SEX                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |
| Regular heavy drinking | Have consumed 5 or more drinks on at least one occasion during the previous 12 months:<br>CCHS 2001 variable ALCA_3<br>CCHS 2003 variable ALCC_3<br>CCHS 2005 variable ALCE_3<br>CCHS 2007 variable ALC_3<br>1 = Never<br>2 = Less than once per month<br>3 = Once per month<br>4 = 2-3 times per month<br>5 = Once per week<br>6 = More than once per week<br>96 = Not applicable<br>97 = Don't Know<br>98 = Refusal<br>99 = Not Stated<br><br>Delete from the denominator if the answer is 96, 97, 98, or 99<br><br>Yes if variable = 3, 4, 5, or 6 |                                   |
| Sampling weights       | Sampling weights must be used for all estimates:<br>Use WTS_S for estimates by province, age, income and education,<br>Use variable FWGT from for estimates by LHIN.<br>Ensure sample is large enough to be released by referencing Statistics Canada's Release Guidelines.                                                                                                                                                                                                                                                                           |                                   |

## 4.0 Appendices

### Appendix A: Drug list for post-discharge AMI drug management (section 3.2)

| Subclass name  | Generic drug name                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Beta Blockers  | ACEBUTOLOL HCL<br>ATENOLOL<br>BISOPROLOL FUMARATE<br>CARVEDILOL<br>LABETALOL HCL<br>METOPROLOL TARTRATE<br>NADOLOL<br>OXPRENOLOL HCL<br>PINDOLOL<br>PROPRANOLOL HCL<br>SOTALOL HCL<br>TIMOLOL MALEATE<br>ATENOLOL & CHLORTHALIDONE<br>PINDOLOL & HYDROCHLOROTHIAZIDE<br>PROPRANOLOL HCL & HYDROCHLOROTHIAZIDE<br>TIMOLOL MALEATE & HYDROCHLOROTHIAZIDE                                                                                 |
| ACE Inhibitors | BENAZEPRIL HCL<br>CILAZAPRIL & HYDROCHLOROTHIAZIDE<br>LISINOPRIL & HYDROCHLOROTHIAZIDE<br>PERINDOPRIL ERBUMINE & INDAPAMIDE<br>QUINAPRIL HCL & HYDROCHLOROTHIAZIDE<br>RAMIPRIL & HYDROCHLOROTHIAZIDE<br>BENAZEPRIL HCL<br>CAPTOPRIL<br>CILAZAPRIL<br>ENALAPRIL MALEATE<br>ENALAPRIL SODIUM<br>FOSINOPRIL SODIUM<br>LISINOPRIL<br>LISINOPRIL & HYDROCHLOROTHIAZIDE<br>PERINDOPRIL ERBUMINE<br>QUINAPRIL HCL<br>RAMIPRIL<br>TRANDOLAPRIL |
| AARB           | IRBESARTAN & HYDROCHLOROTHIAZIDE<br>LOSARTAN POTASSIUM & HYDROCHLOROTHIAZIDE<br>TELMISARTAN & HYDROCHLOROTHIAZIDE<br>VALSARTAN & HYDROCHLOROTHIAZIDE<br>EPROSARTAN MESYLATE<br>EPROSARTAN MESYLATE & HYDROCHLOROTHIAZIDE<br>IRBESARTAN<br>LOSARTAN POTASSIUM<br>TELMISARTAN                                                                                                                                                            |

| Subclass name | Generic drug name                                                                                                                    |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------|
|               | VALSARTAN                                                                                                                            |
| Statins       | ATORVASTATIN<br>CERIVASTATIN SODIUM<br>FLUVASTATIN SODIUM<br>LOVASTATIN<br>PRAVASTATIN SODIUM<br>ROSUVASTATIN CALCIUM<br>SIMVASTATIN |

#### Appendix B: Drug list for diabetes drug management (section 3.2)

| Subclass name              | Generic drug name                         |
|----------------------------|-------------------------------------------|
| ACE INHIBITORS             | BENAZEPRIL HCL                            |
|                            | CAPTOPRIL                                 |
|                            | CILAZAPRIL                                |
|                            | ENALAPRIL MALEATE                         |
|                            | ENALAPRIL SODIUM                          |
|                            | FOSINOPRIL SODIUM                         |
|                            | LISINOPRIL                                |
|                            | PERINDOPRIL ERBUMINE                      |
|                            | QUINAPRIL HCL                             |
|                            | RAMIPRIL                                  |
|                            | TRANDOLAPRIL                              |
| ACE INHIBITORS COMBINATION | CILAZAPRIL & HYDROCHLOROTHIAZIDE          |
|                            | LISINOPRIL & HYDROCHLOROTHIAZIDE          |
|                            | PERINDOPRIL ERBUMINE & INDAPAMIDE         |
|                            | QUINAPRIL HCL & HYDROCHLOROTHIAZIDE       |
|                            | RAMIPRIL & HYDROCHLOROTHIAZIDE            |
| ANGIOTENSIN II ANTAGONIST  | EPROSARTAN MESYLATE                       |
|                            | EPROSARTAN MESYLATE & HYDROCHLOROTHIAZIDE |
|                            | IRBESARTAN                                |
|                            | LOSARTAN POTASSIUM                        |
|                            | TELMISARTAN                               |
|                            | VALSARTAN                                 |
| ANGIOTENSIN II COMBINATION | IRBESARTAN & HYDROCHLOROTHIAZIDE          |
|                            | LOSARTAN POTASSIUM & HYDROCHLOROTHIAZIDE  |
|                            | TELMISARTAN & HYDROCHLOROTHIAZIDE         |
|                            | VALSARTAN & HYDROCHLOROTHIAZIDE           |
| ANION EXCHANGE RESINS      | CHOLESTYRAMINE RESIN                      |
|                            | COLESTIPOL HCL                            |
| ANTILIPEMIC: FIBRATES      | BEZAFIBRATE                               |
|                            | CLOFIBRATE                                |
|                            | FENOFIBRATE                               |
|                            | GEMFIBROZIL                               |

