Palliative Care at the End of Life Report Update 2019
Technical Appendix

Health Quality Ontario

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Contents

1. Introduction

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, analytical methods, data sources and external review process. This technical appendix accompanies the *Palliative Care at the End of Life Report Update 2019* and the technical supplement.

Indicator selection

Palliative Care at the End of Life Report Update 2019 is an update of the 2016 similar report. It is based on a set of indicators selected in partnership with the Ontario Palliative Care Network (OPCN), review of relevant published and unpublished literature, as well as consultations with the subject matter experts. The report aligns with the system level indicators articulated in the OPCN Action Plan, reflects the key system level priorities and describes the care and services people receive near the end of their life.

Analysis

Data over time

For each indicator, we report the data for the most recent year in which the data are available. Where data are available and comparable, we present results over time.

Comparisons within Ontario

In addition to examining changes in performance for the province as a whole, for most indicators we also include the data at the regional level (the 14 geographical regions in Ontario (Figure 1.1)). For regional comparisons in Ontario, we report the regional results along with the Ontario results for context.

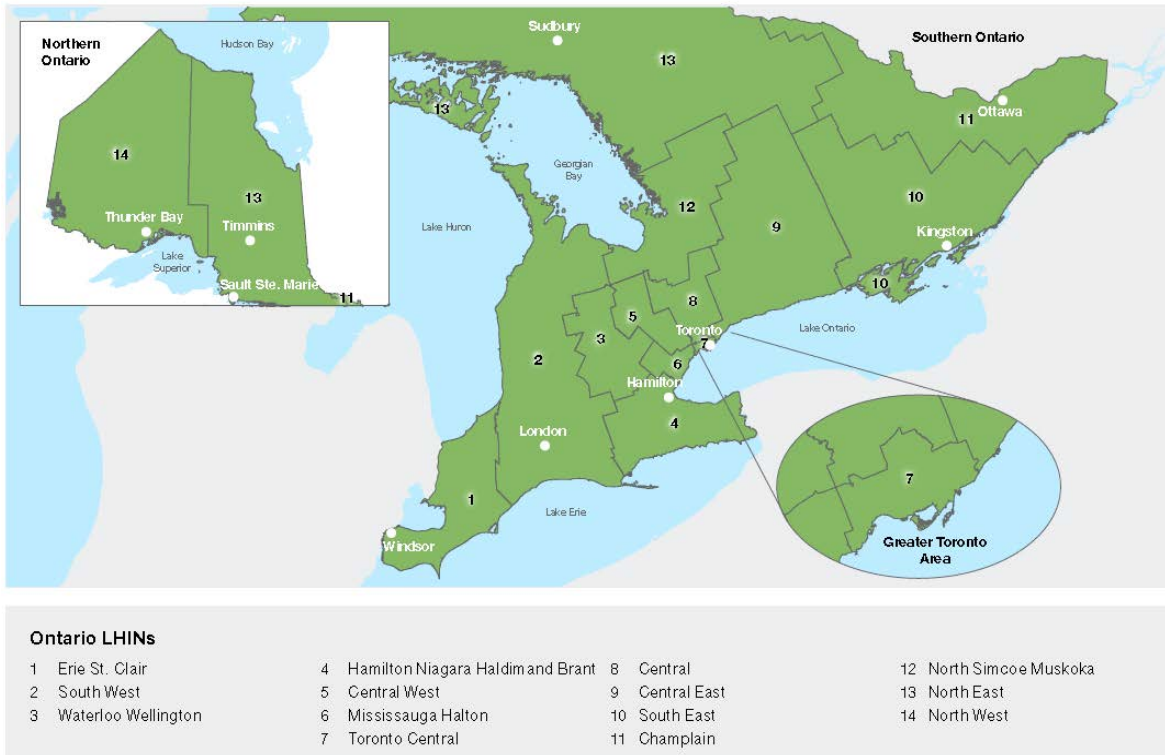In addition, where data are available, we include the indicator results at the 76 sub-regional levels and by different stratifications in Ontario; sex, age groups, income, education and immigration levels, as well as urban and rural settings

How Ontario performs compared to others

To assess how Ontario's health system performs, we also provide comparisons with other provinces in Canada, where possible.

Where data are available to allow for international comparisons, we typically compare Ontario's performance to other countries using the results of statistical analysis where available. The source for international comparison is the Commonwealth Fund International Health Policy 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. The other source for international comparisons is the Organisation for Economic Co-operation and Development (OECD) data.

