

Aging in Ontario: An ICES Chartbook of Health Service Use by Older Adults

TECHNICAL REPORT



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Technical Report

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1. Introduction

The Institute for Clinical Evaluative Sciences (ICES) and the Ontario Home Care Research Network are coordinating efforts to measure and report on patterns of health system use across Ontario in key areas related to Ontario seniors and how they use health care services. Specifically, by examining and analyzing its collection of linked, province-wide health system data, ICES and its collaborators will be able to describe patterns of care for seniors over time and across Local Health Integration Networks (LHINs). This provincial-level view is vital to providing an overall picture of the outcomes being achieved for Ontario seniors, as well as the adaptability of the health system to meet the needs of our aging population.

Preliminary baseline data have been compiled in *Aging in Ontario: An ICES Chartbook of Health Service Use by Older Adults*, which allows for visual comparisons of health system data analyzed over time and geographically by LHIN, as well as a comparison of several population characteristics including age, gender, income quintile, immigration status and frailty. The Chartbook reports on a set of key exhibits vital to older adults, including emergency department visits, use of alternate level of care beds in hospitals, waiting time for long-term care home placement, waiting time for home care and self-perceived unmet home care needs.

The purpose of this Technical Report is to provide detailed information on the methods and data sources used to generate the Chartbook. This will ensure that future updates will use comparable definitions, and also allow other organizations to adopt and adapt these methods. Approximately half of the exhibits were created at ICES using on-site, linked health care administrative and survey databases. The remaining exhibits were produced by researchers at the University of Waterloo.

The Technical Report includes descriptions of all the databases used to calculate the exhibits found in the Chartbook, a summary of the use of crude and standardized rates, and complete descriptions and calculations for all exhibits. By providing this information we hope to ensure that our methods are transparent and can be replicated by others.

1.1 Data Sources

A wide range of data sources was used to create the exhibits presented in the Chartbook. A brief glossary of these data sources is provided below. Many of these population-based databases can be linked at the patient level in a way that ensures the privacy and confidentiality of personal health information.

Acute Beds Database

The acute beds database contains institution information including institution number, facility number, and facility name; the number of beds in several medical and surgical categories; and the number of beds in chronic, rehab, and special rehab categories. This dataset has one record per institution number per year. The data are supplied to ICES by the Ministry of Health and Long-Term Care (MOHLTC).

Canadian Community Health Survey (CCHS)

The CCHS is a national cross-sectional survey conducted by Statistics Canada. The CCHS collects information related to health status, health care utilization and health determinants for the Canadian population. The target population of the CCHS includes household residents in all provinces and territories with the principal exclusion of residents of First Nations reserves, Canadian Forces bases, institutions and some remote areas. The data are supplied to ICES by Statistics Canada.

Client Profile Database (CPRO)

The CPRO was developed by the Long-Term Care Redevelopment Project of the MOHLTC and contains long-term care home application information at the client level. The dataset consists of three broad types of information: (1) client characteristics and location at application, (2) long-term care home choices, and (3) milestone (date) events through the long-term care placement process. The data are supplied to ICES by the Ontario Association of Community Care Access Centres.

Discharge Abstract Database (DAD)

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

Home Care Database (HCD)

Ontario's Community Care Access Centres (CCACs) were established by the MOHLTC to provide access to government-funded home and community services and long-term care homes. The HCD is a clinical, client-centric database that captures all home care services provided or coordinated by CCACs. These data are supplied to ICES by the MOHLTC and to the University of Waterloo by the Ontario Association of Community Care Access Centres.

Master Numbering System (MNS)

The MNS dataset contains general institution number and location information for all health care institutions operating in Ontario since April 1970, along with variables that indicate the time period during which each institution number was in use. There is one record for every institution number issued. The data are supplied to ICES by the MOHLTC.

National Ambulatory Care Reporting System (NACRS)

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

Occupancy Monitoring Database (OCCM)

OCCM was developed by the Long-Term Care Redevelopment Project and provides current and comprehensive information on long-term care bed supply and demand for use by management staff within the Ministry of Health and Long-Term Care. The OCCM contains monthly bed supply information, vacancies, and population data for long-term care homes in Ontario. The data are supplied to ICES by the MOHLTC.

Ontario Health Insurance Plan (OHIP)

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

Postcensal Population Files

Statistics related to population size by sex, age and geographic area are collected in the census every five years by Statistics Canada. All estimates are for the population on July 1 of the given year. The data are supplied to ICES by Statistics Canada.

Registered Persons Database (RPDB)

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. When new RPDB data arrive at ICES, personal information such as name and street address is removed, and each unique health number is converted into an anonymous identifier, ensuring the protection of each individual's privacy. Data supplied to ICES by the MOHLTC are enriched with information from other ICES datasets. The RPDB overestimates the number of people living in Ontario for several reasons. 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. To ensure that rates and estimates are correct, a methodology was developed to adjust the RPDB so that regional population counts by age and sex match estimates from Statistics Canada.

Resident Assessment Instrument for Home Care (RAI-HC) Database

The RAI-HC was developed by interRAI, an international consortium of researchers, and was implemented in Ontario's Community Care Access