Towards a Common Quality Agenda 2014

Measuring Up

Technical Appendix

Ontario

Health Quality Ontario

Qualité des services de santé Ontario

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1.Introduction

Each year, Health Quality Ontario (HQO) produces a report on the health of Ontarians and on how Ontario's health system is performing. This technical appendix is accompanying this year's report: *Measuring Up*, 2014.

The technical appendix provides detailed specifications for each of the indicators presented in the report. It also includes general information on the indicator selection process, the analytical methods, the data sources and the external review process. It also provides more detailed information on the specific definitions for each indicator presented in the report, on a chapter-by-chapter basis.

Indicator selection

The indicators included in *Measuring Up* are those included in the Common Quality Agenda, a set of key performance indicators selected in collaboration with health system partners. The Common Quality Agenda indicator set is intended to focus efforts and mobilize system leadership towards the delivery of the highest quality of care for Ontarians.[1]

The Common Quality Agenda indicators are used to track long-term progress in meeting Ontario's health goals, and help make the health system more transparent and accountable. The indicators are also used to promote an integrated, patient-focused system.

The Common Quality Agenda has been evolving since its inception. Some changes were made to the set of indicators for the 2014 yearly report based on data availability, data quality and indicator relevance. It currently includes 40 indicators. The set is expected to further evolve as HQO continues to work with partners on the Common Quality Agenda.

Each chapter of *Measuring Up* and its accompanying technical appendix represents a sector of the health system that aligns with the Common Quality Agenda indicators (Figure 1.1): Health Status, Public Health, Primary Care, Hospital Care, Home Care, Long-Term Care, System Integration and Health Workforce.

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[1] Health Quality Ontario, *Partnering for a Common Quality Agenda* 2013. p.5

Figure 1.1

Common Quality Agenda 2014

Health Status
Life expectancy at birth

Infant mortality

Self-reported health status

Premature avoidable deaths

Public Health
Smoking

Physical inactivity

Obesity

Measles immunization

Meningococcal immunization

Influenza immunization in older adults

Primary Care
Having a primary care provider

Access to a primary care provider on the same day or next day when sick

Access to primary medical care in the evening, weekend or on a public holiday

Patient experience

Screening for colorectal cancer

Diabetes eye exams

Hospital Care
Patient satisfaction

Emergency department length of stay

Hip or knee replacement wait time

Cardiac procedure wait time

Cancer surgery wait time

Clostridium difficile infections acquired in hospital

Falls among complex continuing care patients

Pressure ulcers among complex continuing care patients

Use of physical restraints in acute mental health care

Home Care
Patient satisfaction

Wait time for nursing services

Wait time for personal support services

Long-Term Care
Long-term care home placement wait time

Use of physical restraints in long-term care home residents

Falls among long-term care home residents

Pressure ulcers among long-term care home residents

System Integration
Hospitalizations for ambulatory-care sensitive conditions

Physician visit within seven days of hospital discharge

Readmissions for mental illnesses

Readmissions for medical or surgical patients

Alternate level of care days

Health Workforce
Number of registered nurses, registered practical nurses or nurse practitioners

Number of family doctors or specialists

Lost-time injury in health workers

Analysis

Data over time

For each indicator, we report the data for the most recent year (fiscal year, calendar year, school year) in which the data are complete and scientifically sound (reliable and valid). Where possible, we present data for the previous 10 years; otherwise we report the longest duration of data available. In some cases, where provincial targets exist, we also note these, along with the most recent performance of the corresponding indicator.

Comparisons within Ontario

In addition to examining changes in performance for the province as a whole, for some indicators we also report the data at the regional level. There are 14 Local Health Integration Networks (LHINs) in Ontario, based on geographical regions (Figure 1.2). For regional comparisons in Ontario, we typically report the data for each LHIN region along with the Ontario data for context.

Figure 1.2: Map of Local Health Integration Network regions in Ontario

Ontario LHINs

1	Erie St. Clair	5	Central West	9	Central East	13	North East
2	South West	6	Mississauga Halton	10	South East	14	North West
3	Waterloo Wellington	7	Toronto Central	11	Champlain		
4	Hamilton Niagara Haldimand Brant	8	Central	12	North Simcoe Muskoka		
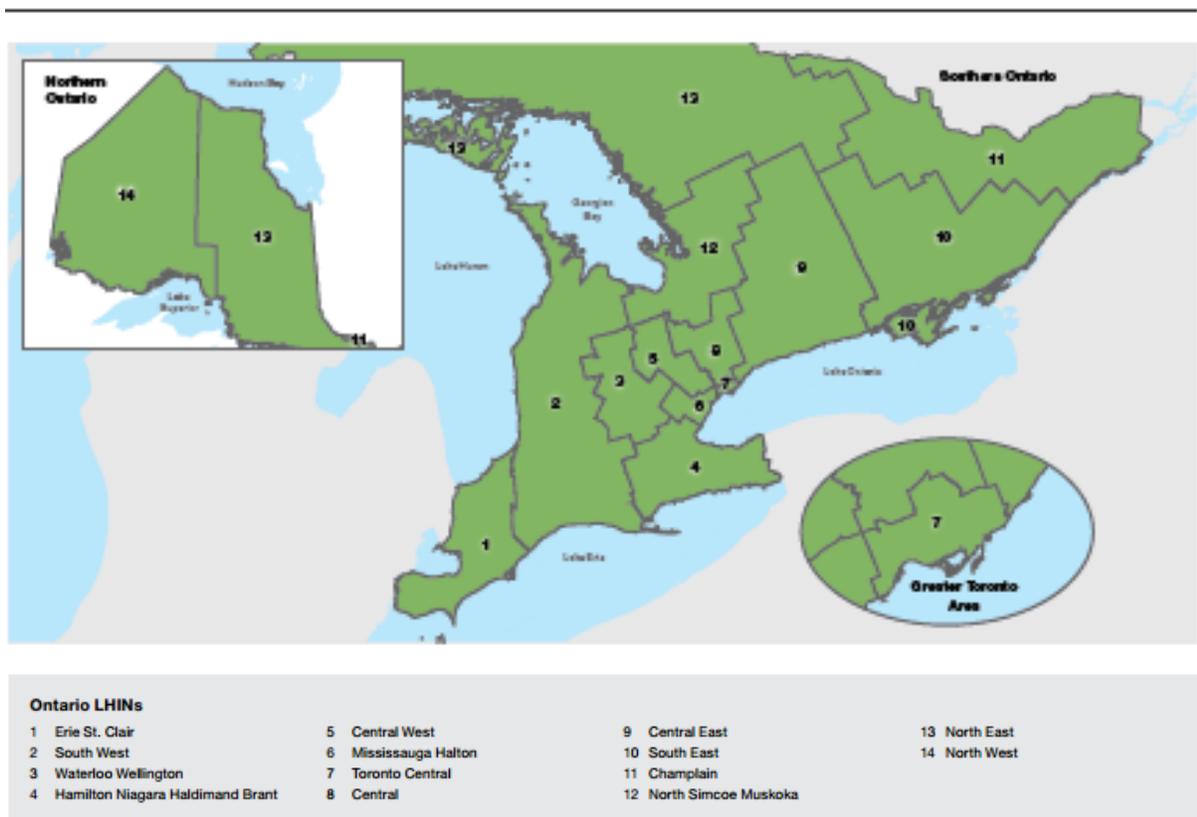
It should be noted that for some indicators, the regions of comparisons are Community Care Access Centres (CCACs) and for others the Public Health Regions. There are 14 CCACs in Ontario that follow

the same boundaries as the LHIN regions. There are seven Public Health Regions that operate on different geographical configurations than the LHIN regions.[2]

How Ontario performs compared to others

To provide context on how Ontario's health system performs, we also provide comparisons with other provinces in Canada, as well as other countries, where possible. For comparisons across Canada, we report data for other provinces. We do not include data for the territories as their geographic locations, and population sizes are different from Ontario and they may not be appropriate comparators.

Where data are available to allow for international comparisons, we typically compare Ontario's performance to the 10 other countries that participate in the Commonwealth Fund's widely cited international survey. In addition to Canada, the countries included in the survey are: Australia, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and the United States. These countries have many economic and demographic similarities to Canada and therefore are generally considered to be appropriate comparators. HQO partners with the Commonwealth Fund to support the survey and support oversampling of the Ontario population so that the survey results can be used to reliably compare Ontario with other areas and countries.

When pan-Canadian or international comparisons are available, the estimate of Ontario's performance on an indicator within the same period (e.g., fiscal year) may vary slightly between the pan-Canadian or international comparison and the regional comparison within Ontario. This may be due to differences in the data sources (e.g., one survey for an international comparison and a different one for a regional comparison within Ontario) or due to differences in the methods used to calculate the indicator. For example, pan-Canadian performance on indicators that are based on Statistics Canada data are typically age-adjusted, while data for the same indicator reported for Ontario or regionally are typically both age- and sex-adjusted.

Adjustments (for age, sex and risk)

Where appropriate, indicators are age-adjusted or age- and sex-adjusted to the 1991 Canadian Census population aged 12 and older. In some cases, indicators may have been risk-adjusted, consistent with other standardized methods (e.g., interRAI) or using other standard populations. For details on which indicators were adjusted and the methodology used, please see the individual indicator templates.

Data sources

HQO does not collect personal health information but rather partners with others to analyze and report performance on quality indicators. The indicator results presented were provided to HQO by a variety of data providers, including:

- The Canadian Institute for Health Information (CIHI)
- The Cardiac Care Network of Ontario (CCN)
- Cancer Care Ontario (CCO)
- The College of Nurses of Ontario (CNO)

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[2] A map of the Public Health Regions of Ontario is available on the website of the Association of Local Public Health Agencies at http://www.alphaweb.org/?page=PHU

- The Institute for Clinical Evaluative Sciences (ICES)
- The Ministry of Health and Long-Term Care (MOHLTC)
- The Ontario Association of Community Care Access Centres (OACCAC)
- The Ontario Hospital Association (OHA)
- The Ontario Physician Human Resources Data Centre
- Public Health Ontario (PHO)
- Statistics Canada
- The Workplace Safety and Insurance Board (WSIB)

The data source(s) for each indicator are listed within the individual templates. More details on the specific data sources that HQO used to produce the indicators are noted below.

Canadian Community Health Survey (CCHS) – Statistics Canada

The CCHS is a nationally representative, cross-sectional survey of the Canadian community-dwelling population conducted by Statistics Canada. It collects information related to health status, health care utilization and health determinants for the Canadian population. It covers the population 12 years of age and older. Residents living on Indian Reserves and Crown Lands, institutional residents, full-time members of the Canadian Armed Forces and residents of certain remote regions are excluded from the survey. The Ontario share files for the survey are used for all analyses and analyses using CCHS were prepared by the Institute for Clinical Evaluative Sciences. The CCHS is offered in English and French. To remove language as a barrier in conducting interviews, each of the Statistics Canada Regional Offices recruits interviewers with a wide range of language competencies, and additionally, the survey questions are translated into Chinese, Punjabi and Inuktitut. As of 2007, data are now collected on an ongoing basis with annual releases rather than every two years, as was the case prior to 2007.

Cardiac Care Network of Ontario (CCN) cardiac registry

The Cardiac Care Network (CCN) oversees the planning and provision of cardiac services in Ontario, which includes monitoring and measuring wait times for cardiovascular procedures in all regions of Ontario, including the priority cardiac services included in Ontario's Wait Times Strategy, which are presented in this report. CCN maintains a centralized provincial registry of all patients waiting for cardiac surgery, and includes (and reports on) all hospitals that conduct coronary artery bypass graft surgery (CAB) and percutaneous coronary intervention (PCI) in Ontario. A patient is added to the wait list when he or she is referred for cardiac surgery and removed from the list at the time of surgery, decision not to pursue surgery, or death. Wait times are calculated based on the difference from when a patient was added to the list to when the patient was removed from the list. The CCN calculates an individualized urgency score for all patients awaiting procedures, which determines their urgency level and their individualized wait time.

Census – Ministry of Finance's population estimates

For some indicators, the Ministry of Finance provides population estimates for the province and for each LHIN region. The Ministry of Finance methodology for allocating populations to LHIN regions differs from that used by Statistics Canada. The Ministry of Finance uses the most recent Statistics Canada population estimates by census subdivision as the base for the LHIN region population projections. The method of allocation to LHIN regions varies depending on the geographic makeup of the LHINs. Population projections are based on a Statistics Canada base year (2012) population estimate, and

then adjusted for births, deaths and migration, and are calculated for each of the 49 census divisions. These census divisions are then summed to provide regional and provincial population estimates.

Client Profile Database (CPRO) – Ministry of Health and Long-Term Care (MOHLTC) and Ontario Association of Community Care Access Centres (OACCAC)

CPRO contains long-term care (LTC) home application information at the client level. The data set includes three broad types of information: client characteristics and location at application, long-term care home choices, and milestone (date) events throughout the LTC placement process. CPRO receives client-level data from each Community Care Access Centre on a monthly basis to support bed utilization monitoring, performance management and LTC accountability planning. Data from CPRO are housed by the MOHLTC and by the OACCAC. Indicators using CPRO are analysed by ICES and by Health Analytics Branch, MOHLTC.

Commonwealth Fund's International Health Policy Survey

As part of its mandate, the Commonwealth Fund has been conducting the International Health Policy (IHP) Survey in 11 countries for more than a decade. In a triennial cycle, the IHP survey targets different populations, including physicians, older adults, and the general adult population.
The 2013 Commonwealth Fund International Health Policy Survey of the General Public reflects the perceptions of a random sample of the general public (aged 18 and older) in 11 countries: Australia, Canada, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States. Participants were interviewed by telephone (land line or cellphone) between March and June 2013. In Canada, 5,412 respondents were surveyed; the Ontario population was oversampled to be able to calculate provincial estimates from the survey.

The 2013 survey of the general public was designed to explore and collect health-related data for the following main topics:

- Overall views of the health care system
- Patient's access to primary and preventive care, such as availability of same-day appointment
- Patient's relationship with regular doctor/GP, including experience with coordination of health care
- Patient's use of and experience with specialists
- Patient's experience with care in the hospital and emergency room

Continuing Care Reporting System (CCRS) – Canadian Institute for Health Information (CIHI)

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 and complex continuing care information for national comparative reporting. The CCRS contains demographic, administrative, clinical and resource utilization information on individuals receiving continuing care services in hospitals or in long-term care homes in Canada. Participating organizations also provide information on facility characteristics to support comparative reporting. The clinical data are collected using an internationally accepted standard, the Resident Assessment Instrument Minimum Data Set Version 2.0 (RAI-MDS 2.0). The RAI-MDS assessment includes patient-level measures of function, mental and physical health, social support and service use. It was modified by CIHI with permission for Canadian use.

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

The DAD is a database of information abstracted from hospital records that captures administrative, clinical and patient information on all hospital separations (including discharges, deaths, sign-outs and transfers). It includes patient-level data for acute- and chronic-care hospitals, rehabilitation hospitals and day surgery clinics in Ontario. Data are collected, maintained and validated by the Canadian Institute for Health Information (CIHI). The main data elements of the DAD are patient identifier (name, health care number), patient demographics (age, sex, geographic location), diagnoses, procedures, and administrative information (institution number, admission category, length of stay).

Health Care Experience Survey (HCES) – Ministry of Health and Long-Term Care (MOHLTC)

The HCES is a voluntary telephone survey aimed at Ontarians aged 16 and older, conducted on a quarterly basis. The Health Care Experience Survey asks randomly selected Ontarians for their views about their health care system, how healthy they are, if they have chronic conditions, if they have a primary care provider (family doctor, nurse practitioner or other health care provider), how long it takes to see their provider, their experience using the health care system, if they have been to an emergency room or a walk-in clinic, and their household and demographic characteristics.

People living in institutions, in households without telephones, and those with invalid/missing household addresses in the Registered Persons Database (RPDB) are excluded. The Ministry of Health and Long-Term Care uses the information from the survey to understand the experience of Ontarians with respect to primary care.

Home Care Database (HCD) – Ministry of Health and Long-Term Care (MOHLTC) and Ontario Association of Community Care Access Centres (OACCAC)

The HCD is a clinical, client-centred database that captures all home care services provided or coordinated by Ontario's Community Care Access Centres (OACCAC) including government-funded home and community services. The HCD includes identifying information on the client and information on the intake, assessments for care (which are collected using standardized RAI tools) and admission and discharge records.

Immunization Records Information System (IRIS) – Public Health Ontario (PHO)

The Immunization Records Information System (IRIS) was developed for public health departments in 1993 to maintain the immunization and tuberculin testing records of all school-aged children within their jurisdictions. Information on immunization status for required vaccines is collected by the Public Health Units of the province and entered into IRIS. Immunization levels are calculated for each of the six diseases (diphtheria, tetanus, polio, measles, mumps and rubella) for which immunization is required under the Immunization of School Pupils Act (1982). In addition to information on mandatory vaccines, IRIS typically records all childhood vaccines, especially those that are publicly funded. This information belongs to the Public Health Units and the units are responsible for producing reports on the immunization status of their areas.

Laboratory Reporting Tool (LRT) – Cancer Care Ontario (CCO)

The Laboratory Reporting Tool (LRT) includes data on the Colon Cancer Check (CCC) program, fecal occult blood testing (FOBT) kit distribution, dispensing, and results from eight CCC-participating

laboratories, including a unique physician identifier (the CPSO number) of the ordering physician. Data are available on CCC FOBT kits processed from April 2008 onwards.

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

NACRS contains data for all hospital-based and community-based emergency and ambulatory care, including day surgeries, outpatient clinics and emergency departments. Data are collected, maintained and validated by CIHI. CIHI receives data directly from participating facilities or from their respective regional health authorities or the ministry. NACRS is a data collection tool used to capture patient and clinical information on patient visits to hospital and community based ambulatory care: same day surgery, outpatient clinics and emergency departments.

Client and Caregiver Experience Evaluation (CCEE) Survey – National Research Corporation Canada (NRCC)

The CCEE survey interviews Community Care Access Centre (CCAC) home care clients (active in-home and discharged in-home and placement home care patients) and their caregivers. The purpose is to provide the home care sector with statistically meaningful information and comparable data about clients' experience receiving services, and to support the home care sector in identifying levers and opportunities for quality improvement. NRCC developed the CCEE survey tool in collaboration with researchers and CCAC and service provider organization members. In Ontario, the survey is conducted in four waves per year in all 14 CCACs by Computer Assisted Telephone methodology. The tool is currently being used in home care environments across Canada, and 40,000 home care patients have been interviewed so far.

Ontario Hospital Association (OHA) Patient Satisfaction Survey – National Research Corporation Canada (NRCC)

Ontario hospitals have been measuring patient satisfaction for a number of years to better understand the experience that patients and their families have with their hospital care. The OHA works closely with NRCC, a partner in measuring patient experience, to ensure continued and evolving patient experience products.

The following satisfaction questionnaires are being administered or are ready to be routinely offered and/or administered in a number of provinces and territories:

- Adult acute care
- Emergency department
- Rehabilitation care
- Complex continuing care resident and family
- Ambulatory oncology

Ontario Diabetes Database (ODD) – Institute for Clinical Evaluative Sciences (ICES) derived cohort

The ODD employs a validated algorithm to identify people with diabetes using data on hospitalizations and physician visits. Hospital discharge abstracts, collected by the Canadian Institute for Health Information (CIHI) from April 1988 onwards were used to identify Ontarians with a valid health card number who had been hospitalized with a new or pre-existing diagnosis of diabetes. Physician claim

records held by the Ontario Health Insurance Plan (OHIP) from July 1991 onwards were also used to identify individuals with visits to a physician for diabetes. When there was a hospital record with a diagnosis of pregnancy care or delivery close to a diabetic record (i.e., diabetic record date between 120 days before and 180 days after a gestational admission date), the diabetic record was considered to be for gestational diabetes and was excluded. Individuals were considered to have diabetes if they had at least one hospitalization or two physician service claims over a two-year period. People enter the ODD as incident cases when they are defined as having diabetes (i.e., the first of DAD admission date or OHIP service date over the two-year period as incident date). An analysis by Hux and colleagues reported that the current algorithm had a sensitivity of 86% and a specificity of 97% for identifying diabetes in the population. The positive predictive value of the algorithm was 80%.[3]

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

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

Ontario Mental Health Reporting System (OMHRS) – Canadian Institute for Health Information (CIHI)

The OMHRS, housed at CIHI, collects information about individuals admitted to designated adult mental health beds in Ontario. OMHRS includes information on admission and discharges as well as clinical information. Clinical data are sourced from the RAI-Mental Health, a standardized assessment instrument for inpatient mental health care. It includes information about mental and physical health, social support and service use. Data are collected at admission, discharge and every three months for patients with extended stays. Data are collected on clients from participating hospitals in Ontario. It is available from October 1, 2005, onward.

Ontario Physician Registry data Ontario Physician Human Resources Data Centre (OPHRDC) and College of Nurses of Ontario (CNO)

The Ontario Physician Registry held by 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.

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[3] Hux JE, Ivis F, Flintoft V, Bica A. Diabetes in Ontario: determination of prevalence and incidence using a validated administrative data algorithm. Diabetes Care 2002;25(3):512-516.

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 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.

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

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

Wait Time Information System (WTIS) – Cancer Care Ontario (CCO)

The Ontario Wait Time Information System (WTIS) is maintained by Cancer Care Ontario on behalf of the Ministry of Health and Long-Term Care. The web-based system collects wait times data, including wait times for non-cardiac surgeries. The WTIS includes information on wait times, urgency levels and wait times targets (based on urgency level). Data can be used by providers and administrators to monitor and manage wait lists and are reported publicly on a website to ensure accountability and transparency.

Workplace Safety and Insurance Board (WSIB) Statistical Report

Information on the frequency of work-related injury and disability in five 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 and Health and WSIB, and calculated by HQO from information in the By the Numbers: WSIB Statistical Report for the following rate groups: long-term care homes, hospitals, nursing services (home care and other settings), treatment clinics and specialized services, and professional offices and agencies. This report is released to the public every year and provides information on the wider prevention system and individual workplaces. It provides a valuable resource for workers and employers as they continue the important work of making their workplaces safer and healthier. The WSIB administers compensation and no-fault insurance for Ontario workplaces.

External review

We obtained external peer reviews of each chapter in *Measuring Up*. Subject matter experts, stakeholders and data providers were sent preliminary drafts of the chapters, which included indicator results and our interpretations of the results. We asked reviewers to comment on the accuracy of the data and our interpretations of the results. We revised chapters accordingly. A complete list of external reviewers is located in the Acknowledgements section of the main report.

2. Health Status Indicators

LIFE EXPECTANCY AT BIRTH	
See Figures 2.1 and 2.2 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	Life expectancy is the number of years a person would be expected to live, starting at birth (for life expectancy at birth) if the age- and sex-specific mortality rates for a given observation period (such as a calendar year) were held constant over his/her life span.
Relevance / Rationale	Life expectancy at birth is used worldwide and it tells us about the general health of a population. The World Health Organization defines life expectancy as "*the average number of years a person can expect to live, if in the future they experience the current age-specific mortality rates in the population. Healthy life expectancy is a related statistic, which estimates the equivalent years in full health that a person can expect to live on the basis of the current mortality rates and prevalence distribution of health states in the population.*"[4] Statistics Canada defines it as "*the number of years a person would be expected to live, starting at birth (for life expectancy at birth) or at age 65 (for life expectancy at age 65) if the age- and sex-specific mortality rates for a given observation period (such as a calendar year) were held constant over his/her life span.*"[5] Life expectancy at birth reflects the overall mortality level of a population.[6] It measures the number of years rather than the quality of life, so it does not reflect the number of years spent in a good health. Life expectancy at birth have been increasing for many decades. In Canada, it has increased substantially going up from about 60 years in 1920 to more than 80 in 2009.[7,8] Worldwide in 2010 the life expectancy at birth in Canada has ranked in the top 10th among the 34 countries in the Organisation for Economic Co-operation and Development (OECD).[9] This can be attributed to a combination of a number of factors, including advances in medical care, improved public health (such as

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[4] World Health Organization. Health Topics. Life expectancy. Accessed on May 5, 2014 at http://www.who.int/topics/life_expectancy/en/

[5] Statistics Canada. *Table 102*-0512 - Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual (years), CANSIM (database). Accessed on May 5, 2014 at http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1020512&tabMode=dataTable&srchLan=-1&p1=-1&p2=9

[6] World Health Organization. Indicator and Measurement Registry version 1.7.0. Life expectancy at birth (years). Accessed on May 5, 2014 at http://apps.who.int/gho/indicatorregistry/App_Main/view_indicator.aspx?iid=65

[7] Statistics Canada. Chart 2 Life expectancy at birth and at age 1, by sex, Canada, 1920–1922 to 2005–2007 Accessed at http://www.statcan.gc.ca/pub/82-624-x/2011001/article/chart/11427-02-chart2-eng.htm

[8] Statistics Canada. *Table 102-0512 - Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual (years),* CANSIM (database)

[9] Organization for economic cooperation and development. StatExtracts. Accessed on 5 may 2014 at http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT#

	decreased smoking rates), higher educational attainment and per capita income and increases in total health care spending. [10,11]
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Focused on population health
Type	Outcome
External alignment and other reporting	Statistics Canada: http://www.statcan.gc.ca/pub/82-624-x/2011001/article/11427-eng.htm#a4 Organisation for Economic Co-operation and Development (OECD) Canadian Institute for Health Information (CIHI): http://indicatorlibrary.cihi.ca/display/HSPIL/Life+Expectancy+at+Birth Association of Public Health Epidemiologists in Ontario (APHEO): http://www.apheo.ca/index.php?pid=91
Accountability	Public Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Cumulative number of person-years lived, divided by the number of live births or people aged 65 in the initial cohort.
Calculation[12]	**Numerator** Cumulative number of person-years lived, for a cohort of 100,000 persons
	Denominator Number of persons in an initial cohort of 100,000 live births *Exclusion Criteria:* Rates used by Statistics Canada to calculate life expectancy are calculated with data that excludes the following: a. Births to mothers who are not residents of Canada b. Births to mothers who are residents of Canada whose province or territory of residence was unknown c. Deaths of non-residents of Canada d. Deaths of residents of Canada whose province or territory of residence was unknown e. Deaths for which age or sex of the decedent was unknown
	Methods Age- and sex-specific mortality rates corresponding to the reference period are applied to a hypothetical cohort, typically of 100,000. Starting at birth, the probability of dying at each age or age interval is applied to the number of people surviving to that age or the beginning of the age interval, respectively.
Data source / data elements	Sources: Statistics Canada, Canadian Vital Statistics, Birth and Death Databases and population estimates. The CANSIM table 102-0512.
Timing and frequency of data release	National estimates are available in 10-year intervals starting in 1920 and annually starting in 1979. Provincial/territorial estimates are available annually from 1979 to 2006. Separate estimates for Nunavut and the Northwest Territories are available

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[10] Greenberg L, Normandin C. Disparities in life expectancy at birth. Statistics Canada. Date modified: 2011-04-15 Accessed on May 5, 2014 at http://www.statcan.gc.ca/pub/82-624-x/2011001/article/11427-eng.htm#a4

[11] Health care in Canada, 2011. A focus on seniors and aging. https://secure.cihi.ca/free_products/HCIC_2011_seniors_report_en.pdf

[12] Canadian Institute for Health Information. Indicator Library. Life Expectancy at Birth. 2014. Accessed on May 5, 2014 at http://indicatorlibrary.cihi.ca/display/HSPIL/Life+Expectancy+at+Birth

	annually from 1999 to 2006. From 1979 to 1999, estimates are available for the two territories combined as "Northwest Territories including Nunavut."
	Estimates based on three years of pooled data are available at the provincial level from 1992 to 1994 onward; however, the territories are presented as a group for the period between 1992 to 1994 and 1997 to 1999.
	Estimates based on three years of pooled data are available at the regional level from 2000 to 2002 forward.
Levels of comparability	Over time, national and provincial (see the timing and frequency of data release for details on levels of reporting)
OTHER INFORMATION	
Limitations / Caveats	This indicator does not provide information on the individual causes of deaths or on quality of life. Other measures have been developed using a composite of morbidity and mortality data. For example, health-adjusted life expectancy (HALE) is the average number of years that an individual is expected to live in a healthy state.[13]
Comments	The methods for estimating mortality and death probability at advanced ages were changed to better acknowledge characteristics of death in advanced ages, particularly in terms of small sample sizes. These changes apply to the construction of life tables for the period 2005 to 2007 onward. The impact of these changes on life expectancy for Canada as a whole is minimal, with a difference of 0.07 years.

INFANT MORTALITY RATE	
INDICATOR DESCRIPTION	
Indicator description	Statistics Canada definition: Infants who die in the first year of life, expressed as a count and a rate per 1,000 live births.
	The Association of Public Health Epidemiologists in Ontario (APHEO) defines infant mortality rate as:
	• the ratio of the number of deaths of live born infants, 0 – 364 days of age, during a calendar year per 1,000 live births in the same calendar year[14]
	Subcategories of infant mortality also reported are:
	• neonatal mortality rate: 0 – 6 days of age
	• post-neonatal mortality rate: 7 – 27 days of age
	Lower rates are better.
Relevance / Rationale	The infant mortality rate reflects the effect of economic and social conditions on the health of mothers and newborns as well as the effectiveness of health systems"[15].