Figure 1.1: Map of the geographic regions in Ontario

Ontario LHINs

1	Erie St. Clair	4	Hamilton Niagara Haldimand Brant	8	Central	12	North Simcoe Muskoka
2	South West	5	Central West	9	Central East	13	North East
3	Waterloo Wellington	6	Mississauga Halton	10	South East	14	North West
		7	Toronto Central	11	Champlain		

Details of stratification

Stratification	Definitions	Categories
Age groups	Age of a person on the date (or period) relevant to the point of measurement. It is determined based on demographic information available in the existing administrative databases (RPDB).	19-44 45-64 65-79 80+ Note: 0-18 age group is included in the analysis and in overall provincial results, however it is not reported separately due to differences in care in that population.
Sex	Sex of a person - male or female - is determined based on demographic information available in RPDB. When sex is derived from administrative data, this is most often sex assigned at birth.	Male Female

Average neighbourhood income	Average neighbourhood income (quintiles) is a proxy measure of personal or household income level, calculated by Statistics Canada when new census data becomes available. Average income estimates are first calculated for small geographic areas that have a population of 400–700 people. Based on these estimates, Ontario neighbourhoods are classified into five equal-sized groups, or quintiles, from poorest (Q1) to wealthiest (Q5). The postal code of a person's place of residence is used to assign them to one of the small geographic areas and then into one of the income quintiles.	• Quintile 1 (lowest) • Quintile 2 • Quintile 3 • Quintile 4 • Quintile 5 (highest)
Rural/urban geography	The variable CSIZEMIZ from PCCF conversion file is used to determine rurality. This variable is a combination of the CSize variable for urban areas, and of the SAC type variable for rural areas. * Urban/Rural region */ • if CSIZEMIZ in ('1','2','3','4') then Rurality=Urban; • if CSIZEMIZ="5" then Rurality=Rural; • if CSIZEMIZ="6" then Rurality=Rural-Remote; • if CSIZEMIZ="7" then Rurality=Rural-Very Remote; • if CSIZEMIZ in ('8', '9') then Rurality=Unknown; Note: The "Rural", "Rural-Remote", and "Rural-Very Remote" categories are combined together as "Rural/Remote" in the final reporting	• Urban • Rural
Immigration terciles	Immigrant Tercile (IMMTER) The immigrant (foreign-born) tercile (IMMTER) variable divides the immigrant (and non-permanent resident) population (from the 2006 census) into three approximately equal parts, with roughly 2 million immigrants in each tercile. For Canada as a whole, the percentage immigrant in the highest immigrant tercile (IMMTER=3) was about 63 %; in the middle tercile it was about 37%, and in the lowest tercile it was about 10%. Note that the immigrant terciles were defined for Canada as a whole (nationally), so provincial and regional subsets of data are unlikely to have one third of the immigrant population in each tercile.	1. Lowest tercile of foreign-born population 2. Middle tercile of foreign-born population 3. Highest tercile of foreign-born population
Geographic regions	The 14 geographic regions are geographic areas where regional health authorities are responsible for administering public health care services. Individual postal codes were first mapped to census geography and then to a region. In addition, the report includes the results by 76 sub-regions	1. Erie St. Clair 2. South West 3. Waterloo Wellington 4. Hamilton-Niagara Haldimand Brant 5. Central West 6. Mississauga Halton 7. Toronto Central 8. Central 9. Central East 10. South East 11. Champlain 12. North Simcoe Muskoka 13. North East 14. North West

Significance testing

Confidence intervals around each result were calculated at the 95% confidence level. Confidence intervals were used to compare results by time point, region and other stratifications where needed. The report states an increase/decrease or higher/lower result only when the 95% confidence intervals of the results do not overlap (i.e., when the differences in the results are statistically significant).

Data Sources

HQO does not hold data that include personal health information but rather partners with others to analyze and report performance on quality indicators. The indicator results presented in this report were provided to HQO by the following data providers:

- Cancer Care Ontario (CCO)
- The Commonwealth Fund (CMWF)/ Social Science Research Solutions (SSRS)

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

Acknowledgements

We thank our health system partners for providing CCO permission to use their data in order to deliver this report.

1. ICES: Parts of this report are based on data and information provided by ICES, which is funded by an annual grant from the Ontario Ministry of Health and Long-Term Care (MOHLTC). The analyses, conclusions, opinions and statements expressed herein are those of the author(s), and not necessarily those of ICES and funding sources. No endorsement by ICES or the Ontario MOHLTC is intended or should be inferred.
2. CIHI: Parts of this material are based on data and information compiled and provided by CIHI. However, the analyses, conclusions, opinions and statements expressed herein are those of the author, and not necessarily those of CIHI.
3. MOHLTC: Parts of this material are based on data and information compiled and provided by MOHLTC. However, the analyses, conclusions, opinions and statements expressed herein are those of the author, and not necessarily those of MOHLTC.
4. HSSO: Parts of this material are based on data and information compiled and provided by HSSO. However, the analyses, conclusions, opinions and statements expressed herein are those of the author, and not necessarily those of HSSO.

Discharge Abstract Database (DAD)

The DAD is a database of information abstracted from hospital records that captures administrative, clinical and patient demographic information on all hospital inpatient separations, including discharges, deaths, sign-outs and transfers. CIHI receives Ontario data directly from participating facilities or from their respective regional health authorities or the Ministry of Health and Long-Term Care. The DAD includes patient-level data for acute care facilities in Ontario. Data are collected, maintained and validated by CIHI. The main data elements of the DAD are patient identifiers (e.g. name, health care number), administrative information, clinical information (e.g. diagnoses and procedures) and patient demographics (e.g. age, sex, geographic location).