|                      |                        |
|----------------------|------------------------|
| ANTILIPEMIC: OTHER   | DEXTROTHYROXINE SODIUM |
|                      | EZETIMIBE              |
|                      | PROBUCOL               |
| ANTILIPEMIC: STATINS | ATORVASTATIN           |
|                      | CERIVASTATIN SODIUM    |
|                      | FLUVASTATIN SODIUM     |
|                      | LOVASTATIN             |
|                      | PRAVASTATIN SODIUM     |
|                      | ROSUVASTATIN CALCIUM   |
|                      | SIMVASTATIN            |

### Appendix C: Drug list for post-discharge CHF drug management (section 3.2)

| Subclass name              | Generic drug name                         |
|----------------------------|-------------------------------------------|
| ACE INHIBITORS             | BENAZEPRIL HCL                            |
|                            | CAPTOPRIL                                 |
|                            | CILAZAPRIL                                |
|                            | ENALAPRIL MALEATE                         |
|                            | ENALAPRIL SODIUM                          |
|                            | FOSINOPRIL SODIUM                         |
|                            | LISINOPRIL                                |
|                            | PERINDOPRIL ERBUMINE                      |
|                            | QUINAPRIL HCL                             |
|                            | RAMIPRIL                                  |
|                            | TRANDOLAPRIL                              |
| ACE INHIBITORS COMBINATION | CILAZAPRIL & HYDROCHLOROTHIAZIDE          |
|                            | LISINOPRIL & HYDROCHLOROTHIAZIDE          |
|                            | PERINDOPRIL ERBUMINE & INDAPAMIDE         |
|                            | QUINAPRIL HCL & HYDROCHLOROTHIAZIDE       |
|                            | RAMIPRIL & HYDROCHLOROTHIAZIDE            |
| ANGIOTENSIN II ANTAGONIST  | EPROSARTAN MESYLATE                       |
|                            | EPROSARTAN MESYLATE & HYDROCHLOROTHIAZIDE |
|                            | IRBESARTAN                                |
|                            | LOSARTAN POTASSIUM                        |
|                            | TELMISARTAN                               |
|                            | VALSARTAN                                 |
| ANGIOTENSIN II COMBINATION | IRBESARTAN & HYDROCHLOROTHIAZIDE          |
|                            | LOSARTAN POTASSIUM & HYDROCHLOROTHIAZIDE  |
|                            | TELMISARTAN & HYDROCHLOROTHIAZIDE         |
|                            | VALSARTAN & HYDROCHLOROTHIAZIDE           |