[13] Association of Public Health Epidemiologists in Ontario (APHEO). Core Indicators. 3 Health Expectancy. Accessed on May 5, 2014 at http://www.apheo.ca/index.php?pid=92

[14] Association for Public Health Epidemiologists in Ontario (APHEO) [Internet]. Toronto: APHEO; c2011. Core indicators for public health in Ontario: Neonatal and infant mortality; 2013 Jan 16 [cited 2013 Jul 15]. Available from: http://www.apheo.ca/index.php?pid=146.

[15] Organization for Economic Cooperation and Development [homepage on the Internet]. Paris: OECD; 2009 [cited 2013 Jul 15]. OECD Factbook 2009. Infant mortality. Available from: http://www.oecd-ilibrary.org/economics/oecd-factbook-2009/infant-mortality_factbook-2009-86-en.

	"The indicator can help us understand the nature of the disparities between population subgroups and the factors that may be responsible."[16]

This is not only a measure of child health, but also of the well–being of a society. This indicator reflects the level of mortality, health status, and health care of a population, and the effectiveness of preventive care and the attention paid to maternal and child health.[17] |
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Focused on population health
Type	Outcome
External alignment and other reporting	Health Canada:
• Perinatal Health Indicators for Canada, 2000[18]
Public Health Agency of Canada (PHAC):
• Canadian Perinatal Health Report, 2008[19]
• Perinatal Health Indicators for Canada, 2011[20]
Ontario's Better Outcomes Registry and Network (BORN Ontario)
• BORN Ontario Perinatal health indicators in Ontario 2012[21]
Health status reports produced by Ontario Public Health Units[22]
Accountability	Public Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Rate per 1,000 live births
Calculation	**Numerator**
Total number of deaths of live born infants 364 days or younger
	Denominator
Total number of live births

Exclusion Criteria: |

[16] Health Canada. Perinatal health indicators for Canada. Ottawa, ON: Minister of Public Works and Government Services Canada, 2000; [cited 2013 Jul 15]. Available from: http://publications.gc.ca/collections/Collection/H49-135-2000E.pdf

[17] Statistics Canada. Health Indicators. Definitions and data sources. 1.4 Deaths Infant Mortality. Accessed July 15, 2013 at http://www.statcan.gc.ca/pub/82-221-x/2013001/def/def1-eng.htm#de1imx

[18] Health Canada (as n.3 above).

[19] Public Health Agency of Canada. Canadian perinatal health report, 2008. Ottawa, ON: Her Majesty the Queen in Right of Canada, 2008 [cited 2013 Jul 15]. Available from: http://www.phac-aspc.gc.ca/publicat/2008/cphr-rspc/pdf/cphr-rspc08-eng.pdf

[20] Public Health Agency of Canada. Perinatal health indicators for Canada, 2011. Ottawa, ON: Her Majesty the Queen in Right of Canada, 2012 [cited 2013 Jul 15].

[21] Better Outcomes Registry & Network (BORN) Ontario. Perinatal Health Indicators for Ontario 2012. Ottawa ON, 2012. Available from: http://www.bornontario.ca/assets/documents/specialreports/Perinatal%20Health%20Indicators%20for%20Ontario%202012.pdf

[22] Public Health Ontario. Measuring the Health of Infants, Children and Youth for Public Health in Ontario: Indicators, Gaps and Recommendations for Moving Forward. April 2013. Available from: http://www.publichealthontario.ca/en/eRepository/Measuring_Health_Infants_Children_2013.pdf

	live births to mothers not resident in Canada; live births to mothers resident in Canada, province or territory of residence unknown; deaths of infants not resident in Canada; and deaths of infants resident in Canada, province or territory of residence unknown.

	Methods
	
	This indicator is calculated by dividing the total number of deaths for live born infants (364 days or younger) by total number of live births (per 1000 live births) for the same year , regardless of birth weight.
	
	Additional information:
	• Mortality data collection method:
	    o registry
	    o data are extracted from death certificates and include characteristics of the deceased and cause and location of death[23]
	    o all deaths within Ontario are registered in the office of the division registrar within which the death occurs[24]
	• Live birth data collection method:
	    o Registry: A live birth is registered by Office of the Registrar General (ORG) upon receipt of the Notice of Live Birth from the birth attendant within two business days AND the Statement of Live Birth completed by the parent/informant within 30 days.,[25] If both forms are not received in the specified time, registration is considered "incomplete" and the birth is not included in the electronic file of data submitted for official live birth statistical purposes.
	Over time, there has been increased registration of live births with birth weight less than 500 grams. To improve comparability of this indicator over an extended time period, infant death counts and infant mortality rates are calculated two ways, including and excluding live births with birth weight under 500 grams.

Data source / data elements	Statistics Canada, Vital Statistics, Birth and Death Databases.
Timing and frequency of data release	Annually at national and provincial levels. Occasionally, three year average data are available for Canada, provinces, territories, health regions and peer groups.
Levels of comparability	Over time, at national and provincial levels
OTHER INFORMATION	
Limitations / Caveats	• Introduction of birth registration fees in 1996 resulted in an excess of unregistered live births in municipalities that charged parents for birth registration, compared with those that did not, particularly in certain vulnerable

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[23] Ontario. Ministry of Health and Long-term Care, Health Analytics Branch. Health analyst's toolkit. Toronto, ON: Queen's Printer for Ontario; 2012 [cited 2013 Jul 15]. Available from:
http://www.health.gov.on.ca/english/providers/pub/healthanalytics/health_toolkit/health_toolkit.pdf
[24] Association of Public Health Epidemiologists in Ontario [homepage on the Internet]. Toronto, ON: Association of Public Health Epidemiologists in Ontario. Vital Statistics Mortality; c2011 [updated 2012 Oct 31; cited 2013 Jul 15]. Available from: http://www.apheo.ca/index.php?pid=208
[25] Association of Public Health Epidemiologists in Ontario [homepage on the Internet]. Toronto, ON: Association of Public Health Epidemiologists in Ontario. Vital Statistics Live Births; c2011 [updated 2013 Jan 16; cited 2013 Jul 15]. Available from: http://www.apheo.ca/index.php?pid=206

	groups.[26] (This would result in higher infant mortality rates [i.e., deaths of unregistered infants would be excluded from the denominator of the indicator but included in the numerator]. Birth registration fees were phased out in Ontario between 2007 and 2009.[27]However, the impact of the program will likely affect the comparability of Ontario data versus other provinces during the relevant time period.
	• Systematic errors were found in the registration of birth weights in Ontario in the early and mid-1990s[28] which potentially could have affected infant mortality rate ≥500g, if infants were misclassified as weighing ≥500g.
	• It is not possible to exclude deaths of infants weighing <500g at birth as no linked live birth and mortality files exist for Ontario.[29] Infants weight <500g at birth are subject to higher mortality rates and their inclusion may inflate the infant mortality rate.[30,31]
	• Vital Statistic data are typically two or three years behind the current calendar year.
	• Given the small number infant deaths, infant mortality rates may fluctuate from year to year. For the same reason, comparisons across regions should be interpreted with caution. It may be of beneficial to group years when reporting infant mortality and/or calculate a three-year moving average.[32]
	• Increased registration of newborns weighing less than 500g as alive birth may result in increase of crude infant mortality rate.[33]
Comments	BORN Ontario currently captures all births as well as infant deaths that occur close to the time of birth, we are missing infant deaths occurring in neonatal intensive care units (NICUs) d later in the first year. BORN Ontario is pursuing several strategies to capture these missing data including: improving ascertainment of NICU data, partnering with the Provincial Council for Maternal-Child Health (PCMCH) to recommend that all live births are registered before the mother is discharged from hospital after giving birth, and partnering with Service Ontario to undertake annual database linkage of live births in the BORN Information System (BIS) with infant death registrations from Service Ontario.

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[26] Woodward GL, Bienefeld MK, Ardal S. Under-reporting of live births in Ontario: 1991-1997. Can J Public Health. 2003;94(6):463-7.

[27] Association of Public Health Epidemiologists in Ontario [homepage on the Internet]. Toronto, ON: Association of Public Health Epidemiologists in Ontario; c2011 [updated 2012 Feb 8; cited 2012 Jul 15]. Timeline of changes in live birth registration in Ontario. Available from: http://www.apheo.ca/resources/indicators/RHWG_Timeline_of_Changes_in_Birth_Registration.pdf

[28] Public Health Agency of Canada (as n.7 above).

[29] Joseph KH, Kramer MS. Recent trends in Canadian infant mortality rates: effect of changes in registration of live newborns weighing less than 500 g. CAN MED ASSOC J * OCT. 15, 1996; 155 (8). Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1335353/pdf/cmaj00104-0025.pdf

[30] Public Health Agency of Canada (as n.7 above).

[31] Joseph and Kramer (as n.16 above).

[32] Association for Public Health Epidemiologists in Ontario (APHEO (as n.1 above).

[33] Joseph and Kramer (as n.16 above).

	Variations in infant mortality may be due to differences in reporting deaths of infants born at the borderline of viability, therefore mortality rates for infants with a birth weight ≥500 g are also calculated in addition to mortality rates for infants of all birth weights (crude infant mortality).

SELF-REPORTED HEALTH STATUS	
See figures 2.3 and 2.4 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	Percentage of the population aged 12 and older who rated their general health as excellent/very good, good, or fair/poor respectively. A higher percentage of people rating their general health as excellent/very good indicates improving performance.
Relevance / Rationale	Evidence shows that self-reported health status is a strong predictor of mortality, functional decline and other future health outcomes.[34,35,36] The results of a study showed that self-reported health status is a strong and independent predictor of disability.[37] While subjective, this measure has the ability to capture aspects of health such as psycho-social factors, which can be hard to capture clinically. Taking this into account along with the predictive power of this indicator makes it important to measure and report.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Focused on population health
Type:	Outcome
External alignment and other reporting	Statistics Canada Canadian Institute for Health Information (CIHI) The Commonwealth Fund This measure is widely reported and tracked both nationally and internationally.
Accountability	Shared accountability – this potentially goes beyond the health system as factors such as community belonging could have an effect on how a person scores on this measure.
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Respondents who rated their health as:

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[34] Idler EL, Benyamini Y. Self-Rated Health and Mortality: A Review of Twenty-Seven Community Studies. Journal of Health and Social Behavior 1997;38: 21-37.

[35] DeSalvo KB, Bloser N., Reynolds K., He J, Muntner P. Mortality Prediction with a Single General Self-Rated Health Question. Journal of General Internal Medicine 2006;21: 267–275.

[36] Idler EL, Kasl SV. Self-ratings of health: Do they also predict change in functional ability? The Journals of Gerontology Series B: Psychological Sciences and Social Sciences. 1995;50B(6):S344-53

[37] Månsson NO, Råstam L. Self-rated health as a predictor of disability pension and death — A prospective study of middle-aged men. Scandinavian Journal of Public Health. 2001;29(2):151-8

	- Excellent/Very good - Good - Fair/Poor respectively.
	Denominator All respondents aged 12 and above for years of interest.
	Methods Numerator/denominator*100
	Adjustment (risk, age/sex standardization) Directly standardized Standard population: 1991 census population 12 & older Standardized by: Age and sex Age groups are: 12-17, 18-29- 30-39, 40-49, 50-59, 60-69, 70+
Data source / data elements	Provided by the Institute of Clinical and Evaluative Sciences (ICES). The data is sourced from the Canadian Community Health Survey (CCHS).
Timing and frequency of data release	Annually
Levels of comparability	Over time, by Local Health Integration Network (LHIN) region, age, sex, education, immigrant status, income and urban/rural
OTHER INFORMATION	
Limitations / Caveats	As with any survey, data sourced from the CCHS has its own limitations. Behaviours or characteristics may be under-reported or over-reported due to the perceived desirability of the responses presented. In addition, as surveys are not always wholly representative of the population being studied, certain groups may be under-represented or over-represented. Some research points to concerns regarding the comparability of self-rated health status between ethnic groups, and or across other socio-economic and demographic variables. [38,39,40] Therefore, such comparisons should be interpreted with caution.
Comments	Data for the Ontario rates of self-reported health status comes from the Canadian Community Health Survey provided by the Institute for Clinical Evaluative Sciences and is age- and sex-adjusted (Figure 2.3). Similar questions are used in that survey as the Commonwealth Fund Survey, which we used as the data source for international comparisons (Figure 2.4). The slightly different rates reported for Ontario across the provincial and international comparisons can be attributed to different survey samples used in the different data sources.

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[38] Menec VH, Sooshtari S, Lambert P. Ethnic differences in self-rated health among older adults: a cross-sectional and longitudinal analysis. J Aging Health 2007;19(1): 62-86.

[39] Murray CJL, Chen LC (1992) Understanding morbidity change. Population and Development Review 1992;18(3):481-503.

[40] Johansson SR. The health transition: the cultural inflation of morbidity during the decline of mortality. Health Transition Review 1991;1(1):39-68.

	The individual category percentages do not always add up to 100% because of rounding and other technical issues.

<table>
<tr><td colspan="2">PREMATURE AVOIDABLE DEATH RATE

See figures 2.5 and 2.6 in the report Measuring up, 2014</td></tr>
<tr><td colspan="2" align="center">INDICATOR DESCRIPTION</td></tr>
<tr>
<td><i>Indicator description</i></td>
<td>Statistics Canada definition: Age-standardized rate of premature deaths that could potentially have been avoided through all levels of prevention (primary, secondary, tertiary) per 100,000 population. Premature deaths are those of individuals who are younger than age 75.[41]

Additional information
The Canadian Institute for Health Information (CIHI) defines avoidable mortality as untimely deaths among those under age 75 that should not occur in the presence of health care or other public health practices, programs and policy interventions.[42]

Potentially avoidable mortality can be subdivided into:
<u>Mortality from preventable causes</u>[43]: avoidable mortality that includes deaths which could be averted by preventing disease from developing (i.e., primary prevention) or injury from occurring. Includes deaths linked to modifiable factors such as smoking or excessive alcohol consumption or those related to public health interventions such as vaccinations or traffic safety legislation.

<u>Mortality from treatable causes</u>[44]: avoidable mortality that includes premature deaths which could be averted or significantly delayed through secondary and tertiary prevention measures, such as screening, early detection and appropriate treatment.</td>
</tr>
<tr>
<td><i>Relevance / Rationale</i></td>
<td>Premature mortality represents a large burden in Canada and in Ontario. In 2011, more than 91,900 deaths[45,46] occurred before the age of 75, which accounted for</td>
</tr>
</table>

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[41] Statistics Canada. 2013. Health Profile. Statistics Canada Catalogue no. 82-228-XWE. Ottawa. Released December 12, 2013. http://www12.statcan.gc.ca/health-sante/82-228/index.cfm?Lang=E (accessed July 15, 2013).

[42] Canadian Institute for Health Information. Health Indicators, 2012. Ottawa, ON: Canadian Institute for Health Information, 2012 [cited 2013 July 15]. Available from: https://secure.cihi.ca/free_products/health_indicators_2012_en.pdf.

[43] Canadian Institute for Health Information [homepage on the Internet]. Ottawa, ON: Canadian Institute for Health Information; c1996-2013 [cited 2013 July 15]. Health system performance. Effectiveness: 2.14 - Potentially avoidable mortality and mortality from preventable and treatable causes. Available from: http://www.cihi.ca/CIHI-ext-portal/internet/en/document/health+system+performance/indicators/health/indic_def_health_system_13. Section 2.14 Potentially Avoidable Mortality and Mortality From Preventable and Treatable Causes.

[44] Canadian Institute for Health Information (as n.3 above).

[45] Statistics Canada. *Table 102-4312 - Premature and potentially avoidable mortality, Canada, provinces and territories, annual,* CANSIM (database). (accessed: 2014-05-06)

[46] Statistics Canada. *Table 102-0501 - Deaths, by place of residence and place of occurrence, Canada, provinces, territories and outside Canada, annual (number),* CANSIM (database). (accessed: 2014-05-06)

	almost 38% of all deaths in Canada.[47]The numbers are similar in Ontario; in 2011, of the total 89,512 deaths about 33,230 were premature deaths.[48,49] There were 23,881 potentially avoidable deaths in Ontario in 2011, which represents 72% of premature deaths, making it as an important health system performance indicator. Another importance of this indicator is that avoidable mortality has the potential to link population health outcomes to the functioning of the health system since it shows that there are known mechanisms of mortality reduction, making the measure "actionable". The review and understanding of variations in rates of avoidable mortality can identify the gaps as well as disadvantaged subgroups of population that should be targeted for further interventions. This is a population health outcome indicator which is also used as a health system performance measure.
HQO Reporting tool/product	Yearly Report /Common Quality Agenda
Attribute	Focused on population health
Type	Outcome
External alignment and other reporting	Public Health Ontario: Snapshots: Mortality from preventable causes[50] (preventable mortality) Canadian Institute for Health Information: Health Indicators, 2012[51] (avoidable mortality) Ministry of Health and Long-Term Care (MOHLTC) Annual Report of the Chief Medical Officer of Health of Ontario to the Legislative Assembly of Ontario: Maintaining the Gains, Moving the Yardstick: Ontario Health Status Report, 2011[52]
Accountability	Primary Care, Hospital, Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Rate per 100,000 population
Calculation	**Numerator** Number of deaths at age younger than 75 from avoidable/preventable/treatable causes (per 100,000) For the list of avoidable causes, refer to the Canadian Institute for Health Information's document '*List of Conditions for Potentially Avoidable Mortality and Mortality from Preventable and Treatable Causes Indicators*' available at http://indicatorlibrary.cihi.ca/download/attachments/1114195/List%20of%20Conditions%20for%20Potentially%20Avoidable%20Mortality%20and%20Mortality%20From%

[47] Canadian Institute for Health Information (as n.2 above).

[48] Statistics Canada (as n.4 above).

[49] Statistics Canada (as n.5 above).

[50] Public Health Ontario. Snapshots: Mortality from preventable causes. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2013 Mar 12 [cited 2013 Jul 16]. Available from: http://www.publichealthontario.ca/en/DataAndAnalytics/Snapshots/Pages/Mortality-from-Preventable-Causes.aspx

[51] Canadian Institute for Health Information (as n.2 above).

[52] Ontario. Ministry of Health and Long-term Care. Annual Report of the Chief Medical Officer of Health of Ontario to the Legislative Assembly of Ontario: Maintaining the Gains, Moving the Yardstick: Ontario Health Status Report, 2011. Toronto, ON: Queen's Printer for Ontario; 2012 [cited 2013 July 15]. Available from: http://c.ymcdn.com/sites/www.alphaweb.org/resource/collection/822EC60D-0D03-413E-B590-AFE1AA8620A9/cmoh_13.pdf

	20Preventable%20and%20Treatable%20Causes%20Indicators.pdf?version=1&modificationDate=1401294745000&api=v2 Avoidable mortality indicators were developed based on the Australian Potentially Avoidable Deaths indicator and the U.K. Office for National Statistics' list of causes of avoidable mortality, followed by expert review of the diagnosis codes and rationales for including each condition.[53]
	Denominator Total mid-year population younger than age 75 *Exclusion Criteria*: Deaths of non-residents of Canada; deaths of residents of Canada whose province or territory of residence was unknown; deaths for which age of decedent was unknown.
	Methods Numerator/Denominator* × 100,000 (age-adjusted). Counts and rates are based on three consecutive years of death data which were summed and divided by three consecutive years of population data. All rates are per 100,000 population. Causes of death were assigned to preventable and treatable subcategories based on two main mechanisms of mortality reduction: incidence and case-fatality reduction. These subcategories are mutually exclusive. In cases where a prevention/treatment overlap exists, the case was assigned to the preventable category; the exceptions were ischemic heart disease and stroke, where a random half of cases were assigned as preventable and the other half assigned as treatable. However, the mutually exclusive nature of the subcategories does not imply that all cases assigned to the preventable group do not have a treatable component, and vice versa.
	Adjustment (risk, age/sex standardization) Age adjusted (1991 Canadian Census population), five year age groups.
Data source / data elements	Demography division, Statistics Canada, Vital Statistics - Death Database, Statistics Canada

	Additional information:
	 Vital Statistics Mortality
	 • All deaths registered in Ontario in a calendar year.
	 • Data provider:
	   o Office of the Registrar General (ORG)
	 • Data collection method:
	   o Registry
	   o Data are extracted from death certificates and include characteristics of the deceased and cause and location of death[54]

[53] Canadian Institute for Health Information CIHI Indicator library. Accessed on May 7 2014 at http://indicatorlibrary.cihi.ca/display/HSPIL/Potentially+Avoidable+Mortality
[54] Ontario. Ministry of Health and Long-term Care, Health Analytics Branch. Health analyst's toolkit. Toronto, ON: Queen's Printer for Ontario; 2012 [cited 2013 Jul 15]. Available from: http://www.health.gov.on.ca/english/providers/pub/healthanalytics/health_toolkit/health_toolkit.pdf

	o All deaths within Ontario are registered in the office of the division registrar within which the death occurs[55]
	
	Population Estimates
	
	• Estimates of the population of Ontario by single year, sex, and single year of age.
	
	• Data provider*: Statistics Canada
	
	• Data collection method: census
	
	• Data Availability:
	
	    o estimates are based on 1986, 1991, 1996, 2001, 2006
	    o estimates based on 2011 census counts are not yet available
	    o available by province, county, municipality, census division, census subdivision, public health unit (PHU), Local Health Integration Network (LHIN) region, and Sub-LHIN region[56]

Timing and frequency of data release	**Vital Statistics Mortality** • data are released annually Note: Data are usually two to three years behind the current calendar year **Population estimates** • data are released annually Note: population estimates change as estimates are projected in the years before a census and revised following a census.
Levels of comparability	Over time, National, Province/Territory, Region
OTHER INFORMATION	
Limitations / Caveats	• ICD-10 coded data are only available from 2000 onwards. Avoidable mortality rates calculated for previous years may not be comparable. • Diseases included as potentially avoidable vs. treatable may vary across jurisdictions. No internationally agreed-upon definition for this indicator.[57] • As understanding of disease etiology and treatment options evolves, it may be necessary to revisit the classification of a disease as preventable vs. treatable.[58] For example, HIV/AIDS is currently classified as preventable in the Canadian indicator definition, although with the introduction of new therapies in the mid-1990s, HIV/AIDS could be considered highly treatable.[59] • Not all deaths from potentially avoidable causes can actually be avoided (e.g., if diagnosed late, comorbidities exist).[60]

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[55] Association of Public Health Epidemiologists in Ontario [homepage on the Internet]. Toronto, ON: Association of Public Health Epidemiologists in Ontario. Vital Statistics Mortality; c2011 [updated 2012 Oct 31; cited 2013 Jul 15]. Available from: http://www.apheo.ca/index.php?pid=208

[56] Statistics Canada (as n.4 above).

[57] Canadian Institute for Health Information (as n.2 above).

[58] Canadian Institute for Health Information (as n.2 above).

[59] Canadian Institute for Health Information (as n.2 above).

[60] Canadian Institute for Health Information (as n.3 above).

	Potentially avoidable deaths in those older than 75 years of age are not considered[61] The time between the intervention or treatment and the impact on population mortality rates. For instance, the impact of decreased smoking on cardiovascular diseases can take as little as one to two years to manifest itself at the population level, but it can take up to 20 years to see tangible decreases in lung cancer mortality.[62,63]
Comments	As population information is updated from time to time (i.e., preliminary postcensal, updated postcensal, and final postcensal), population estimates at various geographic levels are updated accordingly. So differences may appear in estimates from the same year, depending on release date.

[61] Canadian Institute for Health Information (as n.3 above).
[62] Ministry of Health. Saving Lives: Amenable Mortality in New Zealand, 1996–2006.
Wellington (New Zealand): Ministry of Health; 2010.
[63] Peace, LR. A time correlation between cigarette smoking and lung cancer.
The Statistician 1985;34(4):371–381.

3. Public Health Indicators

SMOKING RATE	
See Figures 3.1 and 3.2 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the proportion of the population aged 12 years and older who report smoking (daily, occasional or always-occasional). Note: The indicator is reporting the rates of cigarette smoking.
Relevance / Rationale	Tobacco use is the most important cause of cancer, responsible for over 85% of deaths from lung cancer, over 70% of deaths from cancers of the mouth, oropharynx and esophagus, and significant proportions of deaths from some others cancers.[64] Tobacco is a leading preventable cause of morbidity and mortality in Canada, causing many diseases, including cancer, heart disease and stroke.[65] In 2010, it was estimated that approximately 16.7% of the Canadian population, or 4.7 million persons, smoked. Approximately half of those smokers are expected to become ill or die from their tobacco use.[66] Smoking is an unhealthy behaviour that takes a great toll on the health system as it is the leading cause of preventable death and illness in Ontario. Smoking has been shown to increase the risk of developing several different types of cancer including oesophageal cancer, lung cancer, bladder cancer, and stomach cancer. In addition, risks for several cardiovascular conditions, respiratory conditions, gastrointestinal condition, and reproductive conditions are all elevated in smokers.[67] The financial burden of smoking is also great. The annual cost to the healthcare system has been estimated to be approximately 1.6 billion dollars annually while the cost of lost productivity has estimated to be more than 4.4 billion dollars annually.[68]
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework

[64] Danaei G, Vander Hoorn S, Lopez AD, Murray CJL, Ezzati M. Causes of cancer in the world: comparative risk assessment of nine behavioural and environmental risk factors. Lancet 2005;366:1784-93.

[65] U.S.Department of Health and Human Services. The Health Consequences of Smoking: a Report of the Surgeon General. Atlanta, Georgia: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2004. http://www.cdc.gov/tobacco/data_statistics/sgr/sgr_2004/chapters.htm

[66] Reid J, Hammond D, and Burkhalter R. Tobacco Use in Canada: Patterns and Trends, 2012 Edition. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo; 2012. http://www.tobaccoreport.ca/2012/TobaccoUseinCanada_2012.pdf

[67] Cancer Care Ontario. Division of Preventive Oncology. Tobacco or Health in Ontario: Tobacco-attributed cancers and deaths over the past 50 years ... and the next 50. Toronto (Canada): Cancer Care Ontario. 2002. Retrieved from: https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=14456

[68] Ministry of Health. Costs of Tobacco Use and Tax Revenues Fact Sheet. Toronto (Canada): Ministry of Health. 2006. Retrieved from: http://www.mhp.gov.on.ca/en/smoke-free/factsheets/Tobacco_Revenue-120208.pdf

Attribute	Population health
Type	Outcome
Accountability	Population Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** The number of respondents who were reported being current smoker. **Type of smoker** **Yes** if SMKDSTY = 1, 2, 3 **No** if SMKDSTY = 4, 5, 6 **Missing** otherwise CCHS 2007, 2008, 2009, 2010, 2011 and 2012 variable SMKDSTY Codes for SMKDSTY*: 1 = DAILY 2 = OCCASIONAL 3 = ALWAYS OCCASION. 4 = FORMER DAILY 5 = FORMER OCCASION. 6 = NEVER SMOKED 96 = NOT APPLICABLE 97 = DON'T KNOW 98 = REFUSAL 99 = NOT STATED *Note: based on questions SMK_01A, SMK_01B, SMK_202, SMK_05D This variable includes lifetime cigarette consumption.
	Denominator All CCHS respondents aged 12 or above and those with chronic disease for 2007, 2008, 2009, 2010, 2011 and 2012. *Exclusion Criteria:* Invalid indication of smoking status/Missing values
	Methods The indicator is measured by dividing the number of respondents reporting that they are currently smoking to the number of survey respondents expressed as a percentage.
	Adjustment (risk, age/sex standardization) The rates are direct standardised to 1991 census population. The rates are standardised by: Age and Sex. Age groups are: 12-19, 20–29, 30–39, 40–49, 50–59, 60–69, 70+ (For education, the age groups will start at 25-29, 30-39, etc.) Sampling weights are used for calculating all estimates.

Data source / data elements	Canadian community health survey (CCHS)
Timing and frequency of data release	CCHS is an annual survey updated by the Institute for Clinical Evaluative Sciences (ICES) once a year; smoking status is part of the core survey
Levels of comparability	Over time and by Local Health Integration Network (LHIN) region for the particular reporting year. Stratifications by age, sex, income, rural/urban, immigrant status and education are available.
OTHER INFORMATION	
Limitations	As this indicator relies on self-reported data, the true rate might in fact be higher. In addition, this survey excludes individuals living on Indian Reserves and on Crown Lands, institutional residents, full-time members of the Canadian Forces, and residents of certain remote regions, which will affect the representativeness of the sample and underestimation of the true rates.
Guidelines, SOPs, Evidence for best practice	Canadian Smoking Cessation Clinical Practice Guideline: http://www.strokebestpractices.ca/wp-content/uploads/2012/04/CAN-ADAPTT2.pdf
Comments	Variation in Ontario rates reported for this indicator may be due to methodological differences, including adjustment methodologies, geographical information or exclusions due to missing information.