Home Care Database (HCD)

The HCD is a clinical, patient-centred database that captures all home care services provided or coordinated by Ontario's health regions, including government-funded home and community services. The HCD is managed by Health Shared Services Ontario (HSSO). It includes patient, intake, assessment, and admission/discharge information as well as information on home care wait times. This information is used to determine the eligibility of patients and the intensity of care coordination, care planning, and services that align with their care needs. Clinical data are collected using standardized interRAI tools, including the Resident Assessment Instrument for Home Care (RAI-HC).

National Ambulatory Care Reporting System (NACRS)

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 Ontario data directly from participating facilities or from their respective regional health authorities or the Ministry of Health and Long-Term Care. Data are collected, maintained and validated by CIHI. Data elements of the NACRS include patient identifiers (e.g. name, health care number), patient demographics (e.g. age, sex, geographic location), clinical information (e.g. diagnoses and procedures), and administrative information.

Home Care Reporting System (HCRS)

The HCRS was created by CIHI to capture data from organizations responsible for providing publicly funded home care services in Canada. The HCRS contains demographic, clinical, functional and resource utilization information on all long stay (received home care for more than 60 days) individuals who have been accepted into home care programs collected at multiple points throughout their home care services, as well as on individuals who receive an assessment for determining eligibility for placement into long-term care. The information within HCRS is collected using the Resident Assessment Instrument for Home Care (RAI-HC), which is a standardized, validated and multi-dimensional assessment tools for determining patient needs, measuring changes in clinical status and patient outcomes, and describing relative costs of services and supports that the patient will likely use. The HCRS also contains information on home care organization characteristics to support comparative reporting. Data from the 14 health regions in Ontario have been submitted quarterly to CIHI since 2008.

Registered Persons Data Base (RPDB)

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. At Institute for Clinical Evaluative Sciences (CES), data from the RPDB are enhanced with available information through other administrative data sources; 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.

Commonwealth Fund's (CMWF) International Health Policy (IHP) Survey

As part of its mandate, the Commonwealth Fund (CMWF) has been conducting the International Health Policy Survey in 11 countries (Australia, Canada, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States) for more than a decade. In a triennial cycle, the IHP survey

targets different populations, including primary care physicians, older adults, and the general adult population. Data for this report are taken from the 2017 and 2019 years of the survey.

The study was conducted via landline and mobile telephone in each country with a nationally representative sample of respondents, age 65 and older. Survey data for Canada were weighted by age-by-gender, and educational attainment within each of the ten provinces. Data were weighted for knowledge of official language within Quebec and Canada as a whole. Additionally, data were weighted to reflect Canada's overall geographic distribution, by provinces and territories

The 2019 IHP survey was conducted among primary care physicians (PCPs) in Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom (UK), and the United States (US). In the 2019 International Health Policy (IHP) Survey of Primary Care Physicians, data from each country were weighted to ensure the final outcome was representative of the primary care physician (PCP) population, based on the population parameters and selected specialty types. The PCP data in Canada were weighted to account for: (1) the over-representation of PCPs in some provinces; (2) the availability of an email address or not (since respondents with email addresses could be contacted both by mail and email); and (3) differential nonresponse along known geographic and demographic parameters. The weighting adjustment was conducted in 2 stages: design weight and stratification weight. Data were weighted by age and gender within Ontario, Quebec and the rest of Canada. Additionally, it was subsequently weighted to reflect Canada's distribution of primary care doctors by province. In this report, we compare Ontario data to the international survey results where possible.

Continuing Care Reporting System (CCRS)

CIHI developed the 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). Each resident in a long-term care home is assessed at admission and every three months or whenever they experience a significant change in health status. The RAI-MDS 2.0 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. All long-term care homes in Ontario have submitted data to CIHI on a quarterly basis since 2009.

National Rehabilitation Reporting System (NRS)

The National Rehabilitation Reporting System (NRS) was developed by CIHI in 2001 to support data collection by hospitals for inpatient rehabilitation clients who are mainly age 18 and older. The rehabilitation services are usually provided in specialized rehabilitation hospitals and in general hospitals within rehabilitation units, programs or groups of rehabilitation beds. The NRS database captures clients with a range of health conditions, including strokes, orthopedic conditions and amputations.

Ontario Health Insurance Plan (OHIP) Claims Database

The OHIP claims database covers all reimbursement claims to the MOHLTC made by fee-for-service physicians, community-based laboratories and radiology facilities. The OHIP database at ICES 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), which could distort analyses because of their concentration in certain specialties or geographic areas.