### Appendix D: Drug list for inappropriate drug use in seniors (section 4.2)

ACETAMINOPHEN & CAFFEINE & CHLORPHENIRAMINE MALEATE & PHENYLEPHRINE HYDROCHLORIDE

ACETAMINOPHEN & CHLORPHENIRAMINE & CODEINE & PSEUDOEPHEDRINE  
 ACETAMINOPHEN & CHLORPHENIRAMINE & PSEUDOEPHEDRINE  
 ACETAMINOPHEN & CHLORPHENIRAMINE & PSEUDOEPHEDRINE COMPOUND  
 ACETAMINOPHEN & CHLORPHENIRAMINE MALEATE & DEXTROM  
 ACETAMINOPHEN & CHLORPHENIRAMINE MALEATE & PSEUDOEPHEDRINE HCL  
 ACETAMINOPHEN & CHLORPHENIRAMINE MALEATE & PSEUDOEPHEDRINE  
 HYDROCHLORIDE & VITAMIN C  
 ACETAMINOPHEN & DEXTROMETHORPHAN & PSEUDOEPHEDRINE &  
 DIPHENHYDRAMINE  
 ACETAMINOPHEN & DEXTROMETHORPHAN HBR & CHLORPHENIRAMINE MALEATE  
 ACETAMINOPHEN & DEXTROMETHORPHAN HBR & PHENYLEPHRINE HCL &  
 CHLORPHENIRAMINE MALEATE  
 ACETAMINOPHEN & DIPHENHYDRAMINE HCL & PSEUDOEPHEDRINE HCL  
 ACETAMINOPHEN & GUAIFENESIN & PSEUDOEPHEDRINE HCL &  
 DEXTROMETHORPHAN HBR & CHLORPHENIRAMINE MALEATE  
 ACETAMINOPHEN & PHENYLEPHRINE HCL & CHLORPHENIRAMINE HCL  
 ACETAMINOPHEN & PHENYLEPHRINE HCL & CHLORPHENIRAMINE MALEATE  
 ACETAMINOPHEN & PHENYLPROPANOLAMINE HCL & CHLORPHENIRAMINE MALEATE  
 ACETAMINOPHEN & PHENYLPROPANOLAMINE HCL & CHLORPHENIRAMINE MALEATE  
 COMPOUND  
 ACETAMINOPHEN & PSEUDOEPHEDRINE & CHLORPHENIRAMINE  
 ACETAMINOPHEN & PSEUDOEPHEDRINE & DEXTROMETHORPHAN &  
 CHLORPHENIRAMINE  
 ACETAMINOPHEN & PSEUDOEPHEDRINE & DIPHENHYDRAMINE  
 ACETAMINOPHEN & PSEUDOEPHEDRINE HCL & DEXTROMETHORPHAN HBR &  
 CHLORPHENIRAMINE MALEATE  
 ACETYLSALICYLIC ACID & CAFFEINE & CHLORPHENIRAMINE MALEATE &  
 PHENYLEPHRINE HCL  
 \*AMITRIPTYLINE HCL  
 \*AMITRIPTYLINE HCL & BACLOFEN  
 \*AMITRIPTYLINE PAMOATE  
 \*AMITRIPTYLINE/COMBINATION  
 AMMONIUM CHLORIDE & CODEINE PHOSPHATE & DIPHENHYDRAMINE HCL  
 AMMONIUM CHLORIDE & DIPHENHYDRAMINE HCL & DEXTROMETHORPHAN  
 AMMONIUM CHLORIDE & DIPHENHYDRAMINE HCL & DEXTROMETHORPHAN HBR  
 BELLADONNA ALKALOIDS  
 BELLADONNA ALKALOIDS & PECTIN & KAOLIN COMPOUND  
 BELLADONNA ALKALOIDS & PHENOBARBITAL  
 CAFFEINE & ACETYLSALICYLIC ACID & DEXTROPROPOXYPHENE HYDROCHLORIDE  
 CALAMINE & DIPHENHYDRAMINE HCL  
 CALAMINE & ZINC OXIDE & DIPHENHYDRAMINE HCL  
 CHLORDIAZEPOXIDE & ESTERIFIED ESTROGENS  
 CHLORDIAZEPOXIDE & PENTAERYTHRITOL TETRANITRATE  
 CHLORDIAZEPOXIDE HCL  
 CHLORDIAZEPOXIDE HCL & CLIDINIUM BROMIDE  
 CHLORPHENIRAMINE & DEXTROMETHORPHAN & PHENYLPROPANOLAMINE &  
 ACETAMINOPHEN  
 CHLORPHENIRAMINE & PHENYLPROPANOLAMINE  
 CHLORPHENIRAMINE & PHENYLPROPANOLAMINE & DEXTROMETHORPHAN  
 CHLORPHENIRAMINE & PHENYLPROPANOLAMINE & GUAIFENESIN  
 CHLORPHENIRAMINE & POLISTIREX & CODEINE  
 CHLORPHENIRAMINE MALEATE

CHLORPHENIRAMINE MALEATE & ASA  
 CHLORPHENIRAMINE MALEATE & ASA & PHENYLPROPANOLAMINE HCL  
 CHLORPHENIRAMINE MALEATE & DEXTROMETHORPHAN HYDROBROMIDE &  
 PSEUDOEPHEDRINE HYDROCHLORIDE  
 CHLORPHENIRAMINE MALEATE & EPINEPHRINE  
 CHLORPHENIRAMINE MALEATE & PHENYLEPHRINE HYDROCHLORIDE &  
 ACETAMINOPHEN  
 CHLORPHENIRAMINE MALEATE & PHENYLPROPANOLAMINE HCL  
 CHLORPHENIRAMINE MALEATE & PHENYLPROPANOLAMINE HCL & CODEINE  
 PHOSPHATE  
 CHLORPHENIRAMINE MALEATE & PSEUDOEPHEDRINE HCL & ACETAMINOPHEN  
 CHLORPHENIRAMINE MALEATE & PSEUDOEPHEDRINE HYDROCHLORIDE  
 CHLORPHENIRAMINE MALEATE & PSEUDOEPHEDRINE SULFATE  
 CHLORPHENIRAMINE/DEXCHLOR/PLUS 1&2  
 CHLORPROPAMIDE  
 CIMETIDINE  
 CIMETIDINE HYDROCHLORIDE  
 CLONIDINE HCL  
 CLORAZEPATE DIPOTASSIUM  
 CODEINE & CHLORPHENIRAMINE & EPHEDRINE & PHENYLTOLOXAMINE  
 CODEINE PHOSPHATE & PROMETHAZINE HCL & POTASSIUM GUAIACOLSULFONATE  
 \*CONJUGATED ESTROGENS  
 CYPROHEPTADINE HCL  
 CYPROHEPTADINE HYDROCHLORIDE  
 DEXCHLORPHENIRAMINE MALEATE  
 DEXTROMETHORPHAN & CHLORPHENIRAMINE & PHENYLEPHRINE & GUAIFENESIN  
 DEXTROMETHORPHAN HBR & CHLORPHENIRAMINE  
 DEXTROMETHORPHAN HBR & PSEUDOEPHEDRINE HCL & CHLORPHENIRAMINE  
 DEXTROPROPOXYPHENE HCL  
 DEXTROPROPOXYPHENE NAPSYLATE & ASA & CAFFEINE  
 DIAZEPAM  
 DIAZEPAM & METHYLCELLULOSE  
 DICYCLOMINE HCL  
 DICYCLOMINE HCL & PHENOBARBITAL  
 DICYCLOMINE PLUS CMPD  
 DIPHENHYDRAMINE & DEXTROMETHORPHAN HBR & AMMONIUM CHLORIDE  
 DIPHENHYDRAMINE HCL  
 DIPHENHYDRAMINE HCL & DEXTROMETHORPHAN HBR & PHENYLPROPANOLAMINE  
 DIPHENHYDRAMINE HCL & MENTHOL  
 DIPHENHYDRAMINE HCL & PSEUDOEPHEDRINE HCL  
 DISOPYRAMIDE  
 DOXEPIN HCL  
 ERGOTAMINE & DIPHENHYDRAMINE  
 FLUOXETINE HCL  
 FLURAZEPAM HCL  
 FLURAZEPAM HYDROCHLORIDE  
 HYDROXYZINE HCL  
 IBUPROFEN & PSEUDOEPHEDRINE HCL & CHLORPHENIRAMINE MALEATE  
 INDOMETHACIN  
 MEPERIDINE HCL  
 MESORIDAZINE BESYLATE