RATE OF PHYSICAL INACTIVITY See Figures 3.3, 3.4 and 3.5 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the proportion of the population who report being physically inactive. Inactivity was measured via the PACADPAI variable in the Canadian Community Health Survey (CCHS). Lower rates are better.
Relevance / Rationale	A significant number of Ontarians (46% in 2011) report being physically inactive (expending less than 1.5 kcal/kg/day).[69] This is problematic as a lack of physical activity is an important cause of preventable death worldwide.[70] In addition, inactivity is associated with an increase in the risk of developing or exacerbating several

[69] "A person's average daily energy expenditure is calculated by multiplying the number of times each activity is performed by the average duration of the activity by the energy cost of the activity (kilocalories per kilogram of body weight per hour)." According to Statistics Canada, a person who has an average daily energy expenditure of at least 3 kilocalories per kilogram of body weight per day (KKD) is classified as 'active' (e.g. 60 minutes of walking per day), an average daily expenditure of 1.5-2.9 KKD is considered' moderately active' (e.g. 30 minutes of walking per day), and 'inactive'. Statistics Canada. Health Reports, Vol. 18, No. 3, August 2007. Available at http://www.statcan.gc.ca/pub/82-003-x/2006008/article/phys/10307-eng.pdf

[70] Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJ. Global and regional burden of disease and risk factors, 2001: systematic analysis of population health data. 2006. Lancet 2006;367:1747–57. Available at http://www.ph.ucla.edu/EPI/29107/cmat29107/lancet367_1747_1757_2006.pdf

	chronic conditions including diabetes, high blood pressure and depression.[71] Furthermore, the financial burden of physical inactivity is also great; one study has estimated that inactivity costs Ontario roughly 3.4 billion in direct and indirect costs.[72] "To address this issue the Ontario government aims to increase to 55 per cent by 2010 the number of adults of age who will walk a minimum of 30 minutes daily (or participate in some other equivalent activity). To ensure that progress is being achieved to meet the 2010 target of 55 per cent, an intermediate target has also been identified: that, by 2007, 50 per cent of Ontarians will be classified as active"[73]
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Focused on population health
Type	Context indicator
External alignment and other reporting	Ontario's Action Plan for Health Care Statistics Canada Cancer Care Ontario
Accountability	Population Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Physically inactive Inactivity was measured via the PACADPAI variable in the CCHS. The PACADPAI has 4 codes associated with it 1,2,3, and 9. 1 and 2 codes for "active" and "moderately active", 3 codes for "inactive", while 9 codes for "not stated". If 3 was selected, the individual was included in the numerator as "physically inactive".
	Denominator All respondents aged 12 or older for 2001, 2003, 2005, 2007, 2008, 2009, 2010 and 2011. *Exclusion Criteria:* 1. Age < 12 at the time of interview 2. Invalid indication/Missing values
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) The rates are direct standardised to 1991 census population. The rates are standardised by:

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[71] World Health Organization. Health Topics. Life expectancy. Accessed on July 16, 2013 at http://www.who.int/topics/physical_activity/en/

[72] Katzmarzyk PT. (2011). The economic costs associated with physical inactivity and obesity in Ontario, The Health and Fitness Journal of Canada, Health & Fitness journal of Canada 2011;4(4):31-40.

[73] Ministry of Health. Active2010. Ontario's sport and physical activity strategy. Toronto (Canada): Ministry of Health. 2010. Available at http://www.mhp.gov.on.ca/en/active-living/about/active2010-strategy-e.pdf

	Age and Sex.
	Age groups are:
	12-19, 20–29, 30–39, 40–49, 50–59, 60–69, 70+
	(For education, the age groups will start at 25-29, 30-39, etc.)
	Sampling weights are used for calculating all estimates.
Data source / data elements	Canadian community health survey (CCHS)
Timing and frequency of data release	The CCHS is updated by Institute for Clinical Evaluative Sciences (ICES) once a year.
Levels of comparability	Over time, by province and by Local Health Integration Network (LHIN) region for the particular reporting year. Stratifications by age, sex, income, rural/urban, immigrant status and education are available.
OTHER INFORMATION	
Limitations / Caveats	As this indicator relies on self-reported data, the true rate might in fact be higher or lower. In addition, this survey excludes individuals living on Indian Reserves and on Crown Lands, institutional residents, full-time members of the Canadian Forces, and residents of certain remote regions, which will affect the representativeness of the sample and underestimation of the true rates.
Comments	Variation in Ontario rates reported for this indicator may be due to methodological differences, including adjustment methodologies, geographical information or exclusions due to missing information.

PREVALENCE OF OBESITY (OBESITY RATE) See Figures 3.6 and 3.7 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the proportion of the overall population who report being obese. Obesity is measured using body mass index (BMI), based on self-reported height and weight. For adults 18 years and older, BMI > 30 is considered obese.
Relevance / Rationale	Obesity has reached epidemic proportions in Canada and Ontario. Between 1981 and 2007/09, obesity roughly doubled in most age groups in the adult and youth categories. Given these trends, obesity poses a significant burden to the healthcare system. Obesity increases the risk of a variety of chronic conditions ranging from type 2 diabetes to some forms of cancer and evidence suggests that those who are severely obese have a greater risk of premature mortality.[74] The financial burdens of obesity are also great. According to a study, in 2009, the cost of obesity to Ontario was 4.5 billion dollars resulting from both direct and indirect costs.[75]

[74] Public Health Agency of Canada and the Canadian Institute for Health Information. Obesity in Canada.
http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/oic-oac/assets/pdf/oic-oac-eng.pdf
[75] Katzmarzyk PT. (2011). The economic costs associated with physical inactivity and obesity in Ontario, The Health and Fitness Journal of Canada, Health & Fitness journal of Canada 2011;4(4):31-40.

HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Population health
Type	Context indicator
External alignment and other reporting	Ontario's Action Plan for Health Care Statistics Canada Cancer Care Ontario
Accountability	Population Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of respondents with a BMI > 30. BMI is defined as weight in kilograms divided by height in meters squared. CCHS, 2011 variable HWTDISW Codes for HWTDISW (BMI class): 1 = Underweight: BMI < 18.50 = underweight 2 = Normal weight: 18.50 <= BMI < 25 = normal 3 = Overweight: 25<= BMI < 30 = overweight 4 = Obese – class 1: 30 <= BMI < 35 = obese (class I) 5 = Obese – class 2: 35 <= BMI < 40 = obese (class II) 6 = Obese – class 3: 40 <= BMI = obese (class III) 96 = Not applicable 99 = Not stated Obese if: Yes if HWTDISW = 4, 5, or 6 No if HWTDISW = 1, 2, or 3 Missing otherwise
	Denominator All Canadian Community Heath Survey (CCHS) respondents aged 18 or older Exclude: 1.　　Invalid BMI 2.　　Women who are pregnant Invalid indication/Missing values
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) The rates are direct standardised to 1991 census population.

	The rates are standardised by:
	Age and Sex.
	Age groups are:
	12-19, 20–29, 30–39, 40–49, 50–59, 60–69, 70+
	Sampling weights are used for calculating all estimates.
Data source / data elements	Canadian Community Heath Survey (CCHS)
Timing and frequency of data release	CCHS is updated annually and provided by the Institute for Clinical Evaluative Sciences (ICES)
Levels of comparability	Over time and by Local Health Integration Network (LHIN) region for the particular reporting year. Stratifications by age, sex, income, rural/urban, immigrant status and education are available.
OTHER INFORMATION	
Limitations / Caveats	This indicator has limitations with both, its use of the BMI to assess obesity, as well with how the data are collected. As this indicator relies on self-reported data (height and weight) the true rate might in fact be higher or lower. Differential musculature or bone bass among individuals, as well as across ethnocultural groups and sexes does not factor into how the BMI is calculated.[76] Therefore, this indicator does not capture the true rate of obesity, rather a close approximation of it. The results shown here are based on height and weight as reported by survey respondents. Comparisons of self-reported height and weight with actual measurements have shown that women are inclined to underestimate their weight, while men tend to overestimate their height. Moreover, under-reporting of weight increases proportionately with. The report found that the obesity rate was 7.4 percentage points higher and the overweight rate was 1.9 percentage points higher when based on measured height and weight rather than self-reported data. Measured height and weight raises the actual proportion of obese adults by an estimated 6 to 9 percentage points above than the 18%, which is based on self-reports.[77]
Guidelines, SOPs, Evidence for best practice	2006 Canadian clinical practice guidelines on the management and prevention of obesity in adults and children[78]

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[76] Health Canada. Canadian Guidelines for Body Weight Classification in Adults. Ottawa (Canada): Health Canada. 2003.

[77] Shields M, Connor Gorber S, Tremblay MS. Estimates of obesity based on self-report versus direct measures. Health Rep. 2008 Jun;19(2):61-76

[78] Lau DCW, Douketis JD, Morrison KM, et al. for members of the Obesity Canada Clinical Practice Guidelines Expert Panel.2006 Canadian clinical practice guidelines on the management and prevention of obesity in adults and children. CMAJ 2007;176(8 suppl):Online-1–117. Available at www.cmaj.ca/cgi/content/full/176/8/S1/DC1

Comments	The variable (HWTDCOL) classifies children aged 12 to 17 (except female respondents aged 15 to 17 who were pregnant or did not answer the pregnancy question) as "obese", "overweight" or "neither obese nor overweight" according to the age-and-sex specific BMI cut-off points as defined by Cole et al. The Cole cut-off points are based on pooled international data (Brazil,
	Great Britain, Hong Kong, Netherlands, Singapore, and United States) for BMI and linked to the widely internationally accepted adult BMI cut-off points of 25 (overweight) and 30 (obese). Respondents who do not fall within the categories of "Obese" or "Overweight" (as defined by Cole et al.) have been classified by CCHS as "neither obese nor overweight". http://www.bmj.com/content/320/7244/1240.pdf%2Bhtml
	Variation in Ontario rates reported for this indicator may be the result of methodological, geographical information or exclusions dues to missing information.

TWO-DOSE MEASLES IMMUNIZATION COVERAGE FOR SEVEN-YEAR-OLDS
See Figures 3.8 and 3.9 in the report *Measuring Up*, 2014
INDICATOR DESCRIPTION

Indicator description	This indicator provides the proportion of 7-year-olds who have received 2 valid doses of measles-containing vaccine at the conclusion of the school year (June) for that year's age cohort (i.e. for the 2012-13 school year, children who have turned 7 years by December 31, 2012). Valid doses refer to doses of measles-containing vaccine that were given in accordance with the following guidelines: the first dose delivered on or after the first birthday and with a minimum of 4-6 weeks between doses, depending on the vaccine product used.

Direction of improvement: Increase (or stable if immunization coverage target has been achieved).

Frequency of reporting: reported annually at both a provincial level and at a Public Health Unit (PHU)-region level within Ontario in the annual immunization report for school pupils[79]. This report has been published by Public Health Ontario (PHO) since 2012, and by the Ontario Ministry of Health and Long-Term Care (MOHLTC) prior to 2012. The Public Health Agency of Canada (PHAC) assesses immunization coverage, including 2 dose measles immunization coverage at ages 2, 7 and 17, through the Childhood National Immunization Coverage Survey (CNICS), which is typically conducted every two years. The most recent data from the NICS that is publicly-available is from the 2011 survey. Data from the CNICS are reported at the national level only, but offer a point of comparison with Ontario data.

Notes:
• The annual immunization coverage report for school pupils, a surveillance report produced by PHO is disseminated to Ontario Medical Officers of Health, but is not made publicly available. Instead, a summary which includes provincial-level |

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[79] Ontario Agency for Health Protection and Promotion (Public Health Ontario). Immunization coverage report for school pupils: 2012-13 school year. Toronto, ON: Queen's Printer for Ontario; 2014. Available at http://www.publichealthontario.ca/en/eRepository/Immunization_coverage_report_2012-13.pdf

	immunization coverage estimates is published within a surveillance report that is publicly accessible through Public Health Ontario's website. For the first time, PHO will be preparing a publicly accessible version of the document for its release of the 2012-13 coverage report. This is planned for dissemination in August 2014. The public-facing version of the document will contain provincial-level coverage estimates only (i.e. Public Health Unit-specific estimates will be removed).
	• The immunization database that supports the assessment of immunization coverage among school pupils in Ontario is currently in a state of transition. Since the early 1990s, this data has been captured in the Immunization Records Information System (IRIS) which will be replaced by the immunization module within the Pan-Canadian Communicable Disease Surveillance and Management Information Technology application (Panorama), over the course of 2013 and 2014 by all 36 PHUs in Ontario.
Relevance / Rationale	Measles is the most communicable vaccine-preventable disease. As a consequence, it requires very high levels of immunity within the population to effectively prevent outbreaks. The level at which measles vaccine coverage is adequate to prevent transmission of measles virus is between 96% and 99%. Indigenous measles transmission was declared to be eliminated from the Region of the Americas in 2002. In order to maintain Canada's elimination status, high immunization coverage is essential to prevent the transmission of measles when importations of disease from measles-endemic countries occur. Ontario has strong legislation to support high immunization coverage against measles. Under the Immunization of School Pupils Act, Ontario students must provide either appropriate documentation of immunization against six designated disease, which include measles, or provide a statement of exemption (religious/conscientious or medical), or else risk school suspension.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Focused on population health
Type	Process and Core indicator
External alignment and other reporting	Public Health Ontario: Summary of the immunization coverage report for school pupils, 2010/11 school year. Available at: http://www.publichealthontario.ca/en/DataAndAnalytics/Documents/2012_November _PHO_Monthly_Report.pdf Public Health Agency of Canada (PHAC) World Health Organisation (WHO)
Accountability	Primary Care, Ministry of Health and Long-Term Care, Public health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** The number of children who have received 2 valid doses of measles-containing vaccine by the end of June of the school year under assessment (i.e. June 30, 2013 for the 2012-13 school year). The seven-year-old birth cohort is defined as the Ontario birth cohort of children who will have turned 7 years of age by December 31st of the school year under assessment (i.e. December 31, 2012 for the 2012-2013 school year).
	Denominator

	The number of 7 year-old-children within the population of Ontario in the year in which immunization coverage is assessed. Note: the source of the denominator data varies, based on the data source and/or methodology used for the calculation of immunization coverage. For the IRIS data provided on May 7, 2014 the data source for the denominator comes from data imported into IRIS from PHUs. This includes uploading of school board data, in addition to manual data entry of private school populations.
	Methods Numerator/Denominator* 100

Data source / data elements	I. Immunization Records Information System (IRIS)
	• Data custodian: Individual Medical Officers of Health (MOHs) for each of Ontario's 36 PHUs
	    o Immunization coverage reports, which include a 2 dose measles immunization coverage report for 7-year-olds, are made available to PHO in the form of an aggregate report containing a numerator and denominator only. These aggregate reports are provided upon request to PHO, acting as an agent of the MOHLTC to conduct the transferred surveillance function of immunization coverage assessment.
	• Data collection method:
	    o Under the ISPA, Ontario MOHs must maintain a record of immunization for all school pupils within their jurisdiction and conduct an assessment of immunization at least annually. As part of this process, immunization records are collected at the time of school enrollment and entered into IRIS. These records form the basis for the numerator.
	    o Each PHU receives student demographic information for schools located within its geographic boundaries, from publicly-funded school boards and independent schools, either electronically or manually and this forms the basis for the denominator used for the assessment of immunization coverage in IRIS.
	• Data availability within the IRIS application
	    o Theoretically starting in 1992 to August 2013.
	    o Notes: Data on students aged 18 years and older is archived and is not available for in-application reports. PHU vary with respect to data archiving practices.
	    o Ontario Public Health Units will cease their use of IRIS over the period of August 2013 to late 2014. All data within IRIS will be migrated to the Panorama application.
	• Level of aggregation
	    o The smallest level of aggregation is at the PHU-level. PHU-specific estimates can be aggregated to provide provincial estimates or to PH region estimates. Note: PHO cannot provider public health unit level data without the consent of all 36 PHUs
	
	III. Immunization Module within the Panorama application
	• Data custodian: Individual Medical Officers of Health for each of Ontario's 36 PHUs
	    o In-application reports within the Panorama application are anticipated to include a two dose measles immunization coverage estimate, for select birth years (birth cohorts). This requires confirmation as the business rules for the generation of reports within the Panorama application are still to be confirmed. If this report is not confirmed, than an alternative

	approach to assessing immunization coverage using data exported from the Panorama application will be pursued.
	• Data collection method:
	○ The data collection method is unchanged (please see notes above under IRIS data source)
	• Data availability within the Panorama application
	○ Ontario Public Health Units will implement the Panorama immunization module over the period of August 2013 to August 2014. All IRIS data will be migrated to the Panorama application. However, the staggered implementation may pose some challenges with respect to the continuity of coverage assessment activities and comparability of estimates between IRIS and Panorama.
	• Level of aggregation
	○ Using in-application reports, the smallest level of aggregation is likely to be at the school or school-board level, but PHO does not plan to publicly report data at this level.
	○ Public health region geographical boundaries often do not align with Local Health Integration Network (LHIN) region boundaries. If data is migrated out of the Panorama application for subsequent analysis, this would permit additional analyses where coverage could be estimated and reported by additional classifications (i.e. By LHIN region, urban/rural setting, etc.).
Timing and frequency of data release	Data are entered on a continual basis into the IT system (IRIS or in the future, Panorama) as immunization information is received. Immunization coverage assessment is currently conducted on an annual basis by PHO.
Levels of comparability	PHU-specific estimates can be compared. Temporal trends in provincial immunization coverage can be reviewed, although the change in the IT system from IRIS to Panorama may create challenges in continuity and comparability Inter-provincial comparisons are possible, where immunization coverage is publicly-reported. International comparisons are also possible, although the methodology for coverage assessment (i.e. survey, registry, administrative billing data) will vary.
Targets and/or Benchmarks	The Canadian target is to "achieve and maintain measles immunization with a second dose by the seventh birthday in 99% of children by the year 2000". The Standards, Practice and Accountability (SPA) branch of the MOHLTC has not identified a measles-containing vaccine coverage target as part of its accountability agreements with PHUs.
OTHER INFORMATION	
Limitations / Caveats	As noted above, the transition from IRIS to Panorama may pose challenges with respect to the continuity of coverage assessment
Guidelines, SOPs, Evidence for best practice	Attaining high 2 dose measles vaccine coverage is an essential component of Canada's measles control strategy. National standards for the reporting of immunization coverage, includes assessment of immunization coverage at age 7-years-of-age.

	The World Health Organization (WHO) recommends that for countries aiming for measles elimination, that $\geq$95% immunization coverage with two doses of measles-containing vaccine should be achieved.

ONE-DOSE MENINGOCOCCAL IMMUNIZATION COVERAGE FOR SCHOOL CHILDREN

INDICATOR DESCRIPTION	
Indicator description	This indicator provides an estimate of the proportion of 13-year-olds who have received 1 dose of the quadrivalent meningococcal conjugate (MCV4) vaccine as part of Ontario's school-based vaccination program for MCV4 delivered in grade 7, at the conclusion of the school year. The school-based program is implemented by Ontario Public Health Units (PHUs).
	Direction of Improvement: Increase (or stable if immunization coverage target has been achieved).
	Frequency of reporting: reported annually at both a provincial level and at a PHU-specific level within Ontario in the annual immunization report for school pupils.[80] This report has been published by Public Health Ontario (PHO) since 2012, and by the Ontario Ministry of Health and Long-Term Care (MOHLTC) prior to 2012. Of note, the 2010-11 school year report published by PHO in 2012 did not include MCV4 coverage because of data quality concerns (see 'Data source' section below).
	Notes:
	The immunization coverage report for school pupils, an annual surveillance report produced by PHO is disseminated to Ontario Medical Officers of Health, but is not made publicly available. Instead, a summary which includes provincial-level immunization coverage estimates is published within a surveillance report that is publicly accessible through Public Health Ontario's website. As noted above, the first report produced by PHO did not include an assessment of MCV4 vaccine coverage because of data quality concerns (see 'Data source' section below). For the first time, PHO will be preparing a publicly accessible version of the document for its release of the 2012-13 coverage report. This is planned for dissemination in August 2014. The public-facing version of the document will contain provincial-level coverage estimates only (i.e. Public Health Unit-specific estimates will be removed).
	The immunization database that supports the assessment of immunization coverage among school pupils in Ontario is currently in a state of transition. Since the early 1990s, this data has been captured in the Immunization Records Information System (IRIS) which will be replaced by the immunization module within the Pan-Canadian Communicable Disease Surveillance and Management Information Technology application (Panorama), over the course of 2013 and 2014 by all 36 PHUs in Ontario.
Relevance / Rationale	Invasive meningococcal disease (IMD) typically presents as an acute febrile illness, which rapidly progresses to include features of meningitis and, or septicemia. Mortality among IMD cases is approximately 10% and 10 to 20% of survivors will

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[80] Ontario Agency for Health Protection and Promotion (Public Health Ontario). Immunization coverage report for school pupils: 2012-13 school year. Toronto, ON: Queen's Printer for Ontario; 2014. Available at http://www.publichealthontario.ca/en/eRepository/Immunization_coverage_report_2012-13.pdf

have long term complications which can include neurologic disabilities, hearing impairment and amputations. There are various serogroups of Neisseria meningitidis, the etiologic agent of IMD. Most, but not all, are vaccine-preventable.

Ontario has two vaccination programs for IMD: a toddler-based program which involves 1 dose of meningococcal C conjugate vaccine at 12 months of age and an adolescent program which delivers one dose of MCV4 to grade 7 students. Ontario's school-based IMD program was first implemented in 2005 using the meningococcal C conjugate vaccine and since 2009 has used MCV4.

The requirement for only a single dose of MCV4 vaccine makes the assessment of immunization coverage more straightforward, as compared to school-based programs requiring multiple doses (HPV and Hepatitis B), and those with a single-sex focus (HPV).

HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Focused on population health
Type	Core and Process indicator
External alignment and other reporting	Limited given variability in IMD vaccination strategies within Canada and internationally Public Health Ontario: Summary of the immunization coverage report for school pupils, 2010/11 school year. (Note-MCV4 vaccine coverage was not reported for 2010/11 school year) Available at: http://www.publichealthontario.ca/en/DataAndAnalytics/Documents/2012_November_PHO_Monthly_Report.pdf
Accountability	Primary Care, Ministry of Health and Long-Term Care, Public Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Proportion
Calculation	***Numerator*** As assessed using the in-application coverage reports of the IRIS application, the numerator is defined as follows: the number of Ontario students who are not overdue for meningococcal vaccine by the end of June of the school year under assessment (i.e. June 30, 2013 for the 2012-13 school year). Students who are not overdue include students who have received 1 valid dose of meningococcal conjugate vaccine as well as students who have received 0 doses of meningococcal conjugate vaccine but who have not yet reached the age of 13, the age IRIS uses to identify students as being overdue for this vaccine program. A valid dose is defined within the current system of IRIS as having been administered after the age of 11 years. As the data in IRIS do not contain reliable grade information, the numerator is assessed among the birth cohort of Ontario students which will capture the majority of grade 7 students. These are students who are 12 or will have turned 12 years of age by December 31st of the academic year assessed (i.e. December 31, 2012 for the 2012-2013 school year). ***Denominator*** The number of 13 year-olds enrolled in a public or private school in the province of Ontario, in the year in which immunization coverage is assessed. Note: the source of the denominator data varies, based on the data source and, or methodology used for the calculation of immunization coverage when making

	comparisons across data systems, provinces, and countries. For the IRIS data provided on May 7, 2014 the data source for the denominator comes from data imported into IRIS from PHUs. This includes uploading of school board data, in addition to manual data entry of private school populations.
	Methods
	Numerator/Denominator*100
	Adjustment (risk, age/sex standardization)
	No adjustment is currently conducted
Data source / data elements	Immunization Records Information System (IRIS)
	Data custodian: Individual Medical Officers of Health (MOHs) for each of Ontario's 36 PHUs
	Immunization coverage reports, which include an MCV4 vaccine coverage report, are made available to PHO in the form of an aggregate report containing a numerator and denominator only. These aggregate reports are provided upon request to PHO, acting as an agent of the MOHLTC to conduct the transferred surveillance function of immunization coverage assessment.
	There are some limitations with the IRIS system with regards to the assessment of immunization coverage for MCV4, as the system cannot differentiate between meningococcal C conjugate and MCV4. However, recent validation work using the number of publicly-funded MCV4 doses distributed to Ontario PHUs, suggests that the report in IRIS provides a reasonable approximation of MCV4 coverage.
	Data collection method:
	Under the ISPA Ontario MOHs must maintain a record of immunization for all school pupils within their jurisdiction and conduct an assessment of immunization at least annually. As part of this process, immunization records are collected at the time of school enrollment and entered into IRIS. These records form the basis for the numerator.
	Each PHU receives student demographic information for schools located within its geographic boundaries, from publicly-funded school boards and independent schools, either electronically or manually and this forms the basis for the denominator used for the assessment of immunization coverage in IRIS.
	Data availability within the IRIS application
	The adolescent and toddler meningococcal immunization programs began in Ontario in 2005 year. Data availability in IRIS for meningococcal vaccine programs extend from 2005 to August 2013 for all 36 PHUs.
	Over the course of August 2013 to late 2014, all immunization data within IRIS will be migrated to the Panorama application.
	Level of aggregation
	The smallest level of aggregation is at the PHU-level. PHU-specific estimates can be aggregated to provide provincial estimates
	Immunization Module within the Panorama application
	Data custodian: Individual Medical Officers of Health for each of Ontario's 36 PHUs
	In-application reports within the Panorama application are anticipated to include a one dose MCV4 coverage estimate, for select birth years (birth cohorts). This requires confirmation as the business rules for the generation of reports within the Panorama application are still to be confirmed. If this report is not confirmed, an alternative approach to assessing immunization coverage using data exported from the Panorama application will be pursued.
	Data collection method:

	The data collection method is unchanged (please see notes above under IRIS data source)
	Data availability within the Panorama application
	Ontario Public Health Units will implement the Panorama immunization module over the period of August 2013 to August 2014. All IRIS data will be migrated to the Panorama application. However, the staggered implementation may pose some challenges with respect to the continuity of coverage assessment activities and comparability of coverage estimates between the IRIS and Panorama systems.
	Level of aggregation
	Using in-application reports, the smallest level of aggregation is likely to be at the school or school-board level, but PHO does not plan to publicly report data at this level.
	If data is migrated out of the Panorama application for subsequent analysis, this would permit additional analyses where coverage could be estimated and reported by additional classifications (i.e. By Local Health Integration Network (LHIN) region, urban/rural setting, etc.)
Timing and frequency of data release	Data are entered on a continual basis into the IT system (IRIS or in the future, Panorama) as immunization information is received.
	Immunization coverage assessment is currently conducted on an annual basis by PHO.
Levels of comparability	PHU-specific estimates can be compared
	Temporal trends in provincial immunization coverage can be reviewed, although the change in the IT system from IRIS to Panorama may create challenges in continuity and comparability. Furthermore, temporal trends must also be interpreted in light of the change in the vaccine product used in Ontario for the school-based IMD program.
	Inter-provincial comparisons are possible, where this immunization coverage is publicly-reported and where the MCV4 product is also used
	International comparisons are limited by variations in the IMD immunization strategy (target age group, and vaccine product used)
Targets and/or Benchmarks	The Canadian coverage target for meningococcal C conjugate vaccine was set at 90% to be achieved by 2012. A target specific to MCV4 has not been expressed as many provinces and territories continue to use meningococcal C conjugate for their adolescent programs.
	The Standards, Practice and Accountability (SPA) branch of the MOHLTC has identified MCV4 vaccine coverage as part of its accountability agreements with PHUs.
Target source	Public Health Agency of Canada (PHAC)
OTHER INFORMATION	
Limitations / Caveats	As noted above, the transition from IRIS to Panorama may pose challenges with respect to the continuity of coverage assessment.
Guidelines, SOPs, Evidence for best practice	Canada's National Advisory Committee's recommendations on the vaccines to protect against IMD are found within the Canadian Immunization Guide and its Advisory Committee Statements.

PERCENTAGE OF INFLUENZA IMMUNIZATION AMONG SURVEY RESPONDENTS AGED 65 AND OLDER

See Figures 3.10 and 3.11 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Percent of the population aged 65 and older reporting having received a flu shot in the past year.
Relevance / Rationale	Seasonal influenza, or the flu, is a contagious disease that causes annual outbreaks associated with significant illness,[81] work absenteeism,[82] hospitalizations,[83,84] and death[85] in Canada. According to surveillance data collected by the Public Health Agency of Canada[86], there were more than 5,186 influenza related hospitalizations and 351 deaths in Canada in the 2013/14 flu season (based on provinces and territories that reported). People over the age of 65 are at greater risk of complications from the flu,[87] therefore it is important that this vulnerable group be vaccinated against the flu.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework Quality Improvement Plans (QIPs)
Attribute	Focused on population health
Type	Outcome
External alignment and other reporting	Statistics Canada Multi-Sectoral Accountability Agreements (M-SAA) Association of Public Health Epidemiologists in Ontario(APHEO)
Accountability	Primary Care, Long-Term Care, Public Health
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Survey respondents aged 65 and older
Calculation	**Numerator** Number of people aged 65 years and older who reported having a flu shot in the past year.
	Denominator Total number of respondents aged 65 years and older

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[81] Schanzer DL, Langley JM, Tam TWS. Co-morbidities associated with influenza-attributed mortality, 1994–2000, Canada. Vaccine 2008; 26:4697–4703.