Ontario Mental Health Reporting System (OMHRS)

The OMHRS, housed at CIHI, collects information about individuals admitted to designated adult mental health beds in Ontario. OMHRS includes information on admissions and discharges as well as clinical information. Clinical data are collected using the Resident Assessment Instrument for Mental Health (RAI-MH), 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 on clients from participating hospitals in Ontario at admission, discharge and every three months for patients with extended stays. Data are available from October 1, 2005 onward. The number of active OMHRS sites has varied between 65 and 74 since the start of OMHRS in 2005–2006. In the early years of OMHRS, between 90% and 98% of active sites submitted at least some data every quarter. This rate has increased to 100% for all 4 quarters of 2014–2015. As of May 15 2017, there were 84 participating facilities that have submitted data at least once to the OMHRS database since the implementation of OMHRS in October 2005.

External review

We obtained external peer reviews of the report. Subject matter experts, stakeholders and data providers were sent preliminary drafts of the report and technical supplement, which included the full set of indicators considered for the report and findings. We asked reviewers to comment on the accuracy of the data and our interpretations of the results.

Cohort/denominator population

Description
Total number of people in Ontario who died in 2017/18

Calculation Methods
Deaths in 2017/18 were identified using the Ontario Registered Persons Database (RPDB).

Patients who died of major trauma and injury were excluded from the analysis as they likely didn't have an opportunity to receive any palliative care due to sudden death. However, we may have not excluded all sudden deaths (i.e. the sudden deaths from heart attacks and strokes) and some of these patients may have received some palliative care services.

This population served as the denominator (with additional exclusions for some indicators) for looking at the services received in the last 30 days of life (see for each indicator below).

Using unique identifiers, the records of people who died were linked to administrative databases including Ontario Health Insurance Plan (OHIP) database, Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Continuing Care Reporting System (CCRS), and Home Care Database (HCD), for analysis.

Exclusion/inclusion

Applied to all data sources:

- PROV_ISSUE_HEALTH_CARD = 'ON'
- HIN NOT IN ('0', '1', '9', 'ZZZZZZZZZZ')

Applied to specific data sets to exclude sudden deaths:

- DAD: MCC = 19
- NACRS: Diagnostic Code IN ('S', 'T', 'V', 'W', 'X', 'Y')
- OMHRS: x90 = 1

Sex, Postal Code & Date of Birth are determined based on RPDB.

Data Source
National Ambulatory Care Reporting System (NACRS), National Rehabilitation Reporting System (NRS), Ontario Health Insurance Plan (OHIP) Claims History Database, Registered Persons Database (RPDB), Postal Code Conversion File Plus (PCCF+), Continuing Care Reporting System (CCRS), Discharge Abstract Database (DAD)

Data provided to HQO by
Cancer Care Ontario (CCO)

Percentage of people who had at least one home visit from a doctor during their last 30 days of life , among people who lived in the community during that period.

Description
This indicator measures percentage of people, among all those who lived in the community during their last 30 days of life, who had at least one physician home visit during that period. A higher percentage is better.

DEFINITION AND SOURCE INFORMATION

Unit of Measurement
Percentage

Calculation Methods
Numerator divided by the denominator times 100

Numerator
Number of people specified in the denominator who had at least one physician home visit in their last 30-days of life.

- G511: Telephone services to patient receiving PC at home (max 2/week)
- B966: Travel premium for palliative care (billed with B998/B996)
- B998: Home visit for palliative care between 07:00 and 24:00 (Sat, Sun, and holidays) or
- B997: Home visit for palliative care between 24:00 and 07:00

- A901 (GP/FP house call)
- B990 Special visit to patient's home (weekday/daytime)
- B992 Special visit to patient's home (weekday/daytime), with sacrifice to office hours
- B993: Special visit to patient's home (Sat, Sun and holidays) between 07:00 - 24:00, non-elective
- B994: Special visit to patient's home, non-elective, (weekday/evenings)
- B996: Special visit to patient's home, night time, first patient of the night
- A900: Complex house call assessment (GP/FP)
- B960: Travel premium - Special visit to patient's home (weekday/daytime or elective home visit)
- B961: Travel premium - Special visit to patient's home (weekday/daytime), with sacrifice to office hours, non-elective
- B962: Travel premium - Special visit to patient's home, non-elective, (weekday/evenings)
- B963: Travel premium - Special visit to patient's home (Sat, Sun and holidays) between 07:00 - 24:00, non-elective
- B964: Travel premium - Special visit to patient's home, night time, first patient of the night
- B986: Travel premium - Geriatric home visit, weekdays with or without sacrifice to office hours, or Sat, Sun, holidays (07:00 - 24:00) and nights (00:00-07:00)
- B987: Geriatric home visit, nights (00:00-07:00)
- B988: Geriatric home visit, weekdays with or without sacrifice to office hours, or Sat, Sun, holidays (07:00 - 24:00)