METHAQUALONE & DIPHENHYDRAMINE HCL  
 METHYLDOPA  
 METHYLDOPA & CLOROTHIAZIDE  
 METHYLDOPA & HYDROCHLOROTHIAZIDE  
 METHYLDOPATE HCL  
 NIFEDIPINE  
 ORPHENADRINE & ASA & CAFFEINE  
 ORPHENADRINE CITRATE  
 ORPHENADRINE HCL  
 PENICILLIN & DIHYDROSTREPTOMYCIN & DIPHEMANIL METHYLSULFATE & PROCAINE  
 HCL & CHLORPHENIRAMINE MALEATE  
 PENTAZOCINE  
 PENTAZOCINE PLUS  
 PENTOBARBITAL SODIUM  
 PERPHENAZINE & AMITRIPTYLINE HYDROCHLORIDE  
 PHENYLEPHRINE HCL & CHLORPHENIRAMINE MALEATE & ASA  
 PHENYLPROPANOLAMINE HCL & CHLORPHENIRAMINE MALEATE  
 PHENYLPROPANOLAMINE HCL & CHLORPHENIRAMINE MALEATE & ASA  
 PHENYLPROPANOLAMINE HCL & CHLORPHENIRAMINE MALEATE & ASA & CAFFEINE  
 PHENYLPROPANOLAMINE HCL & CHLORPHENIRAMINE MALEATE & ASA COMPOUND  
 PHENYLPROPANOLAMINE HYDROCHLORIDE & CHLORPHENIRAMINE MALEATE &  
 ACETAMINOPHEN  
 PREDNISONE & CHLORPHENIRAMINE COMPOUND  
 PROMETHAZINE HCL  
 PROMETHAZINE HCL & DEXTROMETHORPHAN HBR & PSEUDOEPHEDRINE  
 PROMETHAZINE HCL & PETHIDINE HCL  
 PROMETHAZINE HCL & PHENYLEPHRINE HCL & POTASSIUM GUAIACOLSULFONATE  
 PROMETHAZINE HCL & PHENYLEPHRINE HCL & POTASSIUM GUAIACOLSULFONATE &  
 CODE  
 PROMETHAZINE HCL & POTASSIUM GUAIACOLSULFONATE  
 PROPANTHELINE BROMIDE  
 PROPOXYPHENE HCL  
 PROPOXYPHENE HCL & ASA & CAFFEINE  
 PROPOXYPHENE NAPSYLATE  
 PROPOXYPHENE PLAIN  
 PSEUDOEPHEDRINE HCL & CHLORPHENIRAMINE M  
 PSEUDOEPHEDRINE HCL & CHLORPHENIRAMINE MALEATE  
 PSEUDOEPHEDRINE HCL & CHLORPHENIRAMINE MALEATE & ASCORBIC ACID  
 PSEUDOEPHEDRINE HCL & CHLORPHENIRAMINE MALEATE & DEXTROMETHORPHAN  
 & GUAIFENESIN  
 PSEUDOEPHEDRINE HCL & DIPHENHYDRAMINE  
 SECOBARBITAL SODIUM  
 THIORIDAZINE HCL  
 THYROID  
 TICLOPIDINE HCL  
 TRIPELENNAMINE HCL

\*Only high dose (greater than 25mg) amytriptylene included

#### Appendix E: List of codes for non-traumatic SAH symptoms (section 4.4)

| Non-traumatic SAH symptom | ICD-10 code |
|---------------------------|-------------|
|---------------------------|-------------|