[82] Schanzer D, Zheng H, Gilmore J. Statistical estimates of absenteeism attributable to influenza from the Labour Force Survey. BMC Infect Dis 2011; 11:1–9.

[83] Schanzer DL, Langley JM, Tam TWS. Role of influenza and other respiratory viruses in admissions of adults to Canadian hospitals. Influenza Other Respir Viruses 2008; 2:1–8.

[84] Schanzer DL, A. McGeer, K. Morris. Statistical estimates of respiratory admissions attributable to seasonal and pandemic influenza for Canada. Influenza and Other Respiratory Viruses 7(4): 799-808.

[85] Kwong JC, Stukel TA, Lim J et al. The effect of universal influenza immunization on mortality and health care use. PLoS Med 2008; 5:e211.

[86] Reported Influenza Hospitalizations and Deaths in Canada: 2009-10 to 2013-14 (data to June 28, 2014) http://www.phac-aspc.gc.ca/influenza/flu-stat-eng.php

[87] National Advisory Committee on Immunization (NACI). Statement on seasonal influenza vaccine for 2013-2014. Can Commun Dis Rep. 2013;39(ACS-4):1-37.). Available from: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/13vol39/acs-dcc-4/assets/pdf/13vol39-acs-dcc4-eng.pdf

	Methods Number of people aged 65 years and older who had a flu shot in past year divided by the number of respondents aged 65 years and older

	Adjustment (risk, age/sex standardization)
	 Direct standardized to 1991 Census population for 65 and older by
	   age and sex
	   Age groups are:
	 65–69, 70-79, 80+

Data source / data elements	**Canadian Community Health Survey (CCHS)** **When did you have your last flu shot?** CCHS 2007, 2008, 2009, 2010, 2011, 2012 variable FLU_162 **Yes if FLU_162 = 1** **No if FLU_162 = 2, 3** **Otherwise missing** Codes for FLU_162 1 = Less than 1 year ago 2 = 1 to < 2 years ago 3 = 2 years ago or more 6 = Not applicable (i.e. FLU_160 = No) 7 = Don't know 8 = Refusal 9 = Not stated
Timing and frequency of data release	**CCHS** • "Flu shot" module is core content (i.e., collected by all health regions in Canada) • ongoing telephone survey data released annually
Levels of comparability	Over time, by Local Health Integration Network (LHIN) region, age groups, sex, education attainment, immigration status, income, rural/urban
Targets and/or Benchmarks	Public Health Agency of Canada: 80% for seniors ≥65 and adults <65 years of age with high risk conditions[88]
Target Source	Public Health Agency of Canada
OTHER INFORMATION	
Limitations	• Self-reported survey data • Surveys only those seniors that are community-dwelling, limiting representativeness Data is not from a population registry
Guidelines, SOPs, Evidence for best practice	PHAC: Evidence-based recommendations for immunization - Methods of the National Advisory Committee on Immunization.[89]

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[88] National immunization coverage goals in Canada. http://www.phac-aspc.gc.ca/im/nics-enva/icc-cvc-eng.php
[89] http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/acs-1/index-eng.php

Comments	Indicator can be measured in the following versions: • Influenza vaccination coverage for those 65 years and older with no chronic condition • Influenza vaccination coverage for those 65 years and older with a chronic condition Variation in Ontario rates reported for this indicator may be due to geographical distributions.

4. Primary Care Indicators

PERCENTAGE OF SURVEY RESPONDENTS WHO REPORT HAVING A PRIMARY CARE PROVIDER	
See Figure 4.1 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator reports the percentage of patients in Ontario who have a family doctor, a general practitioner or GP, family physician, nurse practitioner, or family medicine resident that they see for regular check-ups and when they are sick. A higher value on this indicator represents improvement.
Relevance / Rationale	"A family health care provider can offer you and your family ongoing care such as family health advice, vaccinations, examinations and prescriptions. They also have a complete understanding of your health history."[90] Primary care physician supply is associated with improved health outcomes[91] and lack of access to a primary care physician may lead to overcrowding in emergency departments and inappropriate use of health care resources.[92] This is a system level priority.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Access
Type	Process indicator
Accountability	Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of patients surveyed who answer "yes" to the following question on the Health Care Experience Survey: Do you have a family doctor, a general practitioner or GP, family physician, nurse practitioner, or family medicine resident that you see for regular check-ups, when you are sick and so on?
	Denominator Total number of respondents to the survey question excluding those who answered "don't know" or refused to answer.
	Methods Numerator/Denominator*100 Health Care Experience Survey is administered via telephone to randomly selected Ontarians aged 16 years or older.

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[90] Ontario Ministry of Health and Long-Term Care
http://www.health.gov.on.ca/en/public/programs/hco/options/family.aspx
[91] Macinko J et al. Quantifying the health benefits of primary care physician supply in the United States. 2007
[92] Grumbach K et al. Primary Care and Public Emergency Department Overcrowding. 1993

	Adjustment (risk, age/sex standardization)
	Weighted to account for the design characteristics of the survey and post-stratified by age and sex to reflect the Ontario population.
Data source / data elements	The Primary Care Access Survey (PCAS), which was discontinued in September 2011, was in operation since 2006.
	Health Care Experience Survey results provided by the Ministry of Health and Long-Term Care.
	The data was collected by the Institute for Social Research (ISR) from January, 2006 to September, 2010 and by R.A. Malatest from October, 2010 to September, 2011.
Timing and frequency of data release	Quarterly
Levels of comparability	This is available at the provincial level (can be broken down by age group and sex); comparable over time and Local Health Integration Network (LHIN) regions from 2006 to 2013. However, some LHIN regions' results (South West, Waterloo Wellington, Hamilton Niagara Haldimand Brant, Central West, Mississauga Halton, South East, North Simcoe Muskoka) should be interpreted with caution as there are small sample sizes.
OTHER INFORMATION	
Limitations / Caveats	• Data for 2010 is only available from January 2010 to September 2010 due to the change in vendor.
	• Data is not available for 2011 and 2012 due to the change in vendor.
	• Only patients aged 16 years and older can complete the survey.
	• From January to March 2006, adults 18 and older could participate.
	• The estimates should be interpreted with caution due to small sample sizes and high variability for the following LHIN regions in 2013: South West, Waterloo Wellington, HNHB, Central West, Mississauga Halton, South East, and North Simcoe Muskoka.
	• LHIN region level results reflect where the patient lives but may not reflect where their primary care provider is located.
	• "Randomness" of the sample may depend on who agreed to participate versus who did not.
	• People living in institutions, in households without telephones, and those with invalid/missing household addresses in the Registered Persons Database (RPDB) are excluded from the sampling frame. The RPDB covers approximately 93% of the Ontario population age 16 and older.
	• Response rates for the survey for each quarter in 2013 ranged from 53% to 56%.
	• 14 communities of interest to the Ministry are over-sampled every quarter.
	Exclusions for completing the survey: if the respondent was unable to speak English or French; the respondent was not healthy enough (physically or mentally) to complete the interview; the respondent was away; they had a non-residential number; or an out-of-service number.

PERCENTAGE OF SURVEY RESPONDENTS WHO WERE ABLE TO SEE THEIR PRIMARY CARE PROVIDER ON THE SAME DAY OR NEXT DAY, WHEN THEY WERE SICK	
See Figures 4.2 and 4.3 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator reports the percentage of the Ontario population who are able to see their primary care provider on the same day or the next day, without going to the emergency department, when they were sick. A higher value on this indicator represents improvement.
Relevance / Rationale	Timely access to primary care is important for preventing illness from worsening and crowding in emergency departments. Inappropriate use of emergency departments for situations that could be effectively treated in an alternate care setting can contribute to increased costs to the healthcare system. It is important to note that having a primary care provider is distinct from being able to access that provider in a timely manner when a patient is sick.[93]
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework Quality Improvement Plans (QIPs)
Attribute	Access
Type	Process
External alignment and other reporting	Potential alignment with Health Links Commonwealth Fund International Health Policy Survey Schoen, Cathy et al. Primary Care And Health System Performance: Adults' Experiences In Five Countries. 2004.[94] (Reports at Canada level, not at provincial or LHIN region level.)
Accountability	Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Those who answered "same day" or "next day" to the following question: How many days did it take from when you first tried to see your (name type of provider) to when you actually saw him/her or someone else in their office?
	Denominator Respondents who answered "yes" to the following question: Not counting yearly check-ups or monitoring of an ongoing health issue, in the last 12 months did you want to see your [name type of provider] because you were sick or were concerned that you had a health problem? *AND*

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[93] Rust G et al. Practical Barriers to Timely Primary Care Access: Impact on Adult Use of Emergency Department Services. 2008.

[94] Schoen C, Osborn R, Huynh PT, Doty M., Davis K, Zapert K, PeughJ. Primary care and health system performance: adults' experiences in five countries. Health Aff. 2004 Jul-Dec; Suppl Web Exclusives: W4-487-503.

	Respondents who answered "yes saw own doctor", "yes saw someone else in office", or "saw both [fill fd_type] and someone else (and others)" to the following question: Did you actually see your [fill fd_type] or someone else in their office?
	Methods Numerator/Denominator*100 Health Care Experience Survey is administered via telephone to randomly selected Ontarians aged 16 years or older.
	Adjustment (risk, age/sex standardization) Weighted to reflect the design characteristics of the study and post-stratified by age and sex to reflect the Ontario population.
Data source / data elements	Health Care Experience Survey (formerly Primary Care Access Survey) is a quarterly survey of a random sample of the Ontario population aged 16 and older. Data were collected by the Institute for Social Research from January, 2006 to September, 2010 and by R.A. Malatest from October, 2010 to September, 2011 on behalf of the Ministry of Health and Long-Term Care. Data provided by the Ministry of Health and Long-Term Care.
Timing and frequency of data release	Quarterly
Levels of comparability	This is available at the provincial level (can be broken down by age group and sex); comparable over time and across LHIN regions from 2007 to 2013. Similar questions are used in the Commonwealth Fund Survey as in the provincial survey, allowing for pan-Canadian and international comparisons. The different rates reported for Ontario across the provincial and international comparisons for this indicator may be attributed to different survey samples used in the different data sources.
OTHER INFORMATION	
Limitations / Caveats	- Data for 2010 is only available from January 2010 to September 2010 due to the change in vendor. - Data is not available for 2011 and 2012 due to the change in vendor. - Only patients aged 16 years and older can complete the survey. - Data is not releasable for 2006 due to small sample size. "Randomness" of the sample may depend on who agreed to participate versus who did not. - People living in institutions, in households without telephones, and those with invalid/missing household addresses in the Registered Persons Database (RPDB) are excluded from the sampling frame. The RPDB covers approximately 93% of the Ontario population age 16 and older. - Response rates for the survey in 2013 ranged from 53% to 56%. 14 communities of interest to the Ministry are over-sampled every quarter. Exclusions for completing the survey: if the respondent was unable to speak English or French; the respondent was not healthy enough (physically or mentally) to complete the interview; the respondent was away; they had a non-residential number; or an out-of-service number.

PERCENTAGE OF SURVEY RESPONDENTS WHO REPORT THAT GETTING ACCESS TO CARE ON AN EVENING OR WEEKEND, WITHOUT GOING TO THE EMERGENCY DEPARTMENT, WAS VERY DIFFICULT OR SOMEWHAT DIFFICULT

See Figures 4.4 and 4.5 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator reports the percentage of patients in Ontario who reported that getting access to medical care, without going to the emergency department, in the evening, on a weekend, or on a public holiday was difficult. A lower value on this indicator represents an improvement.
Relevance / Rationale	Providing after hours care is an important part of Ontario's *Action Plan for Health Care* to improve care for patients and reduce strain on other parts of the healthcare system, such as emergency rooms.[95] It is recognized that individuals are not always able to access primary care during regular office hours and may require care on evenings, weekends, and holidays. This is a system level priority.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Access
Type	Outcome
External alignment and other reporting	Commonwealth Fund International Health Policy Survey
Accountability	Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of respondents who answered "very difficult" or "somewhat difficult" to the following question: The last time when you needed medical care in the evening, on a weekend, or on a public holiday, how easy or difficult was it to get care without going to the emergency department?
	Denominator Total number of survey respondents, excluding those who answered "never tried to do this/never needed care" to the above question
	Methods Numerator/Denominator*100 Health Care Experience Survey (HCES) is administered via telephone to randomly selected Ontarians aged 16 years or older
	Adjustment (risk, age/sex standardization) Weighted to account for the design characteristics of the survey and post-stratified by age and sex to reflect the Ontario population.
Data source / data elements	Health Care Experience Survey (formerly Primary Care Access Survey) is a quarterly survey of a random sample of the Ontario population aged 16 and older. Data were collected by the Institute for Social Research from January, 2006 to

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[95] Ministry of Health and Long Term Care. Ontario's Action Plan for Health Care. Toronto (Canada). 2012.

	September, 2010 and by R.A. Malatest from October, 2010 to September, 2011 on behalf of the Ministry of Health and Long-Term Care. Data provided by the Ministry of Health and Long-Term Care.
Timing and frequency of data release	Quarterly
Levels of comparability	Available at the provincial and Local Health Integration Network (LHIN) region level for 2013 only.
	Similar questions are used in the Commonwealth Fund Survey as in the provincial survey, allowing for pan-Canadian and international comparisons. The different rates reported for Ontario across the provincial and international comparisons for this indicator may be attributed to different survey samples used in the different data sources.
OTHER INFORMATION	
Limitations / Caveats	• Only patients aged 16 years and older can complete the survey. • Data are not available over time because this is a new question on the Health Care Experience Survey. • Inability to capture if people consider Telehealth to be access to primary care after hours. • "Randomness" of the sample may be dependent on who agreed to participate versus who did not. • "Difficulty" is subjective in nature and difficult to measure precisely as there is no gold standard. • There are confidence intervals associated with each statistic since these are population level estimates based on a random sample, however, the confidence intervals are not reported here. • People living in institutions, in households without telephones, and those with invalid/missing household addresses in the Registered Persons Database (RPDB) are excluded from the sampling frame. The RPDB covers approximately 93% of the Ontario population age 16 and older. • Response rates for the survey in 2013 ranged from 53% to 56%. • 14 communities of interest to the Ministry are over-sampled every quarter. Exclusions for completing the survey: if the respondent was unable to speak English or French; the respondent was not healthy enough (physically or mentally) to complete the interview; the respondent was away; they had a non-residential number; or an out-of-service number.

PATIENT EXPERIENCE IN PRIMARY CARE

  a) Percentage of survey respondents who report that their provider always or often give them the opportunity to ask question

  b) Percentage of survey respondents who report that their provider always or often spends enough time with them

  c) Percentage of survey respondents who report that their provider always or often involves them in decisions regarding their care

See Figures 4.6a, 4.6b and 4.6c in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	These indicators capture three aspects of patient experience with primary care by reporting the percentage of patients who say their family doctor always or often: spends enough time with them, gives them the opportunity to ask questions about their recommended treatment and involves them in decisions about their care and treatment. A higher value on this indicator represents an improvement.
Relevance / Rationale	"Measuring and monitoring patient experience empowers patients and the public, involves them in decisions on health care delivery and governance, and provides insight to the extent that they are health-literate and have control over the treatment they receive"[96] This is a system level priority.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework Quality Improvement Plans (QIPs)
Attribute	Patient-centered care
Type	Process
External alignment and other reporting	The question related to the provider spending enough time with you question is part of the Commonwealth Fund International Health Policy Survey. Organisation for Economic Co-operation and Development (OECD) Health at a Glance: 2013 (reported at the Canadian level not provincial): http://www.oecd.org/els/health-systems/Health-at-a-Glance-2013.pdf
Accountability	Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Decisions-total number of respondents who answered "always" or "often" to the following question: When you see your [fill fd_type] or someone else in their office, how often do they involve you as much as you want to be in decisions about your care and treatment? Spends enough time-total number of respondents who answered "always" or "often" to the following question: When you see your [fill fd_type] or someone else in their office, how often do they spend enough time with you?

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[96] OECD. Health at a Glance 2013: OECD Indicators. OECD Publishing. 2013. Available at http://dx.doi.org/10.1787/health_glance-2013-en

	Opportunity to ask questions- total number of respondents who answered "always" or "often" to the following question: When you see your [fill fd_type] or someone else in their office, how often do they give you an opportunity to ask questions about recommended treatment?
	Denominator For all three questions the denominator is the total number of respondents to each question who stated that they have a family doctor, excluding those who answered any of: "it depends on who they see and/or what they are there for", "did not use/were not on any treatments/not applicable", "don't know" or refused to answer the question. Also excludes those who answered "never saw family doctor or anyone in their office" to the first question in the Patient Experience section of the survey
	Methods Numerator/Denominator*100 The Health Care Experience Survey (HCES) is administered via telephone to randomly selected Ontarians aged 16 years or older.
	Adjustment (risk, age/sex standardization) Weighted to reflect the design characteristics of the study and post-stratified by age and sex to reflect the Ontario population.
Data source / data elements	The HCES is a quarterly survey of a random sample of the Ontario population 16 years and older, conducted on behalf of the MOHLTC by the Institute for Social Research at York University. Data provided by the Ministry of Health and Long-Term Care.
Timing and frequency of data release	Quarterly
Levels of comparability	Available at the provincial and LHIN region level for 2013 only.
OTHER INFORMATION	
Limitations / Caveats	• Only patients aged 16 years and older can complete the survey • Data are not available over time because these are new questions on the Health Care Experience Survey and were not part of the former Primary Care Access Survey • There are confidence intervals associated with each statistic since these are population level estimates based on a random sample, however, the confidence intervals are not reported here • The quantity of time spent with patients may not necessarily reflect the quality of those visits (i.e. patient satisfaction) • Excluding those who answered that it depends on "who they see" or "what they are there for" may bias the results towards individuals who always see the same provider. • "randomness" of the sample may be dependent on who agreed to participate versus who did not • People living in institutions, in households without telephones, and those with invalid/missing household addresses in the Registered Persons Database (RPDB) are excluded from the sampling frame. The RPDB covers approximately 93% of the Ontario population age 16 and older. • Response rates for the survey in 2013 ranged from 53% to 56% • 14 communities of interest to the Ministry are over-sampled every quarter

	Exclusions for completing the survey: inability to speak English or French; the respondent was not healthy enough (physically or mentally) to complete the interview; the respondent was away; the respondent had a non-residential number; or an out-of-service number
Guidelines, SOPs, Evidence for best practice	The College of Physicians and Surgeons of Ontario *The Practice Guide: Medical Professionalism and College Policies* http://www.cpso.on.ca/Policies-Publications/The-Practice-Guide-Medical-Professionalism-and-Col

COLORECTAL CANCER SCREENING RATE AMONG PEOPLE AGED 50-74

See Figure 4.7 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Percentage of Ontarians, 50–74 years of age, who underwent at least one FOBT in a two-year period
Relevance / Rationale	A fecal occult blood test (FOBT) is recommended by the Canadian Task Force on Preventive Health Care for screening individuals at average risk of colorectal cancer. This is not a diagnostic test. An abnormal FOBT does not necessarily mean that someone has cancer, but it indicates that follow-up with a colonoscopy is needed. Ontario's colorectal cancer screening program, ColonCancerCheck (CCC), recommends that average-risk people aged 50–74 be screened every 2 years using FOBT. There are other tests, such as colonoscopy, flexible sigmoidoscopy used for colon cancer screening as well.[97]
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Focused on population health
Type	Process and Core
External alignment and other reporting	Ontario Action Plan for Health Care Multi-sectoral Accountability Agreement (M-SAA) Cancer Quality Council of Ontario (CQCO) Cancer Screening Quality Index Cancer Prevention Agency of Canada Canadian Partnership Against Cancer (CPAC) European Union (EU) - Participation rate: Number of people who have used and returned an FOBT kit irrespective of result by total number of people eligible for screening according to the program policy (European Guidelines for Quality Assurance in Colorectal Cancer Screening and Diagnosis, First Edition, February 2010)
Accountability	Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage

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[97] Cancer Care Ontario. Colorectal Cancer Screening. Accessed 24.July.2013 at
http://www.csqi.on.ca/cms/one.aspx?portalId=258922&pageId=273238#

Calculation	**Numerator** Total number of Ontario screen-eligible individuals, aged 50–74 who have completed and returned at least one FOBT kit in a given two-year period
	Denominator Total number of Ontario screen-eligible individuals, 50–74 years old, in a given two-year period *Exclusion Criteria:* • Individuals with a missing or invalid HCN, date of birth, sex or postal code • Individuals with an invasive colorectal cancer before Jan 1st of the two-year period; prior diagnosis of colorectal cancer was defined as: ICD-O-3 codes C18.0, C18.2-C18.9, C19.9, C20.9 except those with histologic codes 9590-9989 (lymphomas), 8240-8246 or 8248-8249 (carcinoid) • Individuals with a total colectomy before Jan 1st of the two-year period; total colectomy was defined in OHIP by fee codes S169, S170, and S172 • Individuals who had colonoscopy in the past five years or flexible sigmoidoscopy in the past five years; colonoscopy was identified in OHIP using fee codes Z555A, Z491A, Z492A, Z493A, and Z494A, Z495A, Z496A, Z497A, Z498A, and Z499A, and flexible sigmoidoscopy was identified in OHIP using fee code Z580
	Methods Total number of Ontario screen-eligible individuals, 50–74 years old, who have completed and returned at least one FOBT kit in a given two-year period /Total number of Ontario screen-eligible individuals, 50–74 years old, in a given two-year period * 100 • LHIN region assignment was determined using PCCF+, version 5k; residential postal code was used to identify the LHIN region and individuals with unknown/missing LHIN regions were excluded from the analysis • Neighbourhood income quintile was determined using PCCF+, version 5k; this indicator was based on income quintiles developed by Statistics Canada using the 2006 Census; income quintiles range from 1 to 5 (low to high) • Rural or urban residence was determined using PCCF+, version 5k. This indicator was based on whether individuals lived within a census metropolitan area (CMA), census agglomeration (CA) or Influenced Zones (MIZ) which takes into account population size, distance and commuting flow between rural and small towns and larger centres, based on the 2006 Census. Public health unit data was determined using PCCF+, version 5k
	Adjustment (risk, age/sex standardization) The 2006 Canadian population was used as the standard population for calculating age-standardized rates
Data source / *data elements*	• LRT (Laboratory Reporting Tool) – CCC FOBTs • OHIP– Non-CCC FOBT claims, colonoscopy, flexible sigmoidoscopy and colectomy claims • OCR (Ontario Cancer Registry) - Resolved invasive colorectal cancers • PIMS (Pathology Information Management System) - Invasive colorectal cancers • RPDB (Registered Persons Database) – Demographics PCCF+, version 5k - Residence and socio-demographic information

Timing and frequency of data release	The data are calculated and provided by Cancer Care Ontario (CCO) annually.
Levels of comparability	Across time, regional, across gender, age groups, neighbourhood income quintile, urban/rural residence, by public health units.
OTHER INFORMATION	
Limitations / Caveats	- Historical RPDB address information is incomplete; therefore, the most recent primary address was selected for reporting, even for historical study periods - Five years of colonoscopy data was used for this indicator. There was insufficient data available to CCO to evaluate colonoscopy use over a 10 year period - FOBTs analyzed in hospital labs could not be captured - Only FOBT as a primary screening test could be assessed; FOBT is recommended for those at average risk of colorectal cancer, while those at increased risk (1st degree relative with colorectal cancer) were not assessed as they could not be accurately identified - A small proportion of FOBTs performed as diagnostic tests could not be excluded from the analysis OHIP data may include (CCC program) rejected kits
Guidelines, SOPs, Evidence for best practice	Canadian Task Force on Preventive Health Care. Screening strategies for colorectal cancer: a systematic review of the evidence.[98]

PERCENTAGE OF PEOPLE WITH DIABETES WHO RECEIVED AN EYE EXAM WITHIN A TWO-YEAR PERIOD See Figures 4.8 and 4.9 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	The rate (per 100) of eye exams in a one or two year interval among Ontarians with diabetes. The higher the indicator result, the better.
Relevance / Rationale	Currently over one million Ontarians are living with diabetes.[99] Diabetic retinopathy (DR), is a non-inflammatory eye disorder caused by changes in the retinal blood vessels. Diabetic retinopathy is a common complication of diabetes, with a prevalence of about 70% in persons with type 1diabetes and 40% in persons with type 2diabetes.[100]Diabetic retinopathy is the leading cause of new cases of blindness in adults aged 20 to 74. Cataract and glaucoma are also common in people with diabetes. It is estimated that eventually around 20% of people with

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[98] McLeod R, Canadian Task Force on Preventive Health Care. Screening strategies for colorectal cancer: a systematic review of the evidence. Canadian Journal of Gastroenterology. 2001 Oct;15(10):647–60.

[99] Booth GL, Polsky JY, Gozdyra G, Cauch-Dudek K, Kiran T, Shah BR, Lipscombe LL, Glazier RH. Regional Measures of Diabetes Burden in Ontario. April 2012.

[100] Buhrmann R, Assaad D, Hux J, Tang M, Sykora K. Diabetes in Ontario. Practice Atlas. Chapter 10. Diabetes and the eye.

	diabetes experience vision loss.[101] Screening is important for early detection of this treatable disease. Routine screening, referral and treatment for diabetic retinopathy can significantly reduce the onset of blindness and is a cost-effective way to prevent or delay vision loss. The clinical practice guidelines recommend screening for retinopathy in patients with type 2 diabetes every 1-2 years.[102] In individuals with type 2 diabetes, screening and evaluation for diabetic retinopathy by an expert professional should be performed at the time of diagnosis of diabetes and annually thereafter. The interval for follow-up assessments should be tailored to the severity of the retinopathy. In those with no or minimal retinopathy, the recommended interval is 1–2 years.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Effective
Type	Process indicator
External alignment and other reporting	Ontario diabetes strategy
Accountability	Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Prevalent diabetics (for that specific FY) with any claim for an eye exam within 2 year period Inclusion: OHIP feecodes = A115 (major eye exam), A233 to A240 (ophthalmology), C233 to C236 (ophthalmology emergency and out-patient department), V401, V402, V404 to V409, V450, V451 Note: use spec=all when extracting OHIP OHIP feecodes = K065, K066 where spec=23 (Ophthalmology) Added by Baiju A110, A111, A112, A114, A252, A253 and A254.
	Denominator All diabetes prevalent cases in ODD database for years from 2002/03-2009/10 *(the details for creation of the ODD can be taken from ICES data holdings)* *Exclusion Criteria:* • People who were not resident in Ontario in each year • Age on index date in each corresponding year exams: <20 yrs Died before end of follow-up period.
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) Direct age and sex standardization using 1991 census population Age groups: 20–29, 30–39, 40–49, 50–59, 60–69, 70+
Data source / data elements	• OHIP and ODD

[101] Diabetes Task Force. Report to MOHLTC. September 2004.