The indicator can be reported for palliative specific visits as well

Denominator
Number of people who died and were in the community in their last 30 days of life.
Exclusions:
 1. People who spent their last month in the hospital, OMHRS, LTC/CCC or NRS.
  - If the sum of the lengths of stay (considering episodes of care within acute inpatient stays) across all institutions during the last 30 days of life equals or exceeds 30 days, the patient is considered in an institution for the duration of interest, and is excluded.
  - Institution is defined as: Acute inpatient hospital, Complex Continuing care, Long term care home, Inpatient mental health, Inpatient rehab
2. DAD death records (discharge disposition = 07) that have MCC = 19 (Trauma, injury, poisoning, toxic effect of drugs)

NACRS death records (VISIT_DISPOSITION = '10', '11') where any diagnosis code begins with one of the following: 'S', 'T', 'V', 'W', 'X', 'Y' (sudden deaths)

OMHRS death records (x90 = 2 or 3) where x90 = 2 (suicide)

Adjustment (risk, age/sex standardization)
None

Data Source
National Rehabilitation Reporting System (NRS), Ontario Health Insurance Plan (OHIP) Claims History Database, Registered Persons Database (RPDB), Postal Code Conversion File Plus (PCCF+), Continuing Care Reporting System (CCRS), Discharge Abstract Database (DAD), Ontario Mental Health Reporting System (OMHRS)

Data provided to HQO by
Cancer Care Ontario (CCO)

Reported Levels of Comparability

Time, Age, Income, Rurality, Region, Sex

Caveats and Limitations
The data doesn't include information on the quality of the care, clinical details, health care needs, preferences and appropriateness of the house call. The data shows the number of people who had at least one house call. There is no evidence of what is the appropriate number of house calls to which this could be compared.The indicator doesn't capture home visits with other non-physician providers

Comments Summary
This indicator aligns with the palliative care QS overarching and the OPCN system level indicators.

Percentage of people who had at least one home care visit during their last 30 days of life, among people who lived in the community during that period.

Description

This indicator measures the percentage of people, who lived in the community during their last 30 days who received at least one home care service within that period, reported as:
- Any home care
- Palliative home care

A higher percentage is better.

DEFINITION AND SOURCE INFORMATION

Unit of Measurement

Percentage

Calculation Methods

Numerator divided by the denominator times 100

Numerator

Number of people specified in the denominator, who received at least one home care service during their last 30 days of life, reported as:

1. Any home care (who had any of the codes listed below)

Inclusions:

Include if the records specify that the decedent had any HCD services based on stated below variable SERVICE except 10 and 14 within 1 month

SERVICE = Type of service provided (home care service)

ID	Description
1	Nursing-Visit
2	Nursing-Shift (Hour)
3	Respiratory Services
4	Nutrition/Dietetic
5	Physiotherapy
6	Occupational Therapy
7	Speech Language Therapy
8	Social Work
9	Psychology
10	Case Management
11	Personal Services (Hour)
12	HomeMaking Services (Hour)
13	Combined PS and HM Services (Hour)
14	Placement Services
15	Respite
16	Mental Health and addiction nursing visit
17	Nurse Practitioner Palliative Visit
18	Rapid Response Nursing Visit
19	Primary Care Clinics
20	Pharmacy

21	Heath Promotion Education and Symptom Management
22	Other Combined Clinics
23	Telehomecare
24	Primary Care
99	Other

2. Palliative home care (who had any of the codes listed below)
Home Care Database (HCD):

- Service_RPC = 95: Service care goal of end of life; patient provided service under end of life designation OR
- For any service record within the 1 month (30 days) , consider it palliative if:
- SRC_admission = 95: Service recipient code (i.e., classification) of end of life on admission OR
- SRC_discharge = 95: Service recipient code of end of life on discharge

Denominator
Number of people who died and were in the community in their last 30 days of life.
Exclusions:
 1. People who spent their last month in the institution (hospital, LTC/CCC, MH hospital or NRS.
  • If the sum of the lengths of stay (considering episodes of care within acute inpatient stays) across all institutions during the last 30 days of life equals or exceeds 30 days, the patient is considered in an institution for the duration of interest, and is excluded.
  • Institution is defined as: Acute inpatient hospital, Complex Continuing care, Long term care home, Inpatient mental health, Inpatient rehab
2. DAD death records (discharge disposition = 07) that have MCC = 19 (Trauma, injury, poisoning, toxic effect of drugs)

NACRS death records (VISIT_DISPOSITION = '10', '11') where any diagnosis code begins with one of the following: 'S', 'T', 'V', 'W', 'X', 'Y' (sudden deaths)

OMHRS death records (x90 = 2 or 3) where x90 = 2 (suicide)

Adjustment (risk, age/sex standardization)
None

Data Source
Home Care Database (HCD), , National Rehabilitation Reporting System (NRS), Ontario Mental Health Reporting System (OMHRS), Registered Persons Database (RPDB), Postal Code Conversion File Plus (PCCF+), Continuing Care Reporting System (CCRS), Discharge Abstract Database (DAD)

Data provided to HQO by
Cancer Care Ontario (CCO)

Reported Levels of Comparability
Time, Income, Rurality, Region, Sex

Caveats and Limitations
The data don't show information on the details and quality of the home care, health care needs, preferences and appropriateness of the care .The data shows the number of people who had at least one home care service, which may not be sufficient There is no evidence of what is the appropriate amount or mix of home

care services to which this could be compared. The data do not show if people had any other home support or a caregiver. This indicator aligns with the palliative care QS overarching and the OPCN system level indicators.