| <b>Non-traumatic SAH symptom</b>                | <b>ICD-10 code</b>        |
|-------------------------------------------------|---------------------------|
| ENTEROVIRAL MENINGITIS                          | A870                      |
| LYMPHOCYTIC CHORIOMENINGITIS                    | A871                      |
| ADNOVIRAL MENINGITIS                            | A872                      |
| OTHER VIRAL MENINGITIS                          | A878                      |
| VIRAL MENINGITIS, UNSPECIFIED                   | A879                      |
| PSD, INCLUDES PSYCHOGENIC HEADACHE              | F454                      |
| BACTERIAL MENINGITIS, NEC                       | G00                       |
| MENINGITIS                                      | G01, G020-8, G030-9, G042 |
| MIGRAINE WITHOUT AURA (COMMON)                  | G430                      |
| MIGRAINE WITH AURA (CLASSICAL)                  | G431                      |
| STATUS MIGRANOSUS                               | G432                      |
| COMPLICATED MIGRAINE                            | G433                      |
| MIGRAINE UNSPECIFIED                            | G438                      |
| OTHER MIGRAINE                                  | G439                      |
| CLUSTER HEADACHE SYNDROME                       | G440                      |
| VASCULAR HEADACHE NECK                          | G441                      |
| TENSION-TYPE HEADACHE                           | G442                      |
| OTHER SPECIFIED HEADACHE SYNDROMES              | G448                      |
| TRANSIENT CEREBRAL ISCHEMIC ATTACKS             | G45                       |
| VERTEBROBASILAR ARTERY SYNDROME                 | G450                      |
| TRANSIENT CEREBRAL ISCHEMIC ATTACK, UNSPECIFIED | G459                      |
| STROKE, NOT SPEC HAEM OR INFARCT                | I64                       |
| HYPERTENSIVE ENCEPHALOPATHY                     | I674                      |
| ESSENTIAL (PRIMARY) HYPERTENSION                | I10                       |
| BENIGN HYPERTENSION                             | I100                      |
| MALIGNANT HYPERTENSION                          | I101                      |
| ACUTE SINUSITIS                                 | J01                       |
| ACUTE MAXILLARY SINUSITIS                       | J010                      |
| ACUTE FRONTAL SINUSITIS                         | J011                      |
| ACUTE ETHMOIDAL SINUSITIS                       | J012                      |
| ACUTE SPHENOIDAL SINUSITIS                      | J013                      |
| ACUTE PANSINUSITIS                              | J014                      |
| OTHER ACUTE SINUSITIS                           | J018                      |
| ACUTE SINUSITIS, UNSPECIFIED                    | J019                      |
| CHRONIC SINUSITIS                               | J32                       |
| CHRONIC MAXILLARY SINUSITIS                     | J320                      |
| CHRONIC FRONTAL SINUSITIS                       | J321                      |
| CHRONIC ETHMOIDAL SINUSITIS                     | J322                      |
| CHRONIC SPHENOIDAL SINUSITIS                    | J323                      |
| CHRONIC PANSINUSITIS                            | J324                      |
| OTHER CHRONIC SINUSITIS                         | J328                      |
| CHRONIC SINUSITIS, UNSPECIFIED                  | J329                      |
| TORTICOLLIS                                     | M436                      |
| DISCITIS, UNSPECIFIED, CERVICAL REGION          | M4642                     |
| OTHER SPONDYLOSIS, CERVICAL REGION              | M4782                     |
| SPONDYLOSIS, UNSPEC, CERVICAL REGION            | M4792                     |
| SPINAL STENOSIS, CERVICAL REGION                | M4802                     |

| <b>Non-traumatic SAH symptom</b>      | <b>ICD-10 code</b> |
|---------------------------------------|--------------------|
| CERV DISC DISORDER W/RADICULOPATHY    | M501               |
| OTHER CERVICAL DISC DISPLACEMENT      | M502               |
| OTHER CERVICAL DISC DEGENERATION      | M503               |
| OTHER CERVICAL DISC DISORDERS         | M508               |
| CERVICAL DISC DISORDER, UNSPEC SITE   | M509               |
| CERVICOCRANIAL SYNDROME               | M530               |
| CERVICOBACHIAL SYNDROME               | M531               |
| CERVICALGIA                           | M542               |
| WHIPLASH ASSOCIATED DISORDER          | S1340-2            |
| OTHER SPRAIN/STRAIN OF CERVICAL SPINE | S1348              |
| SPRAIN/STRAIN UNSPEC PARTS OF NECK    | S136               |
| OTHER INJURY OF MUSCLE/TENDON NECK    | S168               |
| GIANT CELL ARTERITIS WITH PMR         | M315               |
| OTHER GIANT CELL ARTERITIS            | M316               |
| HEADACHE                              | R51                |
| SYNCOPE AND COLLAPSE                  | R55                |

**Appendix F: List of codes for conditions presenting at the emergency department that could have been managed elsewhere (section 7.2)**

| <b>Conditions</b> | <b>ICD-10 codes</b> | <b>Description</b>                       |
|-------------------|---------------------|------------------------------------------|
| Conjunctivitis    | A740                | CHLAMYDIAL CONJUNCTIVITIS                |
|                   | B309                | VIRAL CONJUNCTIVITIS UNSPECIFIED         |
|                   | H100                | MUCOPURULENT CONJUNCTIVITIS              |
|                   | H101                | ACUTE ATOPIC CONJUNCTIVITIS              |
|                   | H102                | OTHER ACUTE CONJUNCTIVITIS               |
|                   | H103                | ACUTE CONJUNCTIVITIS UNSPECIFIED         |
|                   | H104                | CHRONIC CONJUNCTIVITIS                   |
|                   | H105                | BLEPHAROCONJUNCTIVITIS                   |
|                   | H108                | OTHER CONJUNCTIVITIS                     |
|                   | H109                | CONJUNCTIVITIS UNSPECIFIED               |
|                   | H130                | FILARIAL INFECTION CONJUNCTIVA           |
|                   | H131                | CONJUNCTIVITIS INFECT & PARASIT DIS CL/E |
|                   | H132                | CONJUNCTIVITIS IN OTHER DISEASES CL/E    |
|                   | H133                | OCULAR PEMPHIGOID                        |
| Cystitis          | N300                | ACUTE CYSTITIS                           |
|                   | N301                | INTERSTITIAL CYSTITIS (CHRONIC)          |
|                   | N302                | OTHER CHRONIC CYSTITIS                   |
|                   | N303                | TRIGONITIS                               |
|                   | N304                | IRRADIATION CYSTITIS                     |
|                   | N308                | OTHER CYSTITIS                           |
|                   | N309                | CYSTITIS UNSPECIFIED                     |
|                   | N330                | TUBERCULOUS CYSTITIS                     |
|                   | N390                | URINARY TRACT INFECTION SITE NOT SPEC    |
| Otitis Media      | H650                | ACUTE SEROUS OTITIS MEDIA                |
|                   | H651                | OTHER ACUTE NONSUPPURATIVE OTITIS MEDIA  |
|                   | H652                | CHRONIC SEROUS OTITIS MEDIA              |
|                   | H653                | CHRONIC MUCOID OTITIS MEDIA              |
|                   | H654                | OTH CHRONIC NONSUPPURATIVE OTITIS MEDIA  |
|                   | H659                | NONSUPPURATIVE OTITIS MEDIA UNSPECIFIED  |