[102] Clinical Practice Guidelines 2013. http://guidelines.diabetes.ca/Browse/Chapter30

	The data are received from the Institute for Clinical Evaluative Sciences (ICES) annually, based on data request for Quality Monitor
Timing and frequency of data release	OHIP is updated by ICES bi-monthly ODD is updates by ICES annually
Levels of comparability	Across time, regional, by age, gender, income, immigration status, place of residence
Targets and/or Benchmarks	80% (for annual screening rate)
Target Source	Common Quality Agenda (CQA) Expert consultation
OTHER INFORMATION	
Limitations	- ODD does not distinguish type1 and type 2 diabetes. - The entire ODD is re-created yearly using updated OHIP, CIHI/SDS, and RPDB data. The reason for re-creating the database is that RPDB may change and also the 2-year diagnosis algorithm will alter the numbers of patients in more recent years as we receive more data. - It is not possible to specifically identify the detail/type of the screening using the admin database, instead it was attempted to select all possible opportunities for retinal screening. - OHIP has data only for MDs with fee for service practice. Some have alternate funding and their services would be missing from analysis - The screening rate may be underestimated as the OHIP database only captures data for doctors with fee for service practice; eye exams done by physicians being paid by alternate funding, through private insurance or another third-party payer or directly by the patient are not captured in this database. - Since the OHIP database is updated bi-monthly there may be delays in capturing the completed eye exams. - This indicator measures the age- and sex-adjusted rate (per 100 patients with diabetes) of eye exams in a two-year interval among Ontarians with diabetes. The population with diabetes is identified using an algorithm to identify people with diagnosed diabetes or who have received care for diabetes; it excludes gestational diabetes, but cannot distinguish between type 1 and type 2 diabetes.
Guidelines, SOPs, Evidence for best practice	2013 Diabetes clinical practice guidelines

5. Hospital Care Indicators

PERCENTAGE OF RESPONDENTS WHO WOULD "DEFINITELY" RECOMMEND THE HOSPITAL'S EMERGENCY DEPARTMENT TO FAMILY AND FRIENDS

See Figure 5.1 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Percentage of respondents who chose "Yes, definitely" when answering the following NRC Picker's Survey question: Would you recommend this ED to family and friends? - Yes, definitely - Yes, probably - No Better quality is associated with a higher score.
Relevance / Rationale	It is crucial to learn from patients' perspective about the quality of services provided by hospitals. The NRC-picker survey helps the hospitals to measure and improve patient-centered care in emergency departments (EDs).
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Hospital Quality Improvement Plans (QIPs)
Attribute	Patient-centred
Type	Outcome indicator
External alignment and other reporting	Ontario Hospital Association (OHA)/ NRC Picker OHA reports
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	*Numerator* Number of survey respondents who choose Yes, definitely
	Denominator Number of survey respondents
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) None
Data source / data elements	NRC-Picker Survey, provided by the Ontario Hospital Association (OHA).
Timing and frequency of data release	Yearly (fiscal year)
Levels of comparability	Over time and by hospital

Targets and/or Benchmarks	The Quality Improvement Plan (QIP) Benchmark is 70.6%.
OTHER INFORMATION	
Limitations / Caveats	Self-reported patient satisfaction; prone to survey-related biases

PERCENTAGE OF RESPONDENTS WHO WOULD "DEFINITELY" RECOMMEND THE HOSPITAL TO FAMILY AND FRIENDS (INPATIENT CARE)

See Figure 5.1 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Percentage of respondents who chose "Yes, definitely" when answering the following NRC Picker's Survey question: Would you recommend this hospital to family and friends? - Yes, definitely - Yes, probably - No Better quality is associated with a higher score.
Relevance / Rationale	It is crucial to learn from patients' perspective about the quality of services provided by hospitals. The NRC-picker survey helps the hospitals to measure and improve patient-centered care in hospital.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Hospital Quality Improvement Plans (QIPs)
Attribute	Patient-centred
Type	Outcome indicator
External alignment and other reporting	Ontario Hospital Association (OHA)/NRC Picker
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of survey respondents who choose "Yes, definitely"
	Denominator Number of survey respondents
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) None
Data source / data elements	NRC Picker Survey, provided by OHA

Timing and frequency of data release	Yearly (fiscal year)
Levels of comparability	Over time and by hospital
Targets and/or Benchmarks	The Quality Improvement Plan (QIP) Benchmark is 81.8%.
Target source	Set by Health Quality Ontario (HQO) through a benchmarking process.
OTHER INFORMATION	
Limitations / Caveats	Self-reported patient satisfaction; prone to survey–related biases.

90th PERCENTILE EMERGENCY DEPARTMENT LENGTH OF STAY **or maximum amount of time nine out of 10 patients (90th percentile) spent in the emergency department for** **- low-acuity conditions and** **- high-acuity conditions** See Figure 5.2 for low-acuity conditions and Figure 5.3 for high-acuity conditions in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the maximum amount of time in which nine out of ten high and low acuity patients have completed their ED visits. High and low acuity patients refer to the group of patients assigned with CTAS level 1 to 3 (admitted or discharged), and CTAS level 4 to 5 (admitted or discharged), respectively. Lower value of this indicator is associated with a better performance.
Relevance / Rationale	Long ED wait times are inconvenient and, in some cases, negatively affect a patient's health. Spending a long time in the waiting room, or on hallway stretchers waiting for admission, can also compromise comfort and privacy.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Quality Improvement Plans (QIPs)
Attribute	Accessible
Type	Process and core indicator
External alignment and other reporting	Hospital Service Accountability Agreement (H-SAA) Ministry Quarterly Report Canadian Institute for Health Information (CIHI) reports (Portal)
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Hour
Calculation Data source / data elements	Length of Stay (LOS) in HOURS = (Date/Time Patient Left ED) OR (Disposition Date/Time) - (Registration Date/Time) OR (Triage Date/Time). • Use Date/Time Patient Left ED when Visit Disposition = 06 to 09; • Use Disposition Date/Time when Visit Disposition = 01 to 05 or 10 to 15.

	• If Date/Time for either is missing use the other Date/Time. • Use Registration Date/Time when: Triage Date/Time is > Registration Date/Time or does not contain a valid date/time value. • Use Triage Date/Time when: Registration Date/Time >=Triage Date/Time; or does not contain a valid date/time value. • If both Date/Time Patient Left ED and Disposition Date/Time do not contain valid value or both Triage Date/Time and Registration Date/Time do not contain valid value then ED LOS is equal to Null. *Inclusion Criteria*: Case Type = Emergency Visits (Unscheduled) *Exclusion Criteria*: Triage (CTAS) level is unknown
	Methods 90th percentile obtained from CIHI portal
	National Ambulatory Care Reporting System (NACRS)
Timing and frequency of data release	Yearly (fiscal year)
Levels of comparability	By fiscal year, LHIN region, province, patient complexity group (High acuity vs. low acuity), discharge disposition and facility
Targets and/or Benchmarks	Ministry's targets: 1. 90% of patients **with minor or uncomplicated conditions (**admitted or discharged, low acuity, i.e. CTAS 4 or 5) should have a total ED LOS no more than 4 hours 2. 90% of patients **with complex conditions (admitted or discharged**, high acuity, i.e. CTAS 1, 2, 3) should have a total LOS no more than 8 hours Please see the details on ministry ED wait time website: http://www.health.gov.on.ca/en/pro/programs/waittimes/edrs/targets.aspx
Target source	Ontario Wait Times Strategy
Unit of analysis	Hour

PERCENTAGE OF ELECTIVE HIP (OR KNEE) REPLACEMENTS COMPLETED WITHIN THE RECOMMENDED MAXIMUM WAIT TIME (182 DAYS)

See Table 5.1 and Figure 5.4 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percent of patients who met the access targets from when a patient and surgeon decide to proceed with hip/knee replacement procedure (decision-to-treat) until when the actual procedure is completed. The access targets vary by priority level. For elective or priority level 4, the target is 182 days.
Relevance / Rationale	Hip/knee replacement is one of high priority areas to reduce wait times. Collecting and reporting accurate and up-to-date data on wait times allow better decision making and increase accountability.

HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Accessible
Type	Process and Core indicator
External alignment and other reporting	Health Quality Ontario (HQO) Quality Based Procedures Ontario's Action Plan for Health Care (Access) Hospital Service Accountability Agreements (H-SAAs) Health Links Ministry Quarterly Report Cancer Care Ontario (CCO) report
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of patients whose surgery wait times is within the access targets. (See access targets below.) • Wait time (in days) = "treatment" date *minus* "decision to treat" date The wait time is calculated for each patient who received treatment within the reporting time period.
	Denominator All hip or knee replacement surgeries meeting the inclusion/exclusion criteria below. *Inclusion Criteria:* • All closed wait list entries with procedure dates within date range; • Patient was 18 years or older on the day the procedure was completed. *Exclusion Criteria:* • Procedures no longer required. • Procedures assigned as Priority 1 level. • Wait list entries identified by hospitals as data entry errors. *Other Criteria:* If patient unavailable dates fall outside the Decision to Treat Date up to Procedure Date, the patient unavailable dates are not deducted from the patient's wait days. These are considered data entry errors.
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) None, crude rate
Data source / data elements	Wait Times Information System (WTIS), CCO Please refer to the following website for details: http://www.health.gov.on.ca/en/public/programs/waittimes/surgery/default.aspx

Timing and frequency of data release	Monthly, quarterly and yearly
Levels of comparability	Over time (fiscal years); by Local Health Integration Network (LHIN) region and by institution at corporation level
Targets and/or Benchmarks	The access targets are as follows for each of the priority levels • Priority 2: 42 days • Priority 3: 84 days Priority 4: 182 days
Target source	Provincial Wait Times Strategy
OTHER INFORMATION	

Limitations / Caveats	• **Small volumes**: small number of cases within a certain reporting period may have a big impact on the result, and thus makes it difficult to draw conclusions about what should be expected
	
	• **Other Factors Affecting Wait Times**: There are factors that affect wait times that do not relate to a hospital's efficiency, to a particular doctor or the availability of resources. They include :
	
	    ○ **Patient Choice** – a patient with a non-life-threatening condition may decide to delay treatment for personal or family reasons to a more convenient time.
	    ○ **Patient Condition** – a patient's condition may need to improve before the surgery or exam takes place.
	    ○ **Follow-up Care** – a patient who has an existing condition may be pre-booked for a follow-up treatment or exam a long time in advance.
	    ○ **Treatment Complexity** – a patient with special requirements may need specific equipment or a certain kind of facility and there is a delay until these can be scheduled.
	
	Right now, there is no way to capture all of these possible factors in the information that hospitals are reporting. However, the provincial Wait Time Information System (WTIS) will collect information about when patients are not available for treatment. Although these factors may have a significant effect on the wait time for an individual patient, overall wait times are still a good reflection of the current situation for a typical patient at that hospital.

PERCENTAGE OF DIAGNOSTIC CARDIAC CATHETERIZATION ANGIOGRAPHY COMPLETED WITHIN THE TARGET TIME BY URGENCY LEVEL (URGENT. SEMI-URGENT AND ELECTIVE) See Table 5.1 and Figure 5.5 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the proportion of patients that require diagnostic cardiac catheterization (angiography) and receive it within the target time or the recommended maximum wait time (RMWT), based on their urgency level (urgent, semi-urgent, and elective).

	A higher rate is associated with a better performance.
Relevance / Rationale	Reporting cardiac wait times is an important part of being open and accountable about how well Ontario is doing in reducing wait times for the procedure. It is also an important tool to help hospitals monitor and manage the services they provide to patients in these areas.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Accessible
Type	Process and Core indicator
External alignment and other reporting	The Ministry of Health and Long Term Care wait times website reports quarterly 90th percentile wait time data for all cardiac procedures (at provincial, Local Health Integration Network (LHIN) region and hospital level)
	Cardiac Care Network (CCN): CCN wait time report
	Canadian Cardiovascular Society; Ontario Wait Times
	Ministry Quarterly Report
	Ontario Action Plan for Health Care
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of diagnostic cardiac catheterizations (angiography procedures) completed within RMWT (stratified by urgency level)
	Denominator All adult diagnostic cardiac catheterization (angiography procedures) that are done within Ontario's 18 member hospitals *Inclusion Criteria:* 1. Static (month-end) Data 2. Must be onlisted and offlisted as that procedure : • Onlisted and offlisted refers to being put on the waiting list. Once a patient sees a specialist (cardiologist, cardiac surgeon) and that physician accepts the patient for a procedure (CATH, PCI, CABG) they are "onlisted" to the wait list. Once the patient receives their treatment and the procedure is over the patient is "offlisted" from the wait list (because the treatment is done). • exclude patients who die before they receive their procedures) 3. Ontario patients with valid OHIP 4. Takes into account up to one DART* per patient. If a patient has two DARTs, the second one will not be counted. *DART stands for Dates Affecting Readiness to Treat. It means that a wait list clock is paused because the patient asked the physician to pause it.
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) Crude rate – a process indicator does not need to be adjusted.

Data source / data elements	CCN cardiac registry, Wait Times Information System (WTIS), provided by CCN Fiscal yearly data are available from 2007/08 to 2013/14
Timing and frequency of data release	Monthly and fiscal year data are available.
Levels of comparability	Data available at the provincial and Local Health Integration Network (LHIN) region levels by fiscal year.
Targets and/or Benchmarks	The target times or Recommended Maximum Wait Times (RMWT) targets are as follows for each of the urgency levels: -Urgent: 7 days -Semi-urgent: 28 days -Elective: 84 days
Target source	Ontario Wait Times Strategy (and CCN)

PERCENTAGE OF PERCUTANEOUS CORONARY INTERVENTIONS COMPLETED WITHIN THE TARGET TIME BY URGENCY LEVEL (URGENT. SEMI-URGENT AND ELECTIVE) See Table 5.1 and Figure 5.5 in the report *Measuring Up*, 2014		
INDICATOR DESCRIPTION		
Indicator description	This indicator measures the proportion of patients that require a percutaneous coronary intervention (PCI) and receive it within the target time or recommended maximum wait time (RMWT), based on their urgency level (urgent, semi-urgent, and elective). A higher rate is associated with a better performance.	
Relevance / Rationale	Reporting cardiac wait times is an important part of being open and accountable about how well Ontario is doing in reducing wait times for the procedure. It is also an important tool to help hospitals monitor and manage the services they provide to patients in these areas.	
HQO Reporting tool/product	Yearly Report/Common Quality Agenda	
Attribute	Accessible	
Type	Process and Core indicator	
External alignment and other reporting	The Ministry of Health and Long Term Care wait times website reports quarterly 90th percentile wait time data for all cardiac procedures (at the provincial, Local Health Integration Network (LHIN) region and hospital level) Cardiac Care Network (CCN): CCN wait time report Canadian Cardiovascular Society Ontario Wait Times Ministry Quarterly Report Ontario Action Plan for Health Care	
Accountability	Hospital	
DEFINITION & SOURCE INFORMATION		

Unit of analysis	Percentage
Calculation	**Numerator**
	Number of PCI completed within RMWT (stratified by urgency level)
	Denominator
	All adult PCI that are done within Ontario's 18 member hospitals
	Inclusion Criteria:
	5. Static (month-end) Data
	6. Must be onlisted and offlisted as that procedure :
	• Onlisted and offlisted refers to being put on the waiting list. Once a patient sees a specialist (cardiologist, cardiac surgeon) and that physician accepts the patient for a procedure (CATH, PCI, CABG) they are "onlisted" to the wait list. Once the patient receives their treatment and the procedure is over the patient is "offlisted" from the wait list (because the treatment is done).
	• exclude patients who die before they receive their procedures)
	7. Ontario patients with valid OHIP
	8. Takes into account up to one DART* per patient. If a patient has two DARTs, the second one will not be counted.
	*DART stands for Dates Affecting Readiness to Treat. It means that a wait list clock is paused because the patient asked the physician to pause it.
	Methods
	Numerator/Denominator*100
	Adjustment (risk, age/sex standardization)
	Crude rate – a process indicator does not need to be adjusted.
Data source / data elements	CCN cardiac registry
	Fiscal yearly data are available from 2007/08 to 2013/14
Timing and frequency of data release	Monthly and fiscal year data are available.
Levels of comparability	Data available at the provincial, Local Health Integration Network (LHIN) region by fiscal year
Targets and/or Benchmarks	The target times or Recommended Maximum Wait Times (RMWT) targets are as follows for each of the urgency levels:
	-Urgent: 7 days
	-Semi-urgent: 14 days
	-Elective: 28 days
Target source	Ontario Wait Times Strategy (and CCN)

PERCENTAGE OF CORONARY ARTERY BYPASS GRAFT COMPLETED WITHIN THE TARGET TIME BY URGENCY LEVEL (URGENT. SEMI-URGENT AND ELECTIVE)

See Table 5.1 and Figure 5.5 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the proportion of patients that require a coronary artery bypass graft (CABG) surgery and receive it within the target time or recommended maximum wait time (RMWT), based on their urgency level (urgent, semi-urgent, and elective). A higher rate is associated with a better performance.
Relevance / Rationale	Reporting cardiac wait times is an important part of being open and accountable about how well Ontario is doing in reducing wait times for the procedure. It is also an important tool to help hospitals monitor and manage the services they provide to patients in these areas.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Accessible
Type	Process and Core indicator
External alignment and other reporting	The Ministry of Health and Long Term Care wait times website reports quarterly 90th percentile wait time data for all cardiac procedures (at the provincial, Local Health Integration Network (LHIN) region and hospital level). Cardiac Care Network (CCN): CCN wait time report Canadian Cardiovascular Society Ontario Wait Times Ministry Quarterly Report Ontario Action Plan for Health Care
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of CABG surgeries completed within RMWT (stratified by urgency level)

	Denominator
	All adult CABG surgeries that are done within Ontario's 18 member hospitals
	I*nclusion Criteria* :
	   9. Static (month-end) Data
	   10. Must be onlisted and offlisted as that procedure :
	      • Onlisted and offlisted refers to being put on the waiting list. Once a patient sees a specialist (cardiologist, cardiac surgeon) and that physician accepts the patient for a procedure (CATH, PCI, CABG) they are "onlisted" to the wait list. Once the patient receives their treatment and the procedure is over the patient is "offlisted" from the wait list (because the treatment is done).
	      • exclude patients who die before they receive their procedures)
	   11. Ontario patients with valid OHIP
	   12. Takes into account up to one DART* per patient. If a patient has two DARTs, the second one will not be counted.

	*DART stands for Dates Affecting Readiness to Treat. It means that a wait list clock is paused because the patient asked the physician to pause it.
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) Crude rate – a process indicator does not need to be adjusted.
Data source / data elements	CCN cardiac registry, WTIS, provided by CCN Fiscal yearly data are available from 2007/08 to 2013/14
Timing and frequency of data release	Monthly and fiscal year data are available.
Levels of comparability	Data available at provincial and LHIN region level by fiscal year
Targets and/or Benchmarks	The target times or Recommended Maximum Wait Times (RMWT) targets are as follows for each of the urgency levels*: -Urgent: 14 days -Semi-urgent: 42 days -Elective: 90 days *These targets are consistent with CCN's targets. The Ministry of Health and Long-Term Care has a target of 182 days.
Target source	CCN

PERCENTAGE OF CANCER SURGERIES COMPLETED WITHIN THE RECOMMENDED MAXIMUM WAIT TIME BY URGENCY LEVEL (PRIORITY LEVEL)
- **priority 2: 14 days** - **priority 3: 28 days** - **priority 4: 84 days**
See Table 5.1 and Figure 5.6 in the report *Measuring Up*, 2014
INDICATOR DESCRIPTION

Indicator description	This indicator measures the percentage of patients who met the access target from when a patient and surgeon decide to proceed with cancer surgery until when the actual procedure is completed.
Relevance / Rationale	The Ontario government has put a plan in place to increase access and reduce wait times for major health services. These include: cancer surgery, cardiac procedures, cataract surgery, hip and knee replacements, general surgery, paediatric surgery and Magnetic resonance imaging (MRI) and computerized tomography (CT) exams. Ontario's plan has 4 goals : • Significantly increase the number of procedures to reduce the backlog that has developed over the last decade. • Invest in new, more efficient technology such as MRI machines and longer hours of operation.

	• Standardize best practices for both medical and administrative functions in order to improve patient flow and efficiency. • Collect and report accurate and up-to-date data on wait times to allow better decision making and increase accountability. Reporting Ontario surgical, diagnostic wait times on this website is an important part of the Ontario government's commitment to being open and accountable about how well we are doing in reducing wait times for key health services. It is also an important tool to help hospitals monitor and manage the services they provide patients in these areas.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Accessible
Type	Process and Core indicator
External alignment and other reporting	Hospital Service Accountability Agreement (H-SAA) indicator Ministry-LHIN Performance Agreement (MLPA) Ministry Quarterly Report Cancer Care Ontario (CCO) reports
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of patients whose cancer surgery wait times is within the access targets. (See wait times calculation & access targets below.) **Wait times calculation:** Wait times are measured in days. *Wait time = "treatment" date **minus** "decision to treat" date.* The wait time is calculated for each patient who received treatment within the most current time period, for a particular service area and hospital. Using these individual wait times, there are three other calculations: median wait time, average wait time and 90 per cent completed within access targets.
	Denominator All cancer surgeries meeting the inclusion/exclusion criteria below. *Inclusion Criteria:* • All closed wait list entries with cancer procedure dates within date range. • Patients that are 18 years and older on the day the procedure was completed. • Treatment Cancer procedures only. Procedures classified as "NA" are currently included. *Exclusion Criteria***:** • Diagnostic, Palliative and Reconstructive cancer procedures. • Procedures on Skin - Carcinoma, Skin-Melanoma, and Lymphomas. • Procedures no longer required.

	• Procedures assigned as Priority 1 level. • Wait list entries identified by hospitals as data entry errors. • Diagnostic imaging cases classified as specified date procedures (SDP) or timed procedures. SDP cases are excluded from MRI and CT wait time information as of January 1, 2008. *Other Criteria***:** If patient unavailable dates fall outside the Decision to Treat Date up to Procedure Date, the patient unavailable dates are not deducted from the patient's wait days. These are considered data entry errors.
	Methods Numerator/Denominator*100
	Adjustment (risk, age/sex standardization) None, Process indicator do not need to be adjusted
Data source / data elements	Wait Times Information System (WTIS), CCO
Timing and frequency of data release	Data available on a monthly, quarterly and annual basis.
Levels of comparability	Data available at the provincial and Local Health Integration Networks (LHIN) region levels by fiscal year.
Targets and/or Benchmarks	For each priority level, CCO Performance Target is to have 90% of patients seen within each access target time as follows: • Priority 2: 14 days • Priority 3: 28 days • Priority 4: 84 days (Source: Cancer System Quality Index (CSQI), Figure 2; http://www.csqi.on.ca/cms/one.aspx?portalId=258922&pageId=273257#.U34J0CgQ6Ds
Target source	Provincial Wait Times Strategy and Cancer Care Ontario (CCO)
OTHER INFORMATION	
Limitations / Caveats	The intent of the data collection is to have the wait time for a patient undergoing an operation where cancer is a real possibility. In some cases, it is only **after** surgery that a negative result is known. Some reported wait time data for cancer surgery includes data for surgeries where there are benign or non-cancerous tumours. The Ministry of Health and Long-Term Care is working with the surgical community to have more accurate reporting of surgical treatment data involving "intentional" and "patient unavailable" wait times either by : • Subtracting the "patient unavailable dates" from the overall wait time. • Entering the "decision to treat date" as the date when the patient is first recovered from treatment. For detailed limitations, see: http://www.health.gov.on.ca/en/pro/programs/waittimes/surgery/data.aspx#5 Many cancer surgery procedures are the same as the procedures for benign (non-cancerous) conditions, and the same doctors perform both cancer surgery and non-cancer surgery. As a result, almost every hospital in Ontario performs at least a few

cancer surgeries every year. However, the hospitals with smaller numbers of cancer procedures may not have a formal cancer program or specialize in cancer surgery. A number of these smaller hospitals do not report their wait time data to Wait Times Information System (WTIS).

Text adapted from the Comprehensiveness of Cancer Surgery Reporting:
http://www.health.gov.on.ca/en/pro/programs/waittimes/surgery/data.aspx#4

RATE OF HOSPITAL-ACQUIRED CLOSTRIDIUM DIFFICILE INFECTION

See Figure 5.7 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This rate represents the incidence rate of nosocomial Clostridium difficile infection (CDI) associated with the reporting facility per 1000 inpatient days. A lower rate is associated with better performance.
Relevance / Rationale	Clostridium difficile or C. difficile is a leading cause of healthcare associated diarrhea. Infection acquired in a hospital is an unnecessary waste of healthcare resources and suffering for patients, and can sometimes result in death.
HQO Reporting tool/product	Yearly Report /Common Quality Agenda Health Quality Ontario (HQO) Patient Safety Website Quality Improvement Plans (QIPs)
Attribute	Safe
Type	Outcome and core indicator
External alignment and other reporting	HQO patient safety public reporting Hospital Service Accountability Agreement (H-SAA) indicator Ministry Quarterly Report
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Rate per 1,000 inpatient days
Calculation	***Numerator*** Total number of new nosocomial (i.e. hospital acquired) CDI Cases *Inclusion Criteria:* 1. All publicly funded hospitals 2. Inpatient beds 3. Laboratory-confirmed CDI cases (i.e. confirmation of a positive toxin assay (A/B) for Clostridium difficile together with diarrhea OR visualization of pseudomembranes on sigmoidoscopy or colonoscopy, or histological/pathological diagnosis of pseudomembranous colitis) 4. New nosocomial case associated with the reporting facility defined as - the infection was not present on admission (i.e., onset of symptoms > 72 hours after admission) or the infection was present at the time of admission but was related to a previous admission to the same facility within the last 4 weeks and the case has not had CDAD in the past 8 weeks.

	Exclusion Criteria: 1. Patients less than 1 year of age
	Denominator Total number of inpatient days *Inclusion Criteria:* 1. All publicly funded hospitals 2. Inpatient beds *Exclusion Criteria:* 1. Patients less than 1 year of age
	Methods Numerator/Denominator*1,000
	Adjustment (risk, age/sex standardization) None. Crude rate.
Data source / data elements	Self-reported data from hospitals, compiled by Ministry of Health and Long-Term Care
Timing and frequency of data release	Data are available each month. Fiscal year data available upon special data request to the Ministry of Health and Long Term Care.
Levels of comparability	Over time (fiscal years), by hospital, hospital type and Local Health Integration Network (LHIN) region
Targets and/or Benchmarks	10% relative reduction year over year
Target source	Expert consultation
OTHER INFORMATION	
Limitations / Caveats	Data are self-reported by publicly funded hospitals and capture only hospital-acquired cases of C. difficile infections.
Comments	The following cases are not included in the rate calculation: 1.New nosocomial case associated with other health care facilities The infection was present on admission (i.e., onset of symptoms < 72 hours after admission) and the patient was exposed to another health care facility (including LTC) other than the reporting facility within the last 4 weeks and the case has not had CDAD in the past 8 weeks. 2. New case associated with a source other than a health care facility or unknown/indeterminate source The infection was present on admission (i.e., onset of symptoms < 72 hours after admission) and the patient was not exposed to any health care facility (including LTC) within the last 4 weeks or the source of infection cannot be determined and the case has not had CDAD in the past 8 weeks.

PERCENTAGE OF COMPLEX CONTINUING CARE PATIENTS WHO FELL IN THE LAST 30 DAYS

See Figure 5.8 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percentage of complex continuing care (CCC) patients who fell in the previous 30 days. It includes falls regardless of whether the fall resulted in injury to the patient. The indicator is calculated as a rolling four quarter average. The lower the indicator result, the better. This indicator was jointly developed by interRAI and the Canadian Institute for Health Information (CIHI).
Relevance / Rationale	This is an important indicator because CCC patients can experience serious consequences after a fall, including injuries that limit their independence and increase their care needs and thus have negative impacts on the health care system
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Quality Improvement Plans (QIPs)
Attribute	Safe
Type	Outcome and core indicator
External alignment and other reporting	CIHI e-reporting tool
Accountability	Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** CCC patients who had a fall in the last 30 days recorded on their target assessment
	Denominator CCC patients with valid assessments* *For an assessment to be valid and included in the quality indicator calculation, the selected assessment must: • Be the latest assessment in the quarter • Be carried out more than 92 days after the Admission Date • Not be an Admission Full Assessment
	Methods **Prevalence indicators** are measured at one point in time and use a single assessment in their calculation. The assessment is the most recent assessment in the fiscal quarter of interest. **Rolling four-quarter average**: The indicator is evaluated every quarter and calculated based on the rolling average of the four previous fiscal quarters (12 months). This methodology is used because events are relatively rare in smaller

	facilities. Since CCC patients are assessed on a quarterly basis, each patient may contribute to the indicator up to four times.
	Adjustment (risk, age/sex standardization)
	This indicator is risk adjusted at the individual covariate level and through direct standardization
	Adjusted at individual resident level using logistic regression:
	Individual covariates:
	• Not totally dependent in transferring
	• Locomotion problem
	• Personal Severity Index (PSI)*: Subset 2: Non-Diagnoses
	• Any wandering
	• Unsteady gait/cognitive impairment
	• Age younger than 65
	Adjusted at facility level using direct standardization
	Stratification:
	• Case Mix Index (CMI)**
	*PSI is statistically linked to the likelihood of death within six months
	**The relative resource use compared to the overall average resource use for all Ontario Long Term Care (LTC) residents
Data source / data elements	Data are based on mandatory Resident Assessment Instrument – Minimum Dataset 2.0 (RAI-MDS 2.0) assessments in the Continuing Care Reporting System (CCRS) database held at CIHI. The following data elements are used: J4a fell in the past 30 days
Timing and frequency of data release	This indicator is available quarterly as a rolling four quarter average (fiscal quarters, starting from Q4 2009/10).
Levels of comparability	This is available at the provincial, Local Health Integration Network (LHIN) region and facility levels.
Targets and/or Benchmarks	2013/14 QIP Benchmark: 5%; Ten percent relative decrease year over year.
Target source	Health Quality Ontario (HQO) benchmarking process (2012) and expert consultation.
OTHER INFORMATION	
Limitations / Caveats	• While rolling four quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, it makes it more difficult to detect true quarterly improvements.
Guidelines, SOPs, Evidence for best practice	The Registered Nurses' Association of Ontario (RNAO) Best Practices Toolkit for falls prevention and management (http://ltctoolkit.rnao.ca/resources/falls).