Percentage of people, among those who died, who had at least one unplanned emergency department visit in their last 30 days of life

Description
This indicator measures the percentage of people who had at least one unplanned emergency department visit in their last 30 days of life among those who were not in hospital the entire month.

DEFINITION AND SOURCE INFORMATION

Unit of Measurement
Percentage

Calculation Methods
Numerator divided by the denominator times 100

Numerator
Number of people who had at least one unplanned emergency department visit in their last 30 days of life.
Inclusions:
People who had unplanned ED visit in NACRS
Unscheduled/unplanned ED visits are identified by:
NACRS variables VISITTYPE = [1,2,4] or SCHEDEDVISIT = N
Exclusions:
Planned ED visits

Denominator
Number of people in Ontario who died in each year of interest.

 Exclusions:
 • DAD death records (discharge disposition = 07) that have MCC = 19 (Trauma, injury, poisoning, toxic effect of drugs)
 • NACRS death records (VISIT_DISPOSITION = '10', '11') where any diagnosis code begins with one of the following: 'S', 'T', 'V', 'W', 'X', 'Y' (sudden deaths)
 • OMHRS death records (x90 = 2 or 3) where x90 = 2 (suicide)
 • Decedents who were in hospital for the entire period of 1 month before death, as people who are in hospital during this time cannot have an unplanned ED visit).
 • NOTE: for acute care (DAD) records, 'episodes of care' are considered, not individual discharge records.

Adjustment (risk, age/sex standardization)
None

Data Source
National Ambulatory Care Reporting System (NACRS), Registered Persons Database (RPDB), Postal Code Conversion File Plus (PCCF+), Discharge Abstract Database (DAD)

Data provided to HQO by

Cancer Care Ontario (CCO)

Reported Levels of Comparability
Time, Age, Income, Rurality, Region, Sex

Caveats and Limitations
• Missing the information on clinical details, health care needs, preferences and appropriateness of the unplanned emergency visits. • Hard to interpret as there are no benchmarks or targets on the acceptable rate of ED visits in this patient population.

Comments Summary
This indicator aligns with the palliative care QS overarching and the OPCN system level indicators.

Location of death

Description
This indicator measures the proportion of deaths in:
- Hospital (inpatient, ED, CCC, rehab, inpatient mental health)
- Long-term care
- Community (home, residential hospices, retirement homes and assisted living homes)

Unit of Measurement
Percentage

Calculation Methods
Numerator divided by the denominator times 100

Numerator
Number of people who died in each of the following settings:
- Hospital (inpatient, ED, CCC and rehab)
- Long-term care home
- Community (home, residential hospices, retirement homes and assisted living homes)

Inclusions:
- Hospital deaths are identified by the following codes:
- Inpatient: DAD – SDS dischdisp = 07
- ED: NACRS – Visit disposition = 10 or 11
- CCC: CCRS discharge_to_facility_type = 11
- Rehab: NRS dreason=8
- Deaths in mental health beds (from OMHRS)

LTC
- CCRS-LTC discharge_to_facility_type = 11

Community
- All other deaths not included in one of the above categories

Note:

Merge the administrative data death lists by health card number to compile a final administrative death list. If one health card number appears in multiple care settings (multiple death records), the following hierarchy based on the care intensity should be used to assign death setting: acute care, Emergency, CCC, Rehabilitation facilities, LTCs. There should only be one record per health card number in the final results.

Denominator
Number of people in Ontario who died in each year of interest.
Exclusions:

DAD death records (discharge disposition = 07) that have MCC = 19 (Trauma, injury, poisoning, toxic effect of drugs)

NACRS death records (VISIT_DISPOSITION = '10', '11') where any diagnosis code begins with one of the following: 'S', 'T', 'V', 'W', 'X', 'Y' (sudden deaths)

OMHRS death records (x90 = 2 or 3) where x90 = 2 (suicide)

Adjustment (risk, age/sex standardization)
None

Data Source
National Ambulatory Care Reporting System (NACRS), National Rehabilitation Reporting System (NRS), Ontario Mental Health Reporting System (OMHRS), Registered Persons Database (RPDB), Postal Code Conversion File Plus (PCCF+), Continuing Care Reporting System (CCRS), Discharge Abstract Database (DAD)

Data provided to HQO by
Cancer Care Ontario (CCO)

Reported Levels of Comparability
Time, Age, Income, Rurality, Region

Caveats and Limitations
The data show the location of the death, but not the location where care was received before death (i.e. the death may have occurred in the ED but in general the care may have been provided in LTC). No information of the preferred place of death is provided.