|                                    |      |                                           |
|------------------------------------|------|-------------------------------------------|
|                                    | H660 | ACUTE SUPPURATIVE OTITIS MEDIA            |
|                                    | H661 | CHR TUBOTYMPANIC SUPPURATIVE OTITIS MEDIA |
|                                    | H662 | CHR ATTICOANTRAL SUPPURATIVE OTITIS MEDIA |
|                                    | H663 | OTHER CHRONIC SUPPURATIVE OTITIS MEDIA    |
|                                    | H664 | SUPPURATIVE OTITIS MEDIA UNSPECIFIED      |
|                                    | H669 | OTITIS MEDIA UNSPECIFIED                  |
|                                    | H670 | OTITIS MEDIA IN BACTERIAL DISEASES CL/E   |
|                                    | H671 | OTITIS MEDIA IN VIRAL DISEASES CL/E       |
|                                    | H678 | OTITIS MEDIA IN OTHER DISEASES CL/E       |
| Upper<br>Respiratory<br>Infections | J00  | ACUTE NASOPHARYNGITIS [COMMON COLD]       |
|                                    | J010 | ACUTE MAXILLARY SINUSITIS                 |
|                                    | J011 | ACUTE FRONTAL SINUSITIS                   |
|                                    | J012 | ACUTE ETHMOIDAL SINUSITIS                 |
|                                    | J013 | ACUTE SPHENOIDAL SINUSITIS                |
|                                    | J014 | ACUTE PANSINUSITIS                        |
|                                    | J018 | OTHER ACUTE SINUSITIS                     |
|                                    | J019 | ACUTE SINUSITIS UNSPECIFIED               |
|                                    | J028 | ACUTE PHARYNGITIS DT OTH SPEC ORGANISMS   |
|                                    | J029 | ACUTE PHARYNGITIS UNSPECIFIED             |
|                                    | J038 | ACUTE TONSILLITIS DT OTH SPEC ORGANISMS   |
|                                    | J039 | ACUTE TONSILLITIS UNSPECIFIED             |
|                                    | J040 | ACUTE LARYNGITIS                          |
|                                    | J041 | ACUTE TRACHEITIS                          |
|                                    | J060 | ACUTE LARYNGOPHARYNGITIS                  |
|                                    | J068 | OTHER ACUTE URTI OF MULTIPLE SITES        |
|                                    | J069 | ACUTE URTI UNSPECIFIED                    |
|                                    | J310 | CHRONIC RHINITIS                          |
|                                    | J311 | CHRONIC NASOPHARYNGITIS                   |
|                                    | J312 | CHRONIC PHARYNGITIS                       |
|                                    | J320 | CHRONIC MAXILLARY SINUSITIS               |
|                                    | J321 | CHRONIC FRONTAL SINUSITIS                 |
|                                    | J322 | CHRONIC ETHMOIDAL SINUSITIS               |
|                                    | J323 | CHRONIC SPHENOIDAL SINUSITIS              |
|                                    | J324 | CHRONIC PANSINUSITIS                      |
|                                    | J328 | OTHER CHRONIC SINUSITIS                   |
|                                    | J329 | CHRONIC SINUSITIS UNSPECIFIED             |
|                                    | J350 | CHRONIC TONSILLITIS                       |
|                                    | J351 | HYPERTROPHY OF TONSILS                    |
|                                    | J352 | HYPERTROPHY OF ADENOIDS                   |
|                                    | J353 | HYPERTROPHY TONSILS AND ADENOIDS          |
|                                    | J358 | OTH CHRONIC DISEASES TONSILS & ADENOIDS   |
|                                    | J359 | CHRONIC DISEASE TONSILS & ADENOIDS NOS    |
|                                    | J399 | DISEASE OF UPPER RESPIRATORY TRACT NOS    |