PERCENTAGE OF COMPLEX CONTINUING CARE PATIENTS WITH A NEW STAGE 2 OR WORSE PRESSURE ULCER IN THE LAST THREE MONTHS

See Figure 5.9 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percentage of complex continuing care (CCC) patients that developed a new stage 2 or higher pressure ulcer in a three-month period. Pressure ulcers are classified into four stages, with stage 1 being the beginning of the pressure ulcer, stage 2 when the skin breaks open or forms an ulcer, stage 3 when the sore extends into the tissue beneath the skin and stage 4 when there is exposed bone, tendon or muscle. The indicator is calculated as a rolling four quarter average. The lower the indicator result, the better. This indicator was jointly developed by interRAI and the Canadian Institute for Health Information (CIHI).
Relevance / Rationale	This is an important indicator because the development of pressure ulcers increases a patient's risk of serious infection and can have a negative impact on independence and mental health.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Quality Improvement Plans (QIPs)
Attribute	Safe
Type	Outcome and core
External alignment and other reporting	CIHI e-reporting tool
Accountability	Hospital, Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** CCC patients who had a pressure ulcer at stages 2 to 4 on their target assessment and no pressure ulcer at stages 2 to 4 on their prior assessment
	Denominator CCC patients with at least two valid assessments* excluding those with a stage 2 to 4 pressure ulcer on their prior assessment *Two valid assessments within consecutive quarters are required for a given CCC patient to calculate the quality indicator. The assessment selected as the "target" assessment in the current quarter must: • Be the latest assessment in the quarter • Be carried out more than 92 days after the Admission Date • Not be an Admission Full Assessment • Be from a CCC patient that had an assessment in the previous quarter Have 45 to 165 days between the target assessment and assessment in the previous

	quarter (Note: If there are multiple assessments from the previous quarter that meet the time period criteria, the latest assessment is selected as the "prior" assessment)
	Methods **Incidence indicators** are calculated using two assessments in order to capture change from one quarter to the next. One assessment is from the fiscal quarter of interest ("*target" assessment)* and the second assessment is from the previous quarter ("*prior" assessment*). **Rolling four-quarter average**: The indicator is evaluated every quarter and calculated based on the rolling average of the four previous fiscal quarters (12 months). This methodology is used because events are relatively rare in smaller facilities. Since CCC patients are assessed on a quarterly basis, each patient may contribute to the indicator up to four times.
	Adjustment (risk, age/sex standardization) This indicator is risk adjusted at the individual covariate level and through direct standardization Adjusted at individual resident level using logistic regression: Individual covariates: • Age younger than 65 • Personal Severity Index (PSI)*: Subset 1: Diagnoses • More dependence in toileting • Resource Utilization Group (RUG) Cognitive Impairment Adjusted at facility level using direct standardization Stratification: • Case Mix Index (CMI)** * PSI is statistically linked to the likelihood of death within six months **The relative resource use compared to the overall average resource use for all Ontario LTC residents
Data source / data elements	Data are based on mandatory Resident Assessment Instrument – Minimum Dataset 2.0 (RAI-MDS 2.0) assessments in the Continuing Care Reporting System (CCRS) database held at CIHI. The following data elements are used: • M2a Stage of Pressure Ulcer • Prev_M2a Stage of Pressure Ulcer
Timing and frequency of data release	This indicator is available quarterly as a rolling four quarter average (fiscal quarters, starting from Q4 2009/10).
Levels of comparability	This is available at the provincial, Local Health Integration Network (LHIN) region and facility levels.
Targets and/or Benchmarks	QIP 2013/14 Benchmark: 1.6%;Target 0%
Target source	Health Quality Ontario (HQO) benchmarking process (2012) and expert consultation.

OTHER INFORMATION	
Limitations / Caveats	While rolling four quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, it makes it more difficult to detect true quarterly improvements.
Guidelines, SOPs, Evidence for best practice	Ontario Health Technology Advisory Committee (OHTAC) Recommendation, 2009: (http://www.health.gov.on.ca/english/providers/program/ohtac/tech/recommend/rec_pup_20091020.pdf)

PERCENTAGE OF PATIENTS IN MENTAL HEALTH DESIGNATED BEDS WHO WERE PHYSICALLY RESTRAINED

See Figure 5.10 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Prevalence of physical restraint use among in-patient mental health patients in Ontario.
Relevance / Rationale	Control interventions, such as acute control medication, mechanical or physical restraints and seclusion, are generally used with the intention of protecting individuals from self-harm or preventing harm to another person. However, the use of control interventions has been associated with a number of potentially adverse outcomes, such as further provocation of aggression, injury to staff or patients, recollections of past abuse, etc.[103],[104] There have been a number of efforts to develop best practices and guidelines for the use of control interventions that were influenced by the following documents: Patient Restraint Minimization Act,[105] Mental Health Act[106] and the Health Care Consent Act[107]. Overall, close to one in four (24%) of all individuals admitted to a designated mental health bed in Ontario experienced at least one type of control intervention during their hospitalization.[108] Acute control medications (58.9%) were used most often, followed by the use of physical/mechanical restraint (20.7%).[109]

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[103] R. Almvik et al., "Challenging Behaviour in the Elderly—Monitoring Violent Incidents," International Journal of Geriatric Psychiatry 21, 4 (2006): pp. 368–374.

[104] W. A. Fisher, "Restraint and Seclusion: A Review of the Literature," American Journal of Psychiatry 151, 11 (1994): pp. 1584–1591.

[105] Government of Ontario, Patient Restraints Minimization Act, 2001 (Toronto, Ont.: Government of Ontario, 2001).

[106] Government of Ontario, Mental Health Act, 1990 (Toronto, Ont.: Government of Ontario, 2004).

[107] Government of Ontario, Health Care Consent Act, 1996 (Toronto, Ont.: Government of Ontario, 2011).

[108] Canadian Institute for Health Information. 2001. Restraint use and other control interventions for mental health inpatients in Ontario. August 2011. Accessed on 01.05.2014 at https://secure.cihi.ca/free_products/Restraint_Use_and_Other_Control_Interventions_AIB_EN.pdf

[109] Canadian Institute for Health Information (as no. 6 above).

	Reports show that previous psychiatric hospitalizations and poor adherence to treatment[110] are the major factors contributing to use of control interventions. Current legislation and clinical practice guidelines[111] aim to minimize and even eliminate the use of control interventions and the reporting of the rates and understanding of the factors contributing to increased use may help target interventions for populations at risk.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Hospital Quality Improvement Plans (QIPs)
Attribute	Effectiveness
Type	Process
External alignment and other reporting	Canadian Institute for Health Information (CIHI) indicator report
Accountability	Acute Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Patients who had a mechanical restrain use indicated on their Ontario Mental Health Reporting System (OMHRS) records: • Mechanical restraint use (M1A ≥ 1) • Chair prevents rising (M1B ≥ 1) Physical /manual restraint by staff (M1C ≥ 1)
	Denominator Total number of individuals who were discharged from a designated adult mental health bed in an Ontario hospital and had a full assessment *Inclusion Criteria*: • Patients with records in OMHRS • Assessments with variables M1A, M1B and M1C • Valid IKN
	Methods Numerator/Denominator*100 The rates of restraints intervention were calculated as the number of individuals who had a physical/mechanical restraint during a completed episode of hospitalization divided by the total number of individuals discharged after hospitalization for a mental illness. The data used in the analysis is based on the RAI-MH instrument in OMHRS. The analysis included adults who were discharged from a designated adult mental health bed in an Ontario hospital and had **a full assessment**

[110] Gilmer PD. Adherence to Treatment With Antipsychotic Medication and Health Care Costs Among Medicaid Beneficiaries With Schizophrenia. Am J Psychiatry 2004

[111] Practice standards. Restraints. College of Nurses in Ontario. 2009

	Additional information
	Depending on the length of stay of the patient there may have a number of assessments carried out over time, each resulting in a record in OMHRS.
	There are potentially **five types of assessments** that can be carried out.
	Admission Record – This assessment period refers to the first 72 hours of admission. The assessment reference date (A1) should reflect day three of the inpatient episode of care. **Short Stay Record** – This assessment is completed when the total length of stay is less than 72 hours.**(control interventions are optional)** **Change in Status Record**. **Quarterly Record** – This assessment is completed within 92 days of the most recent admission, quarterly or change in status assessment. **Discharge Record** – This assessment period refers to the 72 hours before the patient leaves the inpatient bed and when there is no indication that they will be returning.
	Adjustment (risk, age/sex standardization)
	- Direct standardization - Standard population: 1991 census population - Standardize by: - Age groups (<20, 20-44; 45-64; 65-79; 80+) - Sex
Data source / data elements	Institute for Clinical Evaluative Sciences (ICES) OMHRS data elements - Mechanical restraint use (M1A) - Chair prevents rising (M1B) Physical /manual restraint by staff (M1C)
Timing and frequency of data release	ICES updates the OMHRS database annually
Levels of comparability	Over time, by LHIN region, by institution, sex, age group, income quintiles, rural/urban
Targets and/or Benchmarks	0%
Target source	Expert consultation (mental health consortium)
OTHER INFORMATION	
Limitations / Caveats	Control interventions in OMHRS are reported in full assessment records which typically occur at set intervals and may not capture information about incidents that occur between intervals. This is related to the fact that there is no reporting requirement for control interventions and, therefore, in instances where hospital stays are longer, a larger number of control interventions may go unreported. The analysis was limited by the exclusion of individuals with hospital stays of three days or less. Short-stay RAI-MH assessments do not require all data elements to be coded.
Guidelines, SOPs,	Government of Ontario. An Act to minimize the use of restraints on patients in hospitals

Evidence for best practice	http://www.e-laws.gov.on.ca/html/source/statutes/english/2001/elaws_src_s01016_e.htm
	A practical guide to mental health and the Law in Ontario. October 2012
	http://www.oha.com/CurrentIssues/keyinitiatives/MentalHealth/Documents/Final%20-%20Mental%20Health%20and%20the%20Law%20Toolkit.pdf

6. Home Care Indicators

PERCENTAGE OF SURVEY RESPONDENTS WHO ARE SATISFIED WITH THEIR HOME CARE FROM BOTH CARE COORDINATORS AND SERVICE PROVIDERS	
See Figure 6.1 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator provides information on the overall experience of home care patients. It measures the proportion of home care patients who are satisfied with services provided by Community Care Access Centres (CCACs), with the handling of their care by CCAC care coordinators and with the services provided by service provider organizations. A greater percentage is better. This indicator was developed by CCACs in consultation with researchers.
Relevance / Rationale	Higher patient satisfaction scores are associated with higher quality of care and have been shown to be reflective of greater patient engagement in their own health care plan. Therefore, measuring patient satisfaction with their care is an important component of measuring and improving the quality of care that they receive.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Health Quality Ontario (HQO) Home Care Public Reporting web pages Quality Improvement Plans (QIPs)
Attribute	Patient-centred
Type	Outcome indicator
External alignment and other reporting	How We Care: 2012-2013 CCAC Quality Report National Research Corporation Canada (NRCC) Client and Caregiver Experience Evaluation (CCEE) Key Performance Indicator (KPI)
Accountability	Home Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Sum* of the positive responses** (good, very good, and excellent) for questions 4, 24, and 39 in the CCEE survey (n positive Q4) + (n positive Q24) + (n positive Q39) The overall satisfaction rate is calculated by combining three survey questions that ask about the patient's experience in home care: Question 4: Overall, how would you rate the services that you received from your CCAC and any of the individuals who provided care to you? Question 24: Overall, how would you rate the management and handling of your care by your case manager?

	Question 39: Overall, how would you rate the x service provided by y? (Where x is any of: nursing, personal support, physiotherapy, occupational therapy, nutrition/dietetics, speech and language therapy, or social work and y is the name of the service provider).
	* Sum of the weighted responses are used. Post-sample weighting is applied to adjust for disproportionate sampling and to ensure that the reported survey results are representative of the actual population served by the CCAC.
	**Possible responses for all 3 questions: poor, fair, good, very good, excellent.

	Denominator
	Number of home care patients who completed survey questions 4, 24, and 39 in the CCEE survey
	(n Q4) + (n Q24) + (n Q39)
	See numerator description for wording of survey questions
	General Survey Inclusion Criteria:
	Home care patients (active or discharged) who received one of the following in-home services within specified time period:
	• Nursing
	• Personal Support
	• Physiotherapy
	• Occupational Therapy
	• Nutrition/Dietetics
	• Speech and Language Therapy
	• Social Work
	Home care patients discharged from a placement referral within the fiscal year with one of the following discharge dispositions:
	• Admission final
	• Withdrawn, interim became final
	• Withdrawn, placement by other CCAC
	• Refused bed
	Caregivers were surveyed in place of home care patients in the event any of the following criteria were met:
	• Home care patient < 19 years of age at time of sample selection
	• Home care patient identified as cognitively incapable
	• Home care patient discharged from placement with one of the four discharge dispositions listed above
	General Survey Exclusion Criteria:

	• Home care patients who indicate they do not want to participate in any survey conducted on behalf of the CCAC
	• Home care patients who received in-school service only
	• Nursing Clinic Services
	• Respite Services
	• Medical Supplies and Equipment
	• End of life home care patients (SRC 95)
	• Home care patients not yet categorized (SRC 99)
	• Home care patients classified as out of region
	• Convalescent care home care patients
	• Home care patients with hospital or death discharge dispositions
	• Home care patients on hold in the hospital
	• Home care patients without a health card number
	• Home care patients with missing contact information
	• Home care patients with an active legal claim against the CCAC
	• Home care patients with an active claim before the Ontario Health Services Appeal and Review Board
	Question Specific Exclusion Criteria: • Q24-Respondents who do not know the case manager or have not seen or spoken to the case manager. • Q39-Respondents who do not recall the in-home service they received or who were surveyed about placement services
	Methods CCEE Survey Sample Plan: The target population in each CCAC is stratified according to service type, service provider and/or geography and a random sample is drawn from each stratum. The number of surveys conducted is determined by estimating the number of surveys needed in order to obtain a minimum 10% annual margin of error with an average percent positive score of 50% in each stratum. Survey is administered over the telephone.
	Adjustment (risk, age/sex standardization) Results are weighted to reflect the population of home care patients eligible to be surveyed within each CCAC (i.e., sampled home care patients are standardized to CCAC-specific population).
Data source / data elements	Data from NRCC CCEE Survey, provided to HQO from the Ontario Association of Community Care Access Centres (OACCAC).
Timing and frequency of data release	This indicator is available annually by request to the OACCAC. The annual refresh of data is dependent on the administration of the CCEE Survey.
Levels of comparability	Results are reported at the provincial and CCAC levels.
OTHER INFORMATION	
Limitations / Caveats	-Currently data are available for 2012/13.

	-Several types of home care patients and services are excluded (e.g. respite, convalescent care, nursing clinic services), suggesting these results cannot be widely applied to all home care patients and all home care services.
Comments	The CCEE is a survey of CCAC home care patients (active in-home and discharged in-home and placement home care patients) and their caregivers conducted in four waves per year in all 14 CCACs in Ontario by Computer Assisted Telephone methodology.
	Respondents are surveyed about either in-home services or placement services. Those with eligible in-home and placement referrals within the same timeframe are surveyed about placement services.
	Respondents are eligible to be surveyed once per survey year.

PERCENTAGE OF HOME CARE PATIENTS WHO RECEIVED THEIR FIRST NURSING VISIT WITHIN FIVE DAYS OF AUTHORIZATION TO RECEIVE NURSING SERVICES	
See Figure 6.2 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percentage of home care patients authorized for nursing services who received their first nursing visit within five days. The wait time is described as the number of days between service authorization date and the date of Community Care Access Centre (CCAC) in-home nursing. A greater percentage is better. This indicator was developed by a working group with representation from the Ministry of Health and Long-Term Care (ministry), CCACs, Local Health Integration Networks (LHINs), the Ontario Community Support Association (OCSA), and Health Quality Ontario.
Relevance / Rationale	It is important that individuals with chronic conditions or complex needs who need home care services are provided with care as soon as possible; delays in service could mean that home care patients experience an abrupt decline in their condition and require immediate medical assistance or admission to hospital. In the 2013/14 budget, the government announced a five-day target for wait times from time of assessment to time of first visit for nursing services and for personal support services for patients with complex needs. The ministry committed to publicly reporting home care wait times, commencing with wait times for nursing and personal support services for complex care home care patients.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Health Quality Ontario (HQO) Home Care Public Reporting web pages Quality Improvement Plans (QIPs)
Attribute	Access
Type	Process indicator
External alignment and	

other reporting	
Accountability	Home Care

DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** The number of home care patients who received their first nursing service visit within five days of the date they were authorized for nursing services by the CCAC Wait time = First Service Date – Care Authorization Date *Inclusion Criteria:* Patients who received CCAC in-home nursing service within five days from service authorization
	Denominator The number of adult home care patients who received in-home nursing services Three patient populations are included: 1) New patients 2) Existing patients who now require a new service 3) Existing patients who are receiving services after a break in service *Inclusion Criteria:* • Home care patients who requested in-home program at the time of referral (Request program=1) • Home care patients who received in-home service (SRC = 91 to 95) • Home care patients who received nursing services (Service Type = 1, 17, 18) • Age at service authorization date is greater than 18 *Exclusion Criteria:* • Shift nursing (Service type = 2) • Mental health and addiction nursing service, which is a service delivered in school setting for children (Service type = 16) • Children receiving nursing service (Age ≤ 18) • Service delivered in school setting (Care site = 12, 24, 25) • Episodes of care where service on hold date falls between the service authorization date and first service date
	Methods The percentage is calculated as: [total number of CCAC home care patients receiving in-home nursing services within 0 to 5 days from service authorization in a given time period] ÷ [total number of CCAC home care patients receiving in-home nursing services in a given time period] x 100
Data source / data elements	Home Care Database (HCD), provided to the ministry by the Ontario Association of Community Care Access Centres (OACCAC)
Timing and frequency of data release	Data are available quarterly approximately six weeks after the end of each fiscal quarter.

Levels of comparability	Results are reported at the provincial and CCAC levels. Data are technically available as far back as 2007/08, but the indicator has been calculated by ministry and provided to HQO beginning in Q1 2012/13.
Targets and/or Benchmarks	The indicator measures the percentage within a five day target.
Target source	The five day target was announced by the ministry in Spring 2013 (2013/14 Budget Commitment – Improving Timely Access to Home and Community Care).
OTHER INFORMATION	
Limitations / Caveats	Each case is reported under the fiscal year and quarter in which the home care patient received their first home care service. Since wait times are not counted until the patient has received the service, wait lists in CCACs can impact the indicator results.
Comments	Shift nursing is excluded due to service provider availability and diversity in service delivery models across CCACs. Shift nursing is a block of time when a nurse provides service to a specific home care patient. It is often delivered in conjunction with a visiting nursing component. Home care patients requiring shift nursing are generally from a highly complex children population with very special needs and comprise a proportionately small volume. Nursing services provided under Outcome Based Wound service authorizations are not captured in this indicator as nursing services, despite nursing services being the primary service provided under these authorizations. This impacts CCACs using Outcome Based Wound Pathways (Erie St. Clair, Mississauga Halton, Champlain, South East, North Simcoe Muskoka, and Central). Home care assessments occur over a period of time rather than on a single date. A number of possible dates could be used to measure assessment, including the date of initial assessment (start of the assessment stage) or the service authorization date (end of the assessment stage). The benefit of using service authorization date is that it applies to both new patients as well as existing patients starting other services. The re-alignment of the 42 CCACs to the 14 Local Health Integration Network (LHIN) took place as of January 1, 2007; therefore, complete years of data are available under the new 14 CCAC boundaries from fiscal year 2007/08.

PERCENTAGE OF HOME CARE PATIENTS WITH COMPLEX NEEDS WHO RECEIVED THEIR PERSONAL SUPPORT VISIT WITHIN FIVE DAYS OF AUTHORIZATION TO RECEIVE PERSONAL SUPPORT SERVICES

See Figure 6.3 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percentage of complex home care patients authorized for personal support services who received their first personal support service visit within five days. The wait time is described as the number of days between service authorization date and the date of Community Care Access Centre (CCAC) in-home personal support. A greater percentage is better.

	This indicator was developed by a working group with representation from the Ministry of Health and Long-Term Care (ministry), CCACs, Local Health Integration Networks (LHINs), the Ontario Community Support Association (OCSA), and Health Quality Ontario.
Relevance / Rationale	It is important that individuals with chronic conditions or complex needs who need home care services are provided with care as soon as possible; delays in service could mean that home care patients experience an abrupt decline in their condition and require immediate medical assistance or admission to hospital.
	In the 2013/14 budget, the government announced a five-day target for wait times from time of assessment to time of first visit for nursing services and for personal support services for patients with complex needs. The ministry committed to publicly reporting home care wait times, commencing with wait times for nursing and personal support services for complex home care patients.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Health Quality Ontario (HQO) Home Care Public Reporting web pages Quality Improvement Plan (QIPs)
Attribute	Access
Type	Process indicator
External alignment and other reporting	
Accountability	Home Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage (proportion)
Calculation	**Numerator** The number of home care patients who received their first personal support service visit within five days of the date they were authorized for nursing services by the CCAC Wait time = First Service Date – Care Authorization Date *Inclusion Criteria:* Patients who received CCAC in-home personal support service within five days from service authorization
	Denominator The number of adult complex home care patients who received in-home personal support services Three patient populations are included: 4) New patients 5) Existing patients who now require a new service 6) Existing patients who are receiving services after a break in service *Inclusion Criteria:* • Home care patients with complex needs (Authorization Client Care Model Population = 1)

	• Home care patients who requested in-home program at the time of referral (Request program=1) • Home care patients who received in-home service (SRC = 91 to 95) • Home care patients who received personal support services (Service Type = 11, 12, 13, 15) • Age at service authorization date is greater than 18 *Exclusion Criteria:* • Children receiving nursing service (Age ≤ 18) • Service delivered in school setting (Care site = 12, 24, 25) • Episodes of care where service on hold date falls between the service authorization date and first service date
	Methods The percentage is calculated as: [total number of CCAC home care patients with complex needs receiving in-home personal support services within 0 to 5 days from service authorization in a given time period] ÷ [total number of CCAC home care patients with complex needs receiving in-home personal support services in a given time period] x 100
Data source / data elements	Home Care Database (HCD), provided to the ministry by the Ontario Association of Community Care Access Centres (OACCAC).
Timing and frequency of data release	Data are available quarterly approximately six weeks after the end of each fiscal quarter.
Levels of comparability	Results are reported at the provincial and CCAC levels. Available over time from Q3 2012/13.
Targets and/or Benchmarks	The indicator measures the percentage within a five day target.
Target source	The five day target was announced by the ministry in Spring 2013 (2013/14 Budget Commitment – Improving Timely Access to Home and Community Care).
OTHER INFORMATION	
Limitations / Caveats	Each case is reported under the fiscal year and quarter in which the home care patient received their first home care service. Since wait times are not counted until the patient has received the service, wait lists in CCACs can impact the indicator results
Comments	A home care assessment occurs over a period of time rather than on a single date. A number of possible dates could be used to measure the wait from assessment, including the date of initial assessment (start of the assessment stage) or the service authorization date (end of the assessment stage). The benefit of using service authorization date is that it applies to both new patients as well as existing patients starting other services. The re-alignment of the 42 CCACs to the 14 Local Health Integration Network (LHIN) region took place as of January 1, 2007; therefore, complete years of data are available under the new 14 CCAC boundaries from fiscal year 2007/08. The coding of Client Care Model (CCM) population was rolled out over time with a target completion date of Q2 2012/13; therefore, analyses by CCM population (e.g., among patients with complex needs) are available only after Q3 2012/13. Analyses on all home care patients, however, are available from 2007/08. As of Q2 2013/14, most CCACs, except Central West and Mississauga Halton, report respite services as part of personal support services rather than as a separate

	service. Therefore, respite services (Service type = 15) are included as personal support services in the analyses. New home care patients are categorized based on their complexity as defined by the CCM by care coordinators as part of the intake process and then reassessed once the patient is on service. Care coordinators use clinical judgement, decision support tools, and elements of the Resident Assessment Instrument – Home Care (RAI-HC) tool, and population definitions and attributes to ensure appropriate categorization of patients. A complex patient in the CCM is defined by "[the patient] may have one or more health/chronic conditions with complicating factors; direct care needs are unstable and unpredictable; the individual or support network is not self-reliant with high risks in more than one area; high/intensive care coordination is required to support patient goals and outcomes." In a small number of CCACs, data are missing for complex patients because information required to categorize them by their complexity is unavailable.

7. Long-Term Care Indicators

MEDIAN NUMBER OF DAYS TO ADMISSION TO A LONG-TERM CARE HOME FROM EITHER HOSPITAL OR HOME	
See Figures 7.1 and 7.2 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	This indicator measures the median number of days an individual waited to be placed in a long-term care (LTC) home from the date of LTC home application or consent to the date of placement, whichever is longer. Fewer number of days is better.
Relevance / Rationale	It is important that individuals who need LTC are placed in a home of their choice as quickly as possible. When people wait for a long time at home, their health may get worse, which can lead to additional stress on them and on the people caring for them. Many people also wait for long-term care after being hospitalized. Waiting in hospital puts people at higher risk of problems like infections or functional decline and can also affect the ability of hospitals to provide regular services like emergency care or elective surgeries.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Health Quality Ontario (HQO) Long-Term Care Public Reporting web pages
Attribute	Access
Type	Process indicator
Accountability	Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Median number of days
Calculation	The median time, in days, for each included placement from the earlier of LTC Home Application Date or Consent Date to date of placement. The median is calculated for each of the following groups: 1) **Placed from acute care**: *Inclusion Criteria:* All non-crisis clients placed from acute care hospitals (includes priority category 3A, 3B, 4A, 4B). Includes clients placed from acute care hospitals only. Does not include clients placed from rehab, complex continuing care, etc. 2) **Placed from community** *Inclusion Criteria*: All non-crisis clients (priority category 3A, 3B, 4A, 4B) placed from the home, retirement homes, and supportive housing only.

	Methods
	The median is the number of days within which 50% of individuals waited from the date of application or consent to the date of placement.
Data source / data elements	Long-Term Care Public Reporting (LTCPR) Client Profile database (CPRO), provided to the Ministry of Health and Long Term Care (ministry) by the Community Care Access Centres (CCACs)
Timing and frequency of data release	Data are available quarterly and annually
Levels of comparability	Results are reported at the provincial and Local Health Integration Network (LHIN) region level. Available over time from 2003/04.
Unit of analysis	Median number of days
OTHER INFORMATION	
Limitations / Caveats	- Placements included in this indicator do not include individuals identified as crisis, spousal/partner reunifications, or individuals transferring from another LTC home. The included placements make up approximately 40% of all placements to LTC and 70% of all placements excluding transfers from other LTC homes. Wait times are much shorter for crisis clients and clients prioritized for spousal/partner reunifications. - The wait time for LTC placement is a measure for those individuals who have been placed into LTC, so does not capture those who wait for LTC but die or find alternative arrangements before receiving LTC home accomodation. - The indicator reflects the time waiting during only one part of the admission process. The process of applying and waiting for LTC is complex. - Although priority categories are assigned based on a provincially standardized process, variation between CCAC processes exist for prioritizing individuals within priority categories. - The median was chosen as a summary measure because the overall distribution of wait time is highly skewed by very long waits. - The priority categories changed in 2010. For 2003/04 to 2009/10, non-crisis clients were denoted by priority categories 1B, 2, and 3. From 2010/11 to 2012/13, non-crisis clients were denoted by priority categories 3A, 3B, 4A, and 4B. - Clients were excluded if their location at placement was unknown.
Comments	The general process for individuals requiring placement in a LTC home begins with a request/referral to a CCAC from an individual on their own or on behalf of someone else, from a physician of a hospitalized individual or from CCAC staff. The CCAC is responsible for determining the individual's eligibility and priority category using a provincially standardized assessment process. Once deemed eligible for LTC, individuals apply to one to five LTC homes. Once accepted by a LTC home, individuals are placed on a wait list and offered a bed when one becomes available and they are at the top of the wait list.

Placement Priority Categories:

Category 1: People who need immediate admission to long-term care and cannot have their needs met at home, or who are in hospital, when hospital is in crisis. People in long-term care home that is closing within 12 weeks.

Category 2: People who need to be reunified with their spouses/partners who are currently residing in a long-term care home, and who meet eligibility requirements (including care needs).

Category 3A: People waiting for a long-term care home serving those of a particular religion, ethnic origin or culture. People who have high care needs, but can still be supported at home until a bed becomes available. People in hospital waiting for long-term care. People in a long-term care home seeking transfer to their home of choice.

Category 3B: People waiting for a long-term care home serving those of a particular religion, ethnic origin or culture. People with care needs who are currently managing at home with supports. Wait times for clients in this category are much longer.

Category 4A: People who have high care needs, but can still be supported at home until a bed becomes available. People in hospital waiting for long-term care. People in a long-term care home seeking transfer to their home of choice.

Category 4B: People with care needs who are currently managing at home with supports. Wait times for people in this category are much longer.

Veterans: People with care needs who are currently managing at home with supports. Wait times for clients in this category are much longer.

PERCENTAGE OF LONG-TERM CARE RESIDENTS IN PHYSICAL RESTRAINTS ON A DAILY BASIS

See Figures 7.3 and 7.4 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measure the percentage of long-term care (LTC) residents in daily physical restraints. The indicator is calculated as a rolling four quarter average. The lower the indicator result, the better. This indicator was jointly developed by interRAI and the Canadian Institute for Health Information (CIHI).
Relevance / Rationale	Some LTC homes use restraints as a way of managing potentially harmful resident behaviours, such as wandering or aggression (e.g., hitting). Residents who display these behaviours often have dementia or other cognitive impairments and can

| | sometimes pose a risk to themselves or others. However, restraints are known to cause injury and even accidental death. They are also associated with social isolation and a reduced quality of life. For this reason, it is important to reduce the use of restraints and find alternate ways of managing dementia-related behaviours.

The *Long-Term Care Homes Act, 2007,* requires all homes in Ontario to have restraint policies in place. Any necessary restraining must be done in accordance with the requirements under the Act. |
|---|---|
| **HQO Reporting tool/product** | Yearly Report/Common Quality Agenda
Health Quality Ontario (HQO) Long-Term Care Public Reporting web pages
Quality Improvement Plans (QIPs) |
| **Attribute** | Safe |
| **Type** | Outcome indicator |
| **External alignment and other reporting** | CIHI Continuing Care Reporting System eReports |
| ***Accountability*** | Long-Term Care |
| **DEFINITION & SOURCE INFORMATION** ||
| **Unit of analysis** | Percentage |
| **Calculation** | **Numerator**
LTC residents who were recorded as being physically restrained daily on their target assessment*

Inclusion Criteria:
(P4c = 2) OR (P4d = 2) OR (P4e = 2)

Where,
P4c = Trunk restraint [0,1,2]
P4d = Limb restraint [0,1,2]
P4e = Chair prevents rising [0,1,2]

    0 = not used
    1 = used less than daily
    2 = used daily

* Assessments conducted using the Resident Assessment Instrument – Minimum Dataset (RAI-MDS) |
| | **Denominator**
LTC residents with valid assessments*

Exclusion Criteria:
• Residents who were comatose (B1= 1)
• Residents who were quadriplegic (I1bb = 1)

*For an assessment to be valid and included in the quality indicator calculation, the selected RAI-MDS assessment must:
• Be the latest assessment in the quarter
• Be carried out more than 92 days after the Admission Date |

	• Not be an Admission Full Assessment
	Methods
	The indicator is calculated using four rolling quarters of data by summing the number of residents that meet the inclusion criteria for the target quarter and each of the previous three fiscal quarters. This is done for both the numerator and denominator. The unadjusted rate is the quotient of the summed numerator divided by the summed denominator, multiplied by 100.
	Adjustment (risk, age/sex standardization)
	This indicator is risk adjusted through direct standardization using the Activities of Daily Living (ADL) Long Form, which includes bed mobility, transfer, locomotion, dressing, eating, toileting and personal hygiene self-performance.
Data source / data elements	Continuing Care Reporting System (CCRS), provided by CIHI The following data elements are used: • P4c Trunk Restraint • P4d Limb Restraint • P4e Chair Prevents Rising
Timing and frequency of data release	Available quarterly as a rolling four quarter average (fiscal quarters, starting from Q4 2009/10).
Levels of comparability	Annual and quarterly results by province, Local Health Integration Network (LHIN) region and facility from Q4 2009/10.
Targets and/or Benchmarks	Benchmark is set at 3% by an expert panel through a modified Delphi process. Resources about the benchmarking process can be found here: http://www.hqontario.ca/public-reporting/long-term-care/resources-for-long-term-care-homes
Target source	HQO benchmarking process (2012)
OTHER INFORMATION	
Limitations / Caveats	- Does not measure the use of bed rails or chemical restraints (i.e. medication). - Includes only long-stay beds. - Rolling four quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, but make it more difficult to detect quarterly changes. - There may be some coding variation due to the difference in RAI-MDS physical restraint definition and the Ministry of Health and Long Term Care (ministry) legislated definition. As coding practices improve, the rates of physical restraint use may also improve. - Inherent limitations to using RAI-MDS 2.0 data, including random error, coding errors, and missing values. - Residents who were newly admitted to the long-term care home are not included in the calculation.
Guidelines, SOPs,	The Registered Nurses' Association of Ontario (RNAO) Clinical Best Practice Guideline on "Promoting Safety: Alternative Approaches to the Use of Restraints"

Evidence for best practice	(http://rnao.ca/sites/rnao-ca/files/Promoting_Safety_-_Alternative_Approaches_to_the_Use_of_Restraints_0.pdf)
Comments	A physical restraint is any manual method, or any physical mechanical device, material or equipment that is attached or adjacent to the resident's body, that the resident cannot remove easily, and that restricts the resident's freedom of movement or normal access to his or her body. It is the effect the device has on the resident that classifies it into the category of restraint, not the name of label given to the device, nor the purpose or intent of the device. ***This definition is different from that of the definition for physical restraint used by the ministry, where intent plays an important role.*** The restraint use items capture restraint use in the 7 days prior to the target assessment. Data are based on information from mandatory Resident Assessment Instrument – Minimum Dataset 2.0 (RAI-MDS 2.0) assessments. The RAI-MDS 2.0 is a standardized assessment completed for each resident upon admission to LTC and quarterly thereafter by the resident's care team by reviewing the resident's medical records and speaking to the resident and their family.

PERCENTAGE OF LONG-TERM CARE RESIDENTS WHO FELL IN THE LAST 30 DAYS
See Figure 7.5 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percent of long-term care (LTC) residents who fell in the last 30 days. It includes falls that did not result in injury. The indicator is calculated as a rolling four quarter average. The lower the indicator result, the better. This indicator was jointly developed by interRAI and the Canadian Institute for Health Information (CIHI).
Relevance / Rationale	Residents can experience serious consequences after a fall, including injuries that limit their independence and increase their care needs. Falls also have an effect on other parts of the health care system, leading to more emergency department visits, hospitalizations and surgeries. The *Long-Term Care Homes Act, 2007,* requires all homes in Ontario to have a falls prevention and management program to reduce the incidence of falls and the risk of injury.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Health Quality Ontario (HQO) Long-Term Care Public Reporting web pages Quality Improvement Plans (QIPs)
Attribute	Safe
Type	Outcome indicator
External alignment and other reporting	CIHI Continuing Care Reporting System eReports

Accountability	Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage

Calculation	**Numerator**
	LTC residents who had a fall in the last 30 days recorded on their target assessment*
	
	Inclusion Criteria:
	J4a = 1
	
	Where,
	J4a = Fell in past 30 days [0,1]
	    0 = No
	    1 = Yes
	
	* Assessments conducted using the Resident Assessment Instrument – Minimum Dataset (RAI-MDS)

	Denominator
	LTC residents with valid assessments*
	
	*For an assessment to be valid and included in the quality indicator calculation, the selected RAI-MDS assessment must:
	    • Be the latest assessment in the quarter
	    • Be carried out more than 92 days after the Admission Date
	    • Not be an Admission Full Assessment

	Methods The indicator is calculated using four rolling quarters of data by summing the number of residents that meet the inclusion criteria for the target quarter and each of the previous three fiscal quarters. This is done for both the numerator and denominator. The unadjusted rate is the quotient of the summed numerator divided by the summed denominator, multiplied by 100.

	Adjustment (risk, age/sex standardization)
	This indicator is risk adjusted at the individual covariate level and through direct standardization.
	
	Individual Covariates
	    • Not totally dependent in transferring
	    • Locomotion problem
	    • Personal Severity Index (PSI)**: Subset 2: Non-Diagnoses
	    • Any wandering
	    • Unsteady gait/cognitive impairment
	    • Age younger than 65
	
	Direct Standardization
	    • Case Mix Index (CMI)^

	**PSI is statistically linked to the likelihood of death within six months. ^The relative resource use compared to the overall average resource use for all Ontario LTC residents.
Data source / data elements	Continuing Care Reporting System (CCRS), provided by CIHI The following data element is used: J4a Fell in the past 30 days
Timing and frequency of data release	Available quarterly as a rolling four quarter average (fiscal quarters, starting from Q4 2009/10)
Levels of comparability	Annual and quarterly results by province, Local Health Integration Network (LHIN) region and facility from Q4 2009/10
Targets and/or Benchmarks	Benchmark is set at 9% by an expert panel through a modified Delphi process. Resources about the benchmarking process can be found here: http://www.hqontario.ca/public-reporting/long-term-care/resources-for-long-term-care-homes
Target source	HQO benchmarking process (2012)
OTHER INFORMATION	
Limitations / Caveats	- Includes only long-stay beds. - The rolling four quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, but make it more difficult to detect quarterly changes. - Inherent limitations to using RAI-MDS 2.0 data, including random error, coding errors, and missing values. - A study of nursing home residents suggested that falls are underreported according to the RAI-MDS 2.0.[112] -Residents who were newly admitted to the long-term care home are not included in the calculation.
Guidelines, SOPs, Evidence for best practice	The Registered Nurses' Association of Ontario (RNAO) Best Practices Toolkit for falls prevention and management (http://ltctoolkit.rnao.ca/resources/falls). AGS/BGS Clinical Practice Guideline *Prevention of Falls in Older Persons* (http://www.medcats.com/FALLS/frameset.htm)
Comments	Data are based on information from mandatory Resident Assessment Instrument – Minimum Dataset 2.0 (RAI-MDS 2.0) assessments. The RAI-MDS 2.0 is a

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[112] Hill-Westmoreland EE and Gruber-Baldini AL. Falls documentation in nursing homes: agreement between the minimum data set and chart abstractions of medical and nursing documentation. J Am Geriatr Soc. 2005 Feb;53(2):268-73.

standardized assessment that is completed for each resident upon admission to LTC and quarterly thereafter by the resident's care team by reviewing the resident's medical records and speaking to the resident and their family.

This indicator captures whether the resident fell in the last 30 days but does not capture whether the fall resulted in injury. Residents have a right to balance the risk of falls with their right to remain mobile and unrestrained; therefore, a certain number of falls are inevitable. The focus should be on reducing the number of falls, recognizing that some falls will occur, and preventing injuries associated with falls.

PERCENTAGE OF LONG-TERM CARE RESIDENTS WITH NEW OR WORSENING PRESSURE ULCERS

See Figure 7.6 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the percentage of long-term care (LTC) residents who had a newly occurring stage 2 to 4 pressure ulcer or a pressure ulcer that worsened to a stage 2, 3 or 4. Pressure ulcers are classified into four stages, with stage 1 being the beginning of the pressure ulcer, stage 2 when the skin breaks open or forms an ulcer, stage 3 when the sore extends into the tissue beneath the skin and stage 4 when there is exposed bone, tendon or muscle. The indicator is calculated as a rolling four quarter average. The lower the indicator result, the better. This indicator was jointly developed by interRAI and the Canadian Institute for Health Information (CIHI).
Relevance / Rationale	Pressure ulcers are skin wounds that can develop when someone has been sitting or lying down for prolonged periods of time. Residents who develop pressure ulcers are at risk of serious health complications, such as infections and severe pain. Pressure ulcers are also very difficult and expensive to treat. The *Long-Term Care Homes Act, 2007,* requires all homes in Ontario to have a skin and wound care program to promote skin integrity, prevent the development of wounds and pressure ulcers, and provide effective skin and wound care interventions.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Health Quality Ontario (HQO) Long-Term Care Public Reporting web pages Quality Improvement Plans (QIPs)
Attribute	Safe
Type	Outcome indicator
External alignment and other reporting	CIHI Continuing Care Reporting System eReports
Accountability	Long-Term Care
DEFINITION & SOURCE INFORMATION	

Unit of analysis	Percentage
Calculation	**Numerator** LTC residents who had a pressure ulcer at stage 2 to 4 on their target assessment* and either they did not have a pressure ulcer on their prior assessment or the stage of pressure ulcer is greater on their target compared with their prior assessment *Inclusion Criteria:* M2a > 1 AND (M2a – Prev_M2a) > 0 Where, M2a = Stage of pressure ulcer at target assessment [0-4] Prev_M2a = Stage of pressure ulcer at prior assessment [0-4] * Assessments conducted using the Resident Assessment Instrument – Minimum Dataset (RAI-MDS)

	Denominator
	LTC residents with valid assessments*, excluding those who had a stage 4 pressure ulcer on their previous assessment (i.e., residents are only included if they did not have a pressure ulcer at the maximum stage on their prior assessment)
	
	Exclusion Criteria:
	Prev_M2a = 4
	
	*Two valid RAI-MDS assessments within consecutive quarters are required for a given resident to calculate the quality indicator. The assessment selected as the "target" assessment in the current quarter must:
	   • Be the latest assessment in the quarter
	   • Be carried out more than 92 days after the Admission Date
	   • Not be an Admission Full Assessment
	   • Be from a resident that had an assessment in the previous quarter
	   • Have 45 to 165 days between the target assessment and assessment in the previous quarter (Note: If there are multiple assessments from the previous quarter that meet the time period criteria, the latest assessment is selected as the "prior" assessment)

	Methods The indicator is calculated using four rolling quarters of data by summing the number of residents that meet the inclusion criteria for the target quarter and each of the previous three fiscal quarters. This is done for both the numerator and denominator. The unadjusted rate is the quotient of the summed numerator divided by the summed denominator, multiplied by 100.

	Adjustment (risk, age/sex standardization)
	This indicator is risk adjusted at the individual covariate level and through direct standardization.
	
	Individual Covariates
	   • Age younger than 65
	   • Resource Utilization Group (RUG)
	   • Late Loss Activities of Daily Living (ADL)

	Direct Standardization • Case Mix Index (CMI)** **The relative resource use compared to the overall average resource use for all Ontario LTC residents
Data source / data elements	Continuing Care Reporting System (CCRS), provided by CIHI The following data element is used: M2a Stage of Pressure Ulcer
Timing and frequency of data release	Available quarterly as a rolling four quarter average (fiscal quarters, starting from Q4 2009/10).
Levels of comparability	Annual and quarterly results by province, Local Health Integration Network (LHIN) region and facility from Q4 2009/10.
Targets and/or Benchmarks	Benchmark is set at 1% by an expert panel through a modified Delphi process. Resources about the benchmarking process can be found here: http://www.hqontario.ca/public-reporting/long-term-care/resources-for-long-term-care-homes
Target source	HQO benchmarking process (2012)
OTHER INFORMATION	
Limitations / Caveats	- Some anecdotal evidence that assessors may not restage pressure ulcers as instructed by RAI-MDS 2.0 or remove bandages to assess ulcers. - Includes only long-stay beds. - The rolling four quarter averages stabilize the rates from quarter-to-quarter variations, especially for smaller facilities, but make it more difficult to detect quarterly changes. - Inherent limitations to using RAI-MDS 2.0 data, including random error, coding errors, and missing values. - Residents who were newly admitted to the long-term care home are not included in the calculation.
Guidelines, SOPs, Evidence for best practice	The Registered Nurses' Association of Ontario (RNAO) Best Practices Toolkit for pressure ulcer risk prevention and management (http://ltctoolkit.rnao.ca/resources/pressure-ulcer) OHTAC Recommendation: Prevention and Management of Pressure Ulcers (http://www.health.gov.on.ca/english/providers/program/ohtac/tech/recommend/rec_pup_20091020.pdf) AHRQ Guideline for prevention and management of pressure ulcers

	(http://www.guideline.gov/content.aspx?id=23868)
Comments	This indicator includes residents who developed a new pressure ulcer (stage 2 to 4) and residents whose pressure ulcer worsened from their prior assessment. Pressure ulcers are coded for the highest stage in the last seven days from 0 (no ulcer) to 4 (ulcer reaches muscle and bone). Data are based on information from mandatory Resident Assessment Instrument – Minimum Dataset 2.0 (RAI-MDS 2.0) assessments. The RAI-MDS 2.0 is a standardized assessment that is completed for each resident upon admission to LTC and quarterly thereafter by the resident's care team by reviewing the resident's medical records and speaking to the resident and their family.

8. System Integration Indicators

HOSPITALIZATION RATE FOR AMBULATORY CARE SENSITIVE CONDITIONS

See Figures 8.1, 8.2 and 8.3 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the hospitalization rate for ambulatory care sensitive conditions (ACSCs) which Include Asthma, Chronic Heart Failure (CHF), Chronic Obstructive Pulmonary Disease (COPD), Diabetes, Epilepsy, Angina and Hypertension.
Relevance / Rationale	ACSCs are conditions where appropriate ambulatory care may prevent or reduce the need for hospitalization. It is an important indicator because monitoring potentially avoidable hospitalization for ACSCs can help tracking the performance of the primary care system.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Efficient/Integrated
Type:	Outcome and core indicator
External alignment and other reporting	Health Indicators report by the Canadian Institute for Health Information (CIHI)
Other reporting	Institute for Clinical Evaluative Sciences (ICES) Statistics Canada
Accountability	Hospital, Primary Care, Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Rate per 100,000 population
Calculation	***Numerator*** Number of inpatient records from acute care hospitals during each fiscal year with any of ACSCs as the most responsible diagnosis. The ACSCs are defined by most responsible diagnosis ICD-10 codes as follows:

Condition	ICD-10 codes
Asthma	J45^
Congestive heart failure and Pulmonary edema	I50^, J81^ **excluding cases with CCI codes for cardiac surgical procedures (see below)**
Diabetes	E10.0^, E10.1^, E10.63, E10.64, E10.9^ , E11.0^, E11.1^, E11.63, E11.9^, E13.0^, E13.1^, E13.63, E13.9^, E14.0^, E14.1^, E14.63, E14.9^ ,E11.64,,E13.64,E14.64, E10.64
Chronic obstructive pulmonary disease	J41^, J42^, J43^, J44^, J47^ or

		J10.0,J11.0,J12-J16,J18,J20,J21,J22 when J44^ is also present as a secondary diagnosis
	Grand mal status and other epileptic convulsions	G40^, G41^
	Hypertension	I10.0^, I10.1^, I11^, **excluding cases with CCI codes for cardiac surgical procedures**
	Angina	I20^, I23.82^, I24.0^, I24.8^, I24.9^, **excluding cases with CCI codes for cardiac surgical procedures**

Procedure	CCI codes
Cardiac surgical procedures	J1HA58, 1HA80, 1HA87, 1HB53, 1HB54, 1HB55, 1HB87, 1HD53, 1HD54, 1HD55, 1HH59, 1HH71, 1HJ76, 1HJ82, 1HM57, 1HM78, 1HM80, 1HN71, 1HN80, 1HN87, 1HP76, 1HP78, 1HP80, 1HP82, 1HP83, 1HP87, 1HR71, 1HR80, 1HR84, 1HR87, 1HS80, 1HS90, 1HT80, 1HT89, 1HT90, 1HU80, 1HU90, 1HV80, 1HV90, 1HW78, 1HW79, 1HX71, 1HX78, 1HX79, 1HX80, 1HX83, 1HX86, 1HX87, 1HY85, 1HZ53 rubric (except 1HZ53LAKP), 1HZ55 rubric (except 1HZ55LAKP), 1HZ56, 1HZ57, 1HZ59, 1HZ80, 1HZ85, 1HZ87, 1IF83, 1IJ50, 1IJ55, 1IJ57, 1IJ76, 1IJ86, 1IJ80, 1IK57, 1IK80, 1IK87, 1IN84, 1LA84, 1LC84, 1LD84, 1YY54LANJ

Exclusion criteria:
- Death before discharge
- Patients sign themselves out
- Transfers from another acute care facility

Patient age 75 and older

Denominator
Ontario LHIN region population files: 2003-2013 population counts for population age younger than 75 yrs
Methods
Numerator/Denominator per 100,000 population
Adjustment (risk, age/sex standardization)
Direct age-sex standardized rate using 1991 Canadian population.

Data source / data elements	Discharge Abstract Database, ICES
	LHIN (Region) Population Files, Statistics Canada
Timing and frequency of data release	Data updated by ICES at each fiscal year
Levels of comparability	Over time (fiscal years), by Local Health Integration Network (LHIN) region and by institution at corporation level
Target source	Expert consultation

OTHER INFORMATION	
Comments	There are variances in the Ontario rates for ambulatory care sensitive conditions reported due to methodological differences between the provincial/LHIN region level and pan-Canada data. The provincial and LHIN region level data are adjusted by age and sex and provided by the Institute for Clinical Evaluative Sciences whereas the pan-Canadian data are age-adjusted only and obtained from the Canadian Institute for Health Information.

PERCENTAGE OF PATIENTS DISCHARGED FROM HOSPITAL FOR HEART FAILURE WHO HAD A PHYSICIAN VISIT WITHIN SEVEN DAYS

See Figure 8.4 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Percentage of patients that say a physician within 7-days after discharge from an acute care hospital for chronic heart failure (CHF).
Relevance / Rationale	It is important that patients who are hospitalized for CHF receive timely follow up once discharged from hospital to ensure that the patients are stable, understand their post-discharge instructions and medications and to transition them to community based care.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework Primary care Quality Improvement Plans (QIPs)
Attribute	Access
Type	Core and Process indicator
External alignment and other reporting	CHF Quality Based Procedure Ontario Action Plan for Health Care Canadian Thoracic Society Potential Health Links alignment
Accountability	Primary Care, Hospital
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of patients discharged from acute care hospitals after an admission for selected condition(s) that had a physician visit within 7 days after discharge. *Inclusion Criteria:* • Ontario physician visits taking place in office, home, or long-term care (based on Institute for Clinical Evaluative Sciences (ICES) location macro) • Physician visits occurring between days 0 to 7 post-discharge (i.e., includes date of discharge) *Exclusion Criteria:* • Negated Ontario Health Insurance Plan (OHIP) claims, duplicate claims and lab claims Records with missing or invalid data on discharge/admission date, health number, age and gender

	Denominator
	Total number of patients discharged from hospital after an admission for selected condition(s).
	Inclusion Criteria:
	• Discharges from acute care hospitals with discharge date in the reporting period
	• Admission for CHF(ICD10 codes I500, I501, I509)
	Exclusion Criteria:
	• Deaths, acute transfers, patient sign-outs against medical advice;
	• Records with missing or invalid data on discharge/admission date, health number, age and gender.
	• Cases with no Resource Intensity Weight (RIW) assigned.
	Methods
	Numerator/Denominator*100
	Adjustment (risk, age/sex standardization)
	Direct standardization (age and sex) using 1991 Canadian Census population
Data source / data elements	Clinical Institute for Health Information Discharge Abstract Database (CIHI DAD) (for admissions) and OHIP data for follow up visit
	Administrative data
	Data are available for multiple years
Timing and frequency of data release	CIHI DAD closes annually; but can be run quarterly with interim data; OHIP data available monthly
Levels of comparability	Over time, by Local Health Integration Network (LHIN) region and possibly by HealthLinks or physnet communities (future analyses)
Targets and/or Benchmarks	Performance target = 50% year-over-year relative increase.
Target source	Expert consultation.
OTHER INFORMATION	
Limitations / Caveats	Assumes that follow up visit is to transition for hospitalization; but not confirmed;
	Follow up by NPs (in FHTs) or providers that do not provide billing or shadow billing will not be captured.

PERCENTAGE OF PATIENTS DISCHARGED FROM HOSPITAL FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE WHO HAD A PHYSICIAN VISIT WITHIN SEVEN DAYS

See Figure 8.4 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION

Indicator description	Percentage of patients that saw a physician within 7-days after discharge from an acute care hospital for chronic obstructive pulmonary disease (COPD).
Relevance / Rationale	It is important that patients who are hospitalized for COPD receive timely follow up once discharged from hospital to ensure that the patients are stable, understand their post-discharge instructions and medications and to transition them to community based care.
HQO Reporting tool/product	Yearly Report /Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework Primary care Quality Improvement Plans (QIPs)
Attribute	Access
Type	Core and Process indicator
External alignment and other reporting	COPD Quality Based Procedure Ontario Action Plan for Health Care Potential Health Links alignment
Accountability	Hospital, Primary Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** Number of patients discharged from acute care hospitals after an admission for selected condition(s) that had a physician visit within 7 days after discharge *Inclusion Criteria:* • Ontario physician visits taking place in office, home, or long-term care (based on Institute for Clinical Evaluative Sciences (ICES) location macro) • Physician visits occurring between days 0 to 7 post-discharge (i.e., includes date of discharge) *Exclusion Criteria*: • Negated OHIP claims, duplicate claims and lab claims Records with missing or invalid data on discharge/admission date, health number, age and gender
	Denominator Total number of patients discharged from hospital after an admission for selected condition(s). *Inclusion Criteria:* • Discharges from acute care hospitals with discharge date in the reporting period • Admission for COPD (ICD10 codes J41, J42, J43, J44) *Exclusion Criteria:* • Deaths, acute transfers, patient sign-outs against medical advice; • Records with missing or invalid data on discharge/admission date, health number, age and gender. • Cases with no Resource Intensity Weight (RIW) assigned. • Transfers to other hospital care and to other (palliative care/hospice, addiction treatment centre….) as defined by discharge disposition '01', '03'. Sign-outs, short-stay cases, cadavers and stillbirths

	Methods
	Numerator/Denominator*100
	Adjustment (risk, age/sex standardization)
	Age and sex standardized using 1991 Canadian census population. Age groups are 40-64, 65-79, 80+.
Data source / data elements	Canadian Institute for Health Information Discharge Abstract Database (CIHI DAD) (for admissions) and Ontario Health Insurance Plan (OHIP) data for follow up visit
	Administrative data
Timing and frequency of data release	CIHI DAD closes annually; but can be run quarterly with interim data; OHIP data available monthly
Levels of comparability	Comparable over time, by LHIN region and possibly by HealthLinks or physnet communities (future analyses)
Targets and/or Benchmarks	50% year-over-year relative improvement
Target source	Expert Consultation
OTHER INFORMATION	
Limitations / Caveats	Assumes that follow up visit is to transition to community from hospital; but it is not possible to confirm that this is the reason for the visit
	Follow up by nurse practioners (in Family Health Teams) or providers that do not provide billing or shadow billing will not be captured.
Guidelines, SOPs, Evidence for best practice	Canadian Thoracic Society Guidelines. http://www.respiratoryguidelines.ca/executive-summary-COPD-2003-update

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PERCENTAGE OF PATIENTS DISCHARGED FROM HOSPITAL FOR A MENTAL HEALTH PROBLEM WHO HAD A PHYSICIAN VISIT WITHIN SEVEN DAYS

See Figure 8.4 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	The percentage of psychiatric discharges that had a mental health follow-up visit to a physician (primary care provider or psychiatrist), within 7 days of discharge.
Relevance / Rationale	The transition from the inpatient to the outpatient setting is a critical point in the continuum of care and a real opportunity to prevent readmissions.[113] Research has found patient access to follow-up care within 7 days of discharge from hospitalization for mental illness to be a strong predictor of a reduction in hospital readmissions.[114]
	Inpatient treatment may stabilize individuals with acute mental conditions, but timely and proper continued care is needed to maintain and extend improvement after inpatient care. The period immediately following discharge from inpatient care is

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[113] Greg McCutcheon. Presentation "F2FFollow-up within 7 days of an Mental health Inpatient Discharge" http://www.slideshare.net/gregmccutcheon1?utm_campaign=profiletracking&utm_medium=sssite&utm_source=sssslideview

[114] Fortney J, Sullivan G, Williams K, Jackson C, Morton SC, Koegel P. Measuring Continuity of Care for Clients of Public Mental Health Systems. Health Services Research. 2003; 38: 1157-1175.

	recognized as a time of increased vulnerability.[115] The risk of suicide is higher during the period immediately following discharge from in-patient psychiatric care.[116] Readmissions in the immediate post-hospital discharge period are more likely to be related to care during the hospitalization. They may also be due to failure in the transition of care between the hospital and outpatient care. The gap between the percentage of readmissions and the percentage of potentially avoidable readmissions widens as the number of days increase, suggesting the importance of follow-up care immediately after discharge.[117] Ensuring continuity of care by increasing compliance to outpatient follow-up care helps detect early post-hospitalization medication problems and provides continuing support that improves treatment outcomes and reduces health care costs.[118]
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Primary Care Performance Measurement (PCPM) Framework
Attribute	Effective
Type	Process
External alignment and other reporting	Hospital Report Mental Health 2007[119]
Accountability	Hospital, Primary Care, Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	**Numerator** The number of patients who within 7 days of discharge following index hospitalization had at least one psychiatrist or primary care physician mental health visit. 1.Mental health specific visits At least one psychiatrist or primary care physician mental health visit taking place in office, home, or long-term care For psychiatrist visits take all OHIP visits with IPDB mainspecialty = 'psychiatry'

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[115] Cougnard A, Parrot M, Grolleau S, Kalmi E, Desage A, Misdrahi D, Brun-Rousseau H, Verdoux H. Pattern of health service utilization and predictors of readmission after a first admission for psychosis: a 2-year follow-up study. Acta Psychiatr Scand 2006;113:340-9

[116] Crawford MJ: Suicide following discharge from in-patient psychiatric care. Advances in Psychiatric Treatment 2004;10:434–438.

[117] Medicare Payment Advisory Commission. Report to the Congress: Promoting Greater Efficiency in Medicare. Washington, DC: Medicare Payment Advisory Commission, 2007.p. 107

[118] Substance Abuse and Mental Health Services Administration. Results from the 2008 National Survey on Drug Use and Health: National Findings (Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434). Rockville, MD. Substance Abuse and Mental Health Services Administration. 2009; 304

[119] Ontario Hospital Association and the Ministry of Health and Long-Term Care.Hospital Report: Mental Health 2007. Toronto (Canada): August 2008.