Comments Summary
If there are multiple death records with different death date in each of the above administrative database, the last (i.e. most recent) death record for each unique health card number was selected. •If one health card number appears in multiple care settings, the following hierarchy based on the care intensity were used to assign death setting: acute care, Emergency, CCC, Rehabilitation facilities, LTC homes. There should only be one record per health card number. This indicator aligns with the palliative care QS overarching and the OPCN system level indicators.

Time to first palliative care services

Description
Percentage of people who began receiving palliative care in each of the 12 months before their deaths, among people who received palliative care during their last year of life.

DEFINITION AND SOURCE INFORMATION

Unit of Measurement
Percentage

Calculation Methods
Numerator divided by the denominator times 100

Numerator
Number of people in denominator who had the record of their first palliative care by months (in each of the 12 months) before their death

Denominator
Number of people in Ontario who died and had a record of receiving palliative care sservices in their last year of life across all settings.

Outpatient / Community

OHIP (Individuals with physician visit(s) for palliative care)
- A945: Special palliative care consultation in clinic, office, home; minimum 50 minutes
- K023: Palliative care support in half hour increments; may be used to add time for longer consultations where Location = 'O' or 'H' or 'P' ***
- G512: Weekly care case management from palliative primary care management (Mon-Sun) – This code should be considered as outpatient (however, some times, it may be billed in hospital).
- G511: Telephone services to patient receiving PC at home (max 2/week)
- B966: Travel premium for palliative care (billed with B998/B996)
- B998: Home visit for palliative care between 07:00 and 24:00
- B997: Home visit for palliative care between 24:00 and
- K700: Palliative care out-patient case conference

Home based physician visits
- Travel codes B966, B997, B998 and telephone consult code G511

Acute care (Hospital admissions)
- **CIHI-DAD**
- ICD-10 Code: Z51.5 and ICD-9 Code: V66.7: Any diagnosis of "palliative"
- PATSERV = 58: main patient service of "palliative care" was responsible for care
- PRVSERV[1-8] or INSERV[1-20] = 00121: "palliative medicine" was a provider whoprovided service, or an intervention service code of palliative medicine was provided.

- **OHIP billings**
- K023: Palliative care support in half hour increments, if patient was in hospital during date of claim. Location = 'I' ***
- C945: Special palliative care consult (minimum 50 minutes); K023 may be used to add time for longer consultations following a code for C945, or may be billed alone;
- C882: Family medicine palliative care, non-emergency (routine) hospital inpatient service
- C982: Specialist palliative care, non-emergency (routine) hospital inpatient service;

- **NACRS (ER room visits)**
- PRVSERV [1-10] = 00121: Provider service code of palliative medicine
- CONSULTSERV1 to CONSULTSERV3 = 00121: Consult service of palliative medicine was called
- ICD-10 Code: Z51.5 and ICD-9 Code: V66.7: Any diagnosis of "palliative"

Home Care
- **HCD**
  - SRC_admission = 95: Service recipient code (i.e., classification) of end of life on admission
  - Service_RPC = 95: Service care goal of end of life; patient provided service under end of life designation
  - SRC_discharge = 95: Service recipient code of end of life on discharge

Note: Select all records with SRC-95 in any assessement record.
- **RAI-Home Care**
- P2S = 1 or 2: Hospice care was provided with complete or partial adherence
- CC3f goals of care = palliative care (cc3f = 1)
- **RAI-CA**
- B2c = 1: Referral to initiate/continue palliative care FROM rai-ca
- B4 = 12: Expected place of stay during service of Hospice facility or Palliative Care Unit
- Questions on RAI-CA (E7=2 end of life), RAI-HC (K8e: Prognosis of less than 6 months to live – e.g. physician has told client or client's family that the client has end-stage disease)

Long-term care (LTC) facilities
- **OHIP billing codes:**
- K023: Palliative care support in half hour increments if delivered in LTC. Location = 'L'***
- W872: Family physician palliative care subsequent visit
- W972: Specialist physician palliative care subsequent visit
- W982 & W882 when occurred in LTC (stay in LTC)

- **Continuing Care Reporting System (CCRS-LTC):**
- P1AO = 1: Received hospice care in last 14 days

Complex Continuing care (CCC)
- **OHIP billing codes:**
- W882: Family physician palliative care subsequent visit
- W982: Specialist physician palliative care subsequent visit
- K023 – when have a stay in CCC

Continuing Care Reporting System (CCRS):
- P1AO = 1: Received hospice care in last 14 days

Exclusions:

- DAD death records (discharge disposition = 07) that have MCC = 19 (Trauma, injury, poisoning, toxic effect of drugs)
- NACRS death records (VISIT_DISPOSITION = '10', '11') where any diagnosis code begins with one of the following: 'S', 'T', 'V', 'W', 'X', 'Y' (sudden deaths)
- OMHRS death records (x90 = 2 or 3) where x90 = 2 (suicide)