**Appendix G: List of drugs to identify people with hypertension in Thiazide analysis (section 7.3)**

| Subclass name  | Generic drug name                                  |
|----------------|----------------------------------------------------|
| ACE Inhibitors | BENAZEPRIL<br>CAPTOPRIL<br>CILAZAPRIL<br>ENALAPRIL |

| Subclass name             | Generic drug name                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | FOSINOPRIL<br>LISINOPRIL<br>PERINDOPRIL<br>QUINAPRIL<br>RAMIPRIL<br>TRANDOLAPRIL                                                                                                                                                                                                                                                                                      |
| Angiotensin II Inhibitors | CANDESARTAN<br>EPROSARTAN<br>IRBESARTAN<br>LOSARTAN<br>TELMISARTAN<br>VALSARTAN                                                                                                                                                                                                                                                                                       |
| Beta Blockers             | ACEBUTOLOL<br>ATENOLOL<br>BISOPROLOL<br>LABETALOL<br>METOPROLOL<br>NADOLOL<br>OXPRENOLOL<br>PINDOLOL<br>PROPRANOLOL<br>TIMOLOL                                                                                                                                                                                                                                        |
| Calcium Channel Blockers  | AMLODIPINE<br>DILTIAZEM<br>FELODIPINE<br>NICARDIPINE<br>NIFEDIPINE<br>NIMODIPINE<br>VERAPAMIL                                                                                                                                                                                                                                                                         |
| Diuretics                 | AMILORIDE<br>CHLORTHALIDONE<br>HYDROCHLOROTHIAZIDE<br>INDAPAMIDE<br>TRIAMTERENE<br>SPIRONOLACTONE<br>AMILORIDE HCL & HYDROCHLOROTHIAZIDE<br>SPIRONOLACTONE & HYDROCHLOROTHIAZIDE<br>TRIAMTERENE & HYDROCHLOROTHIAZIDE                                                                                                                                                 |
| Combination Agents        | ATENOLOL & CHLORTHALIDONE<br>BENAZEPRIL & HYDROCHLOROTHIAZIDE<br>CANDESARTAN & HYDROCHLOROTHIAZIDE<br>CHLORTHALIDONE & RESERPINE<br>CILAZAPRIL & HYDROCHLOROTHIAZIDE<br>ENALAPRIL & HYDROCHLOROTHIAZIDE<br>FELODIPINE & METOPROLOL<br>FELODIPINE & RAMIPRIL<br>IRBESARTAN & HYDROCHLOROTHIAZIDE<br>LISINOPRIL & HYDROCHLOROTHIAZIDE<br>LOSARTAN & HYDROCHLOROTHIAZIDE |

| Subclass name | Generic drug name                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | METHYLDOPA & CLOROTHIAZIDE<br>METHYLDOPA & HYDROCHLOROTHIAZIDE<br>NADOLOL & BENDROFLUMETHIAZIDE<br>PERINDOPRIL & INDAPAMIDE<br>PINDOLOL & HYDROCHLOROTHIAZIDE<br>PROPRANOLOL & HYDROCHLOROTHIAZIDE<br>QUINAPRIL & HYDROCHLOROTHIAZIDE<br>RESERPINE & HYDROCHLOROTHIAZIDE<br>TELMISARTAN & HYDROCHLOROTHIAZIDE<br>TIMOLOL & HYDROCHLOROTHIAZIDE<br>VALSARTAN & HYDROCHLOROTHIAZIDE<br>VERAPAMIL & TRANDOLAPRIL |

**Appendix H: List of drugs to identify people to exclude from Thiazide analysis (section 7.3)**

| Subclass name          | Generic drug name                                                                                                                                                                                                                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANTI-ARRHYTHMIA        | ADENOSINE<br>AMIDORONE HCL<br>AMIODARONE HCL<br>BRETILIUM TOSYLATE<br>DISOPYRAMIDE<br>FLECAINIDE ACETATE<br>MEXILETINE HCL<br>PROCAINAMIDE HCL<br>PROPAFENONE HCL<br>QUINIDINE BISULFATE<br>QUINIDINE GLUCONATE<br>QUINIDINE PHENYLETHYLBARBITURATE<br>QUINIDINE POLYGALACTURONATE<br>QUINIDINE SULFATE<br>SOTALOL HCL<br>TOCAINIDE HCL |
| ANTIHYPERTENSIVES      | DEBRISOQUINE SULFATE                                                                                                                                                                                                                                                                                                                    |
| DIGITALIS PREPARATIONS | DIGITOXIN<br>DIGOXIN                                                                                                                                                                                                                                                                                                                    |
| DIURETICS              | METOLAZONE<br>ETHACRYNATE SODIUM<br>ETHACRYNIC ACID<br>FUROSEMIDE                                                                                                                                                                                                                                                                       |
| VASODILATORS           | ISOSORBIDE DINITRATE<br>ISOSORBIDE-5-MONONITRATE<br>NITROGLYCERIN                                                                                                                                                                                                                                                                       |
| MIGRAINES THERAPY      | FLUNARIZINE HCL<br>NARATRIPTAN HCL<br>RIZATRIPTAN BENZOATE<br>SUMATRIPTAN SUCCINATE<br>ZOLMITRIPTAN                                                                                                                                                                                                                                     |

|                    |                                                                                                                                                                                                                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | DIHYDROERGOCORNINE METHANESULFONATE<br>DIHYDROERGOTAMINE MESYLATE<br>ERGOTAMINE<br>ERGOTAMINE & CYCLIZINE<br>ERGOTAMINE & DIPHENHYDRAMINE<br>ERGOTAMINE & PENTOBARBITAL COMPOUND<br>ERGOTAMINE COMPOUND<br>ERGOTAMINE TARTRATE<br>ERGOTAMINE TARTRATE & CAFFEINE<br>ERGOTAMINE/DIMENHYDRINATE |
| ANTITHYROID AGENTS | METHIMAZOLE<br>PROPYLTHIOURACIL                                                                                                                                                                                                                                                               |