For identifying primary care physician (IPDB mainspecialty = 'GP/FP' or 'F.P./Emergency medicine') with mental health visits take any OHIP visit with mental health service codes or with a mental health diagnostic code (see the list below for the codes)

Codes

Psychotic Disorders

295 Schizophrenia

296 Manic-depressive psychoses, involutional melancholia General Service Codes

297 Other paranoid states

298 Other psychoses

Non-Psychotic Disorders

300 Anxiety neurosis, hysteria, neurasthenia, obsessive-compulsive neurosis, reactive

301 Personality disorders

302 Sexual deviations

306 Psychosomatic illness

309 Adjustment reaction

311 Depressive disorder

Substance Use Disorders

303 Alcoholism

304 Drug dependence

Social Problems

897 Economic problems

898 Marital difficulties

899 Parent-child problems

900 Problems with aged parents or in-laws

901 Family disruption/divorce

902 Education problems

904 Social maladjustment

905 Occupational problems

906 Legal problems

909 Other problems of social adjustment

All-cause follow-up:

Any visit to a primary care provider (IPDB Mainspec = 'GP/FP') or
psychiatrist (mainspecialty ='psychiatry') taking place in office, home,
or long-term care

Denominator

The number of acute care discharges from episode of care in which a Mental Health and Addiction condition is diagnosed and is coded as most responsible diagnosis in the first hospitalization of the episode within each fiscal year (minus last 7 days for follow up) from 2006/07 to 2011/12 (Canadian Institute for Healthh Information (CIHI) and Ontario Mental Health Reporting System (OMHRS)):

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Substance-related disorders—ICD-10-CA: F55, F10 to F19; DSM-IV: 291.x (0, 1, 2, 3, 5, 81, 89, 9), 292.0, 292.11, 292.12, 292.81, 292.82, 292.83, 292.84, 292.89, 292.9, 303.xx (00, 90), 304.xx (00, 10, 20, 30, 40, 50, 60, 80, 90), 305.xx (00, 10 to 90 excluding 80); or
Schizophrenia, delusional and non-organic psychotic disorders—ICD-10-CA: F20 (excluding F20.4), F22, F23, F24, F25, F28, F29, F53.1; DSM-IV: 295.xx (10, 20, 30, 40, 60, 70, 90), 297.1, 297.3, 298.8, 298.9; or
Mood/affective disorders—ICD-10-CA: F30, F31, F32, F33, F34, F38, F39, F53.0; DSM-IV: 296.0x, 296.2x, 296.3x, 296.4x, 296.5x, 296.6x, 296.7, 296.80, 296.89, 296.90, 300.4, 301.13; or
Anxiety disorders—ICD-10-CA: F40, F41, F42, F43, F48.8, F48.9, F93.8; DSM-IV: 300.xx (00, 01, 02, 21, 22, 23, 29), 300.3, 308.3, 309.x (0, 3, 4, 9), 309.24, 309.28, 309.81; or
Selected disorders of adult personality and behaviour—ICD-10-CA: F60, F61, F62, F68, F69, F21; DSM-IV: 301.0, 300.16, 300.19, 301.20, 301.22, 301.4, 301.50, 301.6, 301.7, 301.81, 301.82, 301.83, 301.9.
Age range: 15–20 years

Exclusion Criteria:

Patients without a valid health insurance number
Patients without an Ontario residence
Gender not recorded as male or female
Invalid date of birth, admission date/time, discharge date/time
Discharge where the patient signed him/herself out or the patient died
Hospitalizations with a subsequent readmission (any cause) to acute care (CIHI or OMHRS) within 7 days of index hospitalization discharge date

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Methods

Numerator/Denominator*100

The index mental health discharge records are identified using OMHRS and Canadian Institute for Health Information Discharge Abstract Database (CIHI/DAD). Afterwards by linking these records to OHIP and IPDB databases, the follow-up Ontario Health Insurance Plan (OHIP) visits within 7 days of discharge are identified by using the algorithm that showed high accuracy of the administrative data when compared with clinical data.[120]
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Adjustment (risk, age/sex standardization)

Direct standardization using 1991 census population

By age (15-19, 20-44, 45-64, 65-79. 80+) and sex
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<tr>
<td>***Data source / data elements***</td>
<td>DAD, OMHRS (starting from 2005/06), OHIP</td>
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<tr>
<td>***Timing and frequency of data release***</td>
<td>DAD and OMHRS are updated by ICES annually</td>
</tr>
</table>

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[120] Steel L, Glazier R, Lin E, Evans M. Using Administrative Data to Measure Ambulatory Mental Health Service Provision in Primary Care. Med Care. 2004 Oct;42(10):960-5

Levels of comparability	Over time, by Local Health Integration Network (LHIN) region, age groups, sex, urban/rural, income
Targets and/or Benchmarks	75%
Target source	Expert consultation (mental health consortium)
OTHER INFORMATION	
Limitations / Caveats	In OHIP only one diagnosis is documented by the provider. The rates could be underreported if other conditions were present. The rate misses medical services delivered in other forms of post-discharge care and by non-physician providers. (e.g., salaried physicians, community mental health programs, client based initiatives).

READMISSION RATE (SEVEN DAYS AND 30 DAYS) FOLLOWING HOSPITALIZATION FOR A MENTAL HEALTH AND ADDICTION CONDITION See Figure 8.5 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	The percentage of psychiatric (mental health and addiction) discharges that are followed within 7 and 30 days by another mental health and addiction admission.
Relevance / Rationale	Readmission after psychiatric hospitalization is widely used as a quality of care indicator. It reflects both the quality of inpatient care as well as the transition to community-based care after hospitalization. It also reflects a negative clinical outcome for patients with mental illness, who after discharge should integrate back into community. At the system and policy levels the readmission rate is used to measure performance and allocate resources. It also gives an idea on the level of integration of hospitals with other parts of the mental health system and, the functioning of mental health services in terms of providing coordinated care and support across the continuum. In research and program evaluation the readmission rate can be used as an outcome to identify high-risk patients and measure the effects of inpatient and community interventions on quality of care. Considering all above mentioned, the measurement of readmission rates becomes very important. [121] The aim of inpatient care for people with mental illnesses is to stabilize acute symptoms, rather than provide long-term care. After hospital discharge subsequent care and support are ideally provided through outpatient and community programs.[122] Higher rates may flag poor preparation for discharge and/or poor community follow-up resulting in inappropriate use of inpatient resources. The selected indicator measures 7 and 30 day readmission rates at a larger system level rather within-hospital readmission, since the research has shown that more than 60% of 30-day readmissions for mental health occur at a different hospital from

[121]Canadian Institute for Health Information. In Focus: Snapshot of the Performance of the Mental Health System in Canadian Institute for Health Information. In Health Indicators 2011. Ottawa, Ont.: CIHI, 2011, p1-12.
[122] Canadian Institute for Health Information. Health Indicators 2011. Ottawa, Ont.: CIHI, 2011

	the discharging institution and counting only within-hospital readmission rates could underestimate the actual readmission rates. [123]
HQO Reporting tool/product	Yearly Report /Common Quality Agenda
Attribute	Effective
Type	Outcome
External alignment and other reporting	Canadian Institute for Health Information (CIHI) Health indicator report & interactive tool
Accountability	Hospital, Primary Care, Home Care, Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage
Calculation	***Numerator*** The subsequent mental health readmission to an acute care hospital within 7 days (or 30 days) of discharge following index hospitalization for a most responsible diagnoses of a Mental Health and Addictions condition (see the diagnosis below).
	Denominator Acute care discharges from episode of care in which a Mental Health and Addiction condition is coded as most responsible diagnosis (MRDx) in the first hospitalization of the episode within each fiscal year (minus last 7 and 30 days for follow up). • Substance-related disorders—ICD-10-CA: F55, F10 to F19; DSM-IV: 291.x (0, 1, 2, 3, 5, 81, 89, 9), 292.0, 292.11, 292.12, 292.81, 292.82, 292.83, 292.84, 292.89, 292.9, 303.xx (00, 90), 304.xx (00, 10, 20, 30, 40, 50, 60, 80, 90), 305.xx (00, 10 to 90 excluding 80); or • Schizophrenia, delusional and non-organic psychotic disorders—ICD-10-CA: F20 (excluding F20.4), F22, F23, F24, F25, F28, F29, F53.1; DSM-IV: 295.xx (10, 20, 30, 40, 60, 70, 90), 297.1, 297.3, 298.8, 298.9; or • Mood/affective disorders—ICD-10-CA: F30, F31, F32, F33, F34, F38, F39, F53.0; DSM-IV: 296.0x, 296.2x, 296.3x, 296.4x, 296.5x, 296.6x, 296.7, 296.80, 296.89, 296.90, 300.4, 301.13; or • Anxiety disorders—ICD-10-CA: F40, F41, F42, F43, F48.8, F48.9, F93.8; DSM-IV: 300.xx (00, 01, 02, 21, 22, 23, 29), 300.3, 308.3, 309.x (0, 3, 4, 9), 309.24, 309.28, 309.81; or • Selected disorders of adult personality and behaviour—ICD-10-CA: F60, F61, F62, F68, F69, F21; DSM-IV: 301.0, 300.16, 300.19, 301.20, 301.22, 301.4, 301.50, 301.6, 301.7, 301.81, 301.82, 301.83, 301.9. • Age range: 15–120 years Note: the index cases are identified from the Ontario Mental Health Reporting System (OMHRS) database. The Canadian Institute of Health Information Discharge

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[123] Vigod S, Taylor V, Fung K, Kurdyak P. Within-hospital readmission: An indicator of readmission after discharge from psychiatric hospitalization.

	Abstract Database (CIHI/DAD) was used to get the data for younger patients' admissions and admissions to hospitals with no designated mental health beds.
	Exclusion Criteria:
	• Patients without a valid health insurance number
	• Patients without an Ontario residence
	• Gender not recorded as male or female
	• Invalid date of birth, admission date/time, discharge date/time
	• Discharge where the patient signed him/herself out or the patient died
	• Patients with a diagnosis of cancer listed on the discharge abstract (ICD-10-CA C00-C26, C30-C44, C45-C97, Z51.0, Z51.1)
	• Patients with a diagnosis of AIDS/HIV listed on the discharge abstract (ICD-10-CA B24, Z21, R75)
	• Patients with a diagnosis of violent trauma listed on the discharge abstract (ICD-10-CA V01-V99, W00-W23, W25-W27, W30, W31, W33-W40, W44, W45, W50-W60, W64-W77, W81-W84, W85-W99, W92-W94, X00-X09, X10-X19, X17, X20-X29, X30, X31, X33-X38, X51, X53, X54, X57, X60-X84, X85-Y09, Y35.0-Y35.4, Y35.6, Y35.7, Y36
	Methods
	Readmission rate equals the number of patients readmitted within 7days (or 30 days) of discharge divided by the number of patients discharged during the study period
	OMHRS and CIHI/DAD databases are used to identify index as well as subsequent hospitalizations for mental health and addictions. OMHRS captures the hospitalizations in mental health designated beds and CIHI provides data on hospitalizations in 18 and younger age groups and those that occurred in general acute care beds.
	Adjustment (risk, age/sex standardization)
	The rates are risk adjusted to the following factors:
	• Age 15-19, 20-44, 45-64, 65-79, and 80+.
	• Multiple previous admissions for a selected mental illness (two and more) during the past 12 months
	• Type of mental health condition
	• Substance abuse related disorder
	• Schizophrenia
	• Anxiety disorder
	Personality disorder
Data source / data elements	DAD, OMHRS, Registered Persons Database (RPDB) provided by ICES
Timing and frequency of data release	DAD and OMHRS are updated by ICES annually
Levels of comparability	Over time, by Local Health Integration Network (LHIN) region, institution, age, sex and income.

Targets and/or Benchmarks	Performance target: 8%
	10-15% year over year relative reduction
Target source	Expert consultation process (mental health consortium)
OTHER INFORMATION
Limitations / Caveats	It is not possible to differentiate between elective and non-elective admissions in OMHRS data base. It would be possible to do for the CIHI records that would approximately comprise around 23% of the cases, the remaining 77% are identified through OMHRS.

These numbers cannot tell us what happens to individuals between discharge and readmission to hospital within 30 days. Both planned/unplanned readmissions are counted.

Index discharges were all derived using the OMHRS. This may underestimate the total number of psychiatric admissions in the province because a certain proportion of psychiatric admissions are captured using only the CIHI-DAD. |

30-DAY READMISSION RATES FOLLOWING HOSPITALIZATION

See Figures 8.6, 8.7 and 8.8 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION
Indicator description	This indicator measures the risk-adjusted rate of urgent (non-elective) readmissions within 30 days of discharge for episodes of care for the following patient groups: adult surgical, adult medical, and overall (obstetric, patients age 19 and younger, adult surgical or adult medical).
Relevance / Rationale	Urgent readmissions to acute care facilities are increasingly being used to measure institutional or regional quality of care and care coordination.

Readmission rates can be influenced by a variety of factors, including the quality of inpatient and outpatient care, the effectiveness of the care transition and coordination, and the availability and use of effective disease management community-based programs. While not all unplanned readmissions are avoidable, interventions during and after a hospitalization can be effective in reducing readmission rates. |
| **HQO Reporting tool/product** | Yearly Report/Common Quality Agenda
Primary Care Performance Measurement (PCPM) Framework
Quality Improvement Plans (QIPs) |
Attribute	Effective
Type	Outcome and core indicator
External alignment and other reporting	Canadian Institute for Health Information (CIHI)
Accountability	Hospital, Primary Care, Home Care
DEFINITION & SOURCE INFORMATION

Unit of analysis	Percentage
Calculation	**Numerator** Cases within the denominator with an urgent readmission within 30 days of discharge *Inclusion Criteria:* 1. Episodes involving inpatient care. An episode may start or end in a day surgery setting. Episodes that both start and end in day surgery settings are not included 2. Discharge between April 1 and March 1 of the following year (period of case selection ends on March 1 of the following year to allow for 30 days of follow-up) 3. Age 20 and older (for surgical and medical readmissions but not for overall readmissions) 4. Sex recorded as male or female 5. Canadian resident *Exclusion Criteria*: 1. Delivery (ICD-10-CA: O10–O16, O21–O29, O30–O37, O40–O46, O48, O60–O69, O70–O75, O85–O89, O90–O92, O95, O98, O99 with a sixth digit of 1 or 2; or Z37 recorded in any diagnosis field) 2. Chemotherapy for neoplasm (ICD-10-CA: Z51.1) as MRDx
	Denominator Number of (medical) or (surgical) or (overall: medical, surgical, obstetric or patients under the age of 19) episodes of care discharged between April 1 and March 1 of the fiscal year 2012/13 *Overall group* *All patients* *Medical Group* MCC Partition Code = D (diagnosis) (not an intervention) *Surgical Group* MCC Partition Code = I (intervention) *Obstetric Group* Presence of at least one record in the episode with MCC = 13 and Facility Type Code = 1 (acute care) Gender = F *Patient Under 19* Age < 19 *Inclusion Criteria:* 1. Episodes involving inpatient care. An episode may start or end in a day surgery setting. Episodes that both start and end in day surgery settings are not included 2. Major clinical category (MCC) partition is not "intervention" 3. Discharge between April 1 and March 1 of the following year (period of case selection ends on March 1 of the following year to allow for 30 days of follow-up) 4. Canadian resident

	Exclusion Criteria:
	1. Records with an invalid health card number
	2. Records with an invalid date of birth
	3. Records with an invalid admission date or time
	4. Records with an invalid discharge date or time
	5. Records with admission category of cadaveric donor
	6. Episodes with discharge as death or self sign-out
	7. Presence of at least one record in the episode with MCC 17 (Mental Diseases and Disorders)
	8. Presence of at least one record in the episode with MCC 13 (Pregnancy and Childbirth) (medical + Surgical+Under 19)
	9. Presence of at least one record in the episode with palliative care (ICD-10-CA: Z51.5) coded as most responsible diagnosis (MRDx).
	Methods Numerator/Denominator * 100
	Adjustment (risk, age/sex standardization) Age, sex, acute care hospitalization in previous six months, urgent admission, Charlson Comorbidity score and selected CMGs. *Medical Admissions* Age 45 to 64,Age 65 to 84,Age 85 and Older, Sex (Male = 1, Female = 0),One Acute Care Hospitalization in Previous Six Months, Two or More Acute Care Hospitalizations in Previous Six Months, Urgent Admission, Charlson Score Group 1[125],Charlson Score Group 2[124],CMG 026,CMG 028,CMG 029,CMG 038,CMG 040,CMG 132,CMG 135,CMG 136,CMG 138,CMG 139,CMG 142,CMG 143,CMG 149,CMG 193,CMG 194,CMG 196,CMG 200,CMG 202,CMG 203,CMG 204,CMG 205,CMG 208,CMG 209,CMG,248,CMG 250,CMG 253,CMG 254,CMG 255,CMG 256,CMG 257,CMG 258,CMG 284,CMG 285,CMG 287,CMG 288,CMG 362,CMG 436,CMG 437,CMG 438,CMG 477,CMG 484,CMG 486,CMG 487,CMG 488,CMG 628,CMG 633,CMG,635,CMG 638,CMG 654,CMG 776,CMG 778,CMG 780,CMG 806,CMG 811,CMG 815 *Surgical Admissions* CMG 006,CMG 009,CMG 012,CMG 086,CMG 112,CMG 115,CMG 117,CMG 162,CMG 165,CMG 166,CMG 168,CMG 170,CMG 172,CMG 174,CMG 175,CMG,180,CMG 181,CMG 182,CMG 185,CMG 194,CMG 220,CMG 221,CMG,222,CMG 223,CMG 225,CMG 226,CMG 227,CMG 228,CMG 229,CMG,231,CMG 232,CMG 234,CMG 237,CMG 274,CMG 275,CMG 278,CMG,280,CMG 281,CMG 313,CMG 317,CMG 320,CMG 321,CMG 382,CMG,387,CMG 424,CMG 450,CMG 452,CMG 454,CMG 455,CMG 456,CMG,458,CMG 462,CMG 464,CMG 502,CMG 503,CMG 505,CMG 615,CMG,617,CMG 650,CMG 726,CMG 727,CMG 729,CMG 733,CMG 734,CMG,739,CMG 747,CMG 806,CMG 904,CMG 905,CMG 906,CMG 907,CMG 910
Data source / data elements	Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS)

[124] Charlson score group 1 = Charlson score 1–2; Charlson score group 2 = Charlson score 3 or higher (reference category is Charlson score group 0 = Charlson score 0).

Timing and frequency of data release	Yearly
Levels of comparability	By Local Health Integration Network (LHIN) region and fiscal year (over time trending)
Targets and/or Benchmarks	10% relative year over year reduction
Target source	Provincially established + expert consultation
OTHER INFORMATION	
Comments	All numbers used for calculations are as reported by the hospitals. The information is from each acute site of the hospital and the assignment to a LHIN region is based on the postal code of the hospital site.

PERCENTAGE OF ACUTE CARE DAYS DESIGNATED AS ALTERNATE LEVEL OF CARE

See Figures 8.9 and 8.10 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	This indicator measures the number of bed days that are designated as being alternate level of care (ALC) as a proportion of total inpatient days) in acute hospitals in Ontario. Lower rates reflect improved capacity.
Relevance / Rationale	The indicator measures the unnecessary use of high cost hospital services. There is a clear and pressing need to improve efficiencies and implement sustainable solutions that maximize our ability to provide the right service, in the right place, at the right time. ALC refers to those cases where a physician (or designated other) has indicated that a patient occupying an acute care hospital bed has finished the acute care phase of his/her treatment. Better quality of care is associated with a lower score of the indicator.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda Quality Improvement Plans (QIPs)
Attribute	Efficient
Type	Process and core indicator
External alignment and other reporting	Ontario's Action Plan for Health Care; Sinha Report; Hospital Service Accountability Agreement (HSAA) indicator Canadian Institute for Health Information (CIHI)
Accountability	Hospital, Primary Care, Long-Term Care, Home Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Percentage of inpatient days
Calculation	**Numerator** Total number of inpatient days designated as ALC in a given time period (i.e. monthly, quarterly, and yearly)

	Denominator
	Total number of inpatient days in a given time period
	Inclusion Criteria:
	Data are retrieved for acute care hospitals (hospital type = AP, AT)
	Exclusion Criteria:
	Newborns, stillborn, and records with missing or invalid "Discharge Date"
	Methods
	Numerator/Denominator*100
	Adjustment (risk, age/sex standardization)
	Crude rate
Data source / data elements	Discharge Abstract Database (DAD)
Timing and frequency of data release	Reported Quarterly, Yearly
Levels of comparability	Over time (fiscal years) and by Local Health Integration Network (LHIN) region
Targets and/or Benchmarks	9.46 – 10% year over year relative reduction
Target source	Provincially established + expert consultation
OTHER INFORMATION	
Limitations / Caveats	- Only includes acute care hospital beds - Not reported in a timely manner - Only includes closed cases (those patients designated ALC who have been discharged) and so may miss cases that carry over to the next fiscal year. - This indicator is based on discharge. Successes resulting in a higher rate of discharges in ALC clients will result in an initial spike in the results. Discharges of long-stay ALC clients will attribute all days to the time period of discharge, also potentially skewing the results. Point-in-time results must be analyzed with caution, and trending of this indicator is preferred.
Comments	The indicator reported here is different from what is used for the target. We report the percentage of inpatient days that are designated as ALC days while target is set for the percentage of patients who are ALC.
	All numbers used for calculations are as reported by the hospitals. The information is from each acute site of the hospital and the assignment to a LHIN region is based on the postal code of the hospital site.
	All data are suppressed where ALC separations are <5.

9. Health Workforce Indicators

NUMBER OF EMPLOYED NURSES (BY NURSING CATEGORY), OF FAMILY DOCTORS AND SPECIALIST DOCTORS PER 100,000 PEOPLE See Figures 9.1 and 9.2 in the report *Measuring Up*, 2014	
INDICATOR DESCRIPTION	
Indicator description	Supply per 100,000 people, of: • Family doctors • Specialists • Nurse practitioners • Registered nurses Registered practical nurses
Relevance / Rationale	A crucial element in the delivery of health services in Canada and Ontario is human resources. The health care system relies on the services of trained health professionals to deliver health care. The Health Human Resources Strategy Division was established in 2005 as part of the Government's overall health strategy to increase the supply of appropriately educated health professionals in Ontario to address the needs of the public. This indicator measures the number of health care providers per 100 000 population, which offers an estimate of provider availability.
HQO Reporting tool/product	Yearly Report/Common Quality Agenda
Attribute	Appropriately resourced
Type	Context indicator
External alignment and other reporting	Ontario Action Plan for Health Care Ministry of Health and Long-Term Care (MOHLTC) Health Human Resource Strategy
Other reporting	Canadian Institute for Health Information's Supply, Distribution and Migration of Canadian Physicians reports The Ontario Physician Human Resources Data Centre (OPHRDC) Annual reports
Accountability	Ministry of Health and Long-Term Care
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Number of providers per 100,000 population
Calculation	**Numerator** Number of -Family doctors[125] -Specialists[126]

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[125] Ontario Physician Human Resources Data Centre "2012 Annual Report-Physicians in Ontario" https://www.ophrdc.org/Public/Report.aspx?owner=pio
[126] Ontario Physician Human Resources Data Centre (as in n.1 above).

	-Nurse practitioners[127]
	-Registered nurses[128]
	-Registered practical nurses[129]
	Denominator
	Population estimates[130]
	Methods
	Numerator/Denominator * 100,000
	Crude rates based on numbers of Family Physicians and Specialists provided by OPHRDC and for the number of RN, RPN and NP provided by the College of Nurses of Ontario.
	Population count provided by OPHRDC from the ministry of finance.
Data source / data elements	Ontario Physician Human Resources Data Centre.
	Active physician registry
	College of Nurses of Ontario
	2006 Census-based Ministry of Finance Population Estimates 2011, Updated in July 2012
Timing and frequency of data release	Annually, provided by OPHRDC based on data request from Health Quality Ontario (HQO)[131]
Levels of comparability	Over time, by Local Health Integration Network (LHIN) region
OTHER INFORMATION	
Limitations / Caveats	The measure looks at the number of health care providers per 100,000 population, however it does not count for differences in scope of practice (comprehensive care). It also does not adjust for physicians accepting new patients, the health status profile of patients population served, full time vs part time health providers or geographic location (and inflow/outflow). The indicator is based on information provided in the license and could be different from the practice location. These indicators look into variations among different LHIN regions in Ontario but is not adjusted for the characteristics of the population being served in each region. LHIN regions' boundaries doesn't necessary reflect patient flow as individuals can seek care across the boundary of their LHIN region.

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[127] College of Nurses of Ontario "Membership Statistics Highlights 2013"
http://www.cno.org/Global/docs/general/43069_stats/43069_MembershipStatistics-Highlights.pdf?utm_source=cno.org&utm_medium=link_in_page&utm_term=MembershipHighlightsPDF2013&utm_campaign=MembershipHighlightsPDF2013

[128] College of Nurses of Ontario (as n.3 above).

[129] College of Nurses of Ontario (as n.3 above).

[130] Ontario Physician Human Resources Data Centre (as in n.1 above).

[131] The data for nurses is available for 2013 as well, however for consistency with Physician/Specialist data 2012 data is displayed

LOST TIME INJURY RATES

See Figure 9.3 in the report *Measuring Up*, 2014

INDICATOR DESCRIPTION	
Indicator description	Lost-time and non-lost time injury rates per 100 full-time equivalent workers in: • Homes for Nursing Care • Homes for Residential Care • Hospitals • Nursing services • Group Homes • Treatment clinics and specialized services • Professional offices and agencies
Relevance / Rationale	There are 775,800 registered workers in Ontario's health care sector that work at more than 6,000 hospitals, long-term care homes, retirement homes, community care and other workplaces across Ontario. The health care sector faces some challenges which may have significant impact on worker health and on lost-time injury (LTI) rates. These include increased care requirements resulting from the aging of Ontario's population, increased patient and resident needs, increased obesity rates and increased demand on health and community care services. In addition, employers face recruitment and retention challenges, an aging workforce, a shortage of skilled professional staff, and an increase in casual and part-time workforce.[132] Implementing healthy work environments and building a culture of safety for health care workers are key to ensuring quality patient care. Enhancing morale and reducing absenteeism can reduce adverse events, improve patient safety and support improved patient outcomes.[133]
HQO Reporting tool/product	Yearly Report /Common Quality Agenda
Attribute	Appropriately resourced
Type	Context
External alignment and other reporting	Workplace Safety and Insurance Board (WSIB) Statistical report[134]
Accountability	Shared – all sectors
DEFINITION & SOURCE INFORMATION	
Unit of analysis	Rate of lost time injuries per 100 Full Time Equivalent Health Care Workers in the different sectors
Calculation	***Numerator*** Total number of lost-time and non-lost time injuries that occurred in the year in each health care setting.

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[132] Ontario Ministry of Labour. Health care Sector Plan 2013-14.

[133] HealthForceOntario. Healthy Work Environment. Accessed on August 2, 2013 at http://www.healthforceontario.ca/en/Home/Employers/Healthy_Work_Environments

[134] Workplace Safety and Insurance Board. By the Numbers: 2012 WSIB Statistical Report http://www.wsibstatistics.ca/

	Notes: Lost-Time Injuries (LTIs) - allowed injury/illness claims by workers who have lost wages as a result of temporary or permanent impairment. Excludes fatalities. *No lost-time injuries (NLTIs) - allowed injury/illness claims by workers who have not lost wages, but who have incurred health care expenses*
	Denominator Total Full Time Equivalent (FTE) Workers *Note: FTE Workers is an estimate based on the average hourly wage for the rate group and the insurable earnings for the calendar year, assuming a person works an average of 2,000 hours per year.*
	Methods Numerator/Denominator*100 Rates provided by WSIB for the rate group descriptions (Nursing Care, Homes For Residential Care, Hospitals, Nursing Services, Group Homes, Treatment Clinics And Specialized Services, Professional Offices and Agencies)
	Adjustment *(risk, age/sex standardization)* None
Data source / data elements	WSIB Enterprise Information Warehouse as of March 31st, of the following year for each injury year.
Timing and frequency of data release	Provided by WSIB annually
Levels of comparability	Across time and health care settings such as: • Homes for Nursing Care • Homes for Residential Care • Hospitals • Nursing services • Group Homes • Treatment clinics and specialized services • Professional offices and agencies For the detailed descriptions of these settings visit *http://www.wsib.on.ca/en/community/WSIB/230/PolicyLanding/24346?vgnextoid=e5118588e7a4e110VgnVCM1000000e18120aRCRD*
OTHER INFORMATION	
Limitations / Caveats	The number of full time equivalent workers is an estimate based on data from Statistics Canada's Survey of Employment, Payrolls and Hours (SEPH).
Guidelines, SOPs, Evidence for best practice	Institute for Work and Health *Prevention programs for health-care workers* *https://www.iwh.on.ca/sys-reviews/interventions-in-health-care-settings-to-protect-musculoskeletal-health-a-systematic-rev*