Adjustment (risk, age/sex standardization)
None

Data Source
National Ambulatory Care Reporting System (NACRS), National Rehabilitation Reporting System (NRS), Ontario Mental Health Reporting System (OMHRS), Registered Persons Database (RPDB), Postal Code Conversion File Plus (PCCF+), Continuing Care Reporting System (CCRS), Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP) database, Home Care Database (HCD)

Data provided to HQO by
Cancer Care Ontario (CCO)

Reported Levels of Comparability
Time, Age, Income, Rurality, Region

Caveats and Limitations
The data show the records of receiving palliative care services across all settings. No data avaialble for the timeliness, quality and appropriateness of receiving the servces.

Having conversation about end-of-life care among people aged 65 and older

Description
This indicator measures the percentage of people aged 65 and older who reported having:

- A discussion with family, a friend or a health care professional about what care or treatment they would want or not want if they became very ill or injured and could not make decisions for themselves.
- A written document that named someone to make treatment decisions for them if they could not make decisions for themselves.

DEFINITION AND SOURCE INFORMATION

Unit of Measurement
Percentage

Calculation Methods
Numerator divided by the denominator times 100

Numerator
Weighted number of people aged 65 and older who reported that they had:
- A discussion with family, a friend or a health care professional about what care or treatment they would want or not want if they became very ill or injured and could not make decisions for themselves.
- A written document that named someone to make treatment decisions for them if they could not make decisions for themselves.
Survey questions:
- In the event you become very ill or injured and you cannot make decisions for yourself, have you had a discussion with family, a close friend, or a with a health care professional about what healthcare treatment you want, or do not want?
- Do you have a written document that names someone to make treatment decisions for you if you cannot make decisions for yourself?
  Response categories:

1. Yes
2. *No*
8. *Not sure*
9. *Decline to answer*

Denominator
Weighted number of people aged 65 and older who responded to the above mentioned survey questions.

Adjustment (risk, age/sex standardization)
Weighted to represent Ontario population

Survey data for Canada were weighted by age-by-gender, and educational attainment within each of the ten provinces. Data were weighted for knowledge of official language within Quebec and Canada as a whole. Additionally, data were weighted to reflect Canada's overall geographic distribution, by provinces and territories.

Data Source
Commonwealth Fund International Health Policy Survey for Older Adults 2017

Data provided to HQO by
Social Science Research Solutions (SSRS)

Reported Levels of Comparability
- International
- Pan-canadian

Caveats and Limitations
The questions do not provide details on the content of the conversation about "care or treatment they would want or not want if they became very ill or injured". In addition, there are no details avaiable on what specifically the respondeds meant when reffering to a written document "that named someone to make treatment decisions for them if they could not make decisions for themselves". When comparing the results internationally the results should be interpreted with caution as the contexts, practicies and legal requirement for end of life conversations/documentation may be different in diferent in countries. In addition, the respondents may have interpreted the survey questions differently.

Primary care doctors having end-of-life conversations with their patients

Description
This indicator measures the percentage of primary care doctors who reported that they had end of life conversations with their patients about their preferences, wishes and goals of their care, in the event they become very ill, injured, or cannot make decisions for themselves

DEFINITION AND SOURCE INFORMATION

Unit of Measurement
Percentage

Calculation Methods
Numerator divided by the denominator times 100

Numerator
Weighted number of primary care doctors who reported that they routinely had end of life conversations with their patients about their preferences, wishes and goals of their care, in the event they become very ill, injured, or cannot make decisions for themselves.

Survey questions:
- Do you have end of life conversations with your patients about their preferences, wishes and goals of their care, in the event they become very ill, injured, or cannot make decisions for themselves?

Response categories:
1. ***Yes, routinely***
2. *Yes, occasionally*
3. *No, not at all*
4. *Does not apply*
    8. *Not sure*
    9. *Decline to answer*

Denominator
Weighted number of primary care doctors who responded to the above mentioned survey questions.

Adjustment (risk, age/sex standardization)
Weighted to represent Ontario primary care doctors distribution
The PCP data in Canada were weighted to account for: (1) the over-representation of PCPs in some provinces; (2) the availability of an email address or not (since respondents with email addresses could be contacted both by mail and email); and (3) differential nonresponse along known geographic and demographic parameters. In Canada, data were weighted by age and gender (for Ontario, Quebec and the rest of Canada) and by province. All benchmarks were derived from the CMA Masterfile, January 2019, Canadian Medical Association.

Data Source
Commonwealth Fund International Health Policy Survey for Primary Care Doctors 2019

Data provided to HQO by
Social Science Research Solutions (SSRS)

Reported Levels of Comparability
- International
- Pan-canadian

Caveats and Limitations
The questions do not provide details on the content and scope of the conversation about "end of life conversations with their patients about their preferences, wishes and goals of their care".