### Appendix I: List of Thiazide drugs (section 7.3)

| Subclass name              | Generic drug name                           |
|----------------------------|---------------------------------------------|
| ACE INHIBITORS             | BENAZEPRIL HCL                              |
|                            | CAPTOPRIL                                   |
|                            | CILAZAPRIL                                  |
|                            | ENALAPRIL MALEATE                           |
|                            | FOSINOPRIL SODIUM                           |
|                            | LISINOPRIL                                  |
|                            | PERINDOPRIL ERBUMINE                        |
|                            | QUINAPRIL HCL                               |
|                            | RAMIPRIL                                    |
|                            | TRANDOLAPRIL                                |
| ACE INHIBITORS COMBINATION | BENAZEPRIL HCL & HYDROCHLOROTHIAZIDE        |
|                            | CILAZAPRIL & HYDROCHLOROTHIAZIDE            |
|                            | ENALAPRIL MALEATE & HYDROCHLOROTHIAZIDE     |
|                            | FELODIPINE & RAMIPRIL                       |
|                            | LISINOPRIL & HYDROCHLOROTHIAZIDE            |
|                            | PERINDOPRIL ERBUMINE & INDAPAMIDE           |
|                            | QUINAPRIL HCL & HYDROCHLOROTHIAZIDE         |
|                            | VERAPAMIL HCL & TRANDOLAPRIL                |
| ANGIOTENSIN II ANTAGONIST  | CANDESARTAN CILEXETIL                       |
|                            | EPROSARTAN MESYLATE                         |
|                            | IRBESARTAN                                  |
|                            | LOSARTAN POTASSIUM                          |
|                            | TELMISARTAN                                 |
|                            | VALSARTAN                                   |
| ANGIOTENSIN II COMBINATION | CANDESARTAN CILEXETIL & HYDROCHLOROTHIAZIDE |
|                            | IRBESARTAN & HYDROCHLOROTHIAZIDE            |
|                            | LOSARTAN POTASSIUM & HYDROCHLOROTHIAZIDE    |
|                            | TELMISARTAN & HYDROCHLOROTHIAZIDE           |
|                            | VALSARTAN & HYDROCHLOROTHIAZIDE             |
| BETA BLOCKING AGENTS       | BRIMONIDINE TARTRATE & TIMOLOL MALEATE      |

|                                                      |                                                      |
|------------------------------------------------------|------------------------------------------------------|
|                                                      | TIMOLOL MALEATE & SODIUM CHLORIDE                    |
|                                                      | TIMOLOL MALEATE & TRAVOPROST                         |
| BETA-BLOCKERS                                        | ACEBUTOLOL HCL                                       |
|                                                      | ATENOLOL                                             |
|                                                      | BISOPROLOL FUMARATE                                  |
|                                                      | LABETALOL HCL                                        |
|                                                      | METOPROLOL SUCCINATE                                 |
|                                                      | METOPROLOL TARTRATE                                  |
|                                                      | NADOLOL                                              |
|                                                      | OXPRENOLOL HCL                                       |
|                                                      | PINDOLOL                                             |
|                                                      | PROPRANOLOL HCL                                      |
|                                                      | TIMOLOL MALEATE                                      |
| BETA-BLOCKERS<br>COMBINATION                         | ATENOLOL & CHLORTHALIDONE                            |
|                                                      | FELODIPINE & METOPROLOL                              |
|                                                      | NADOLOL & BENDROFLUMETHIAZIDE                        |
|                                                      | PINDOLOL & HYDROCHLOROTHIAZIDE                       |
|                                                      | PROPRANOLOL HCL & HYDROCHLOROTHIAZIDE                |
|                                                      | TIMOLOL MALEATE & HYDROCHLOROTHIAZIDE                |
| CALCIUM BLOCKERS                                     | AMLODIPINE BESYLATE                                  |
|                                                      | DILTIAZEM HCL                                        |
|                                                      | FELODIPINE                                           |
|                                                      | NICARDIPINE HCL                                      |
|                                                      | NIFEDIPINE                                           |
|                                                      | NIMODIPINE                                           |
|                                                      | VERAPAMIL HCL                                        |
| CENTRALLY ACTING<br>ANTIADRENERGIC WITH<br>DIURETICS | CHLORTHALIDONE & RESERPINE                           |
|                                                      | METHYLDOPA & CLOROTHIAZIDE                           |
|                                                      | METHYLDOPA & HYDROCHLOROTHIAZIDE                     |
|                                                      | RESERPINE & HYDROCHLOROTHIAZIDE                      |
| DIURETICS                                            | BENDROFLUMETHIAZIDE                                  |
|                                                      | CHLORTHALIDONE                                       |
|                                                      | HYDROCHLOROTHIAZIDE                                  |
|                                                      | INDAPAMIDE                                           |
|                                                      | METHYCLOTHIAZIDE                                     |
|                                                      | POLYTHIAZIDE                                         |
| DIURETICS (POTASSIUM-<br>SPARING)                    | AMILORIDE HCL                                        |
|                                                      | AMILORIDE HCL & HYDROCHLOROTHIAZIDE                  |
|                                                      | SPIRONOLACTONE                                       |
|                                                      | SPIRONOLACTONE & HYDROCHLOROTHIAZIDE                 |
|                                                      | TRIAMTERENE                                          |
|                                                      | TRIAMTERENE & HYDROCHLOROTHIAZIDE                    |
| VASODILATOR<br>ANTIHYPERTENSIVE<br>DRUGS             | RESERPINE & HYDROCHLOROTHIAZIDE & HYDRALAZINE<br>HCL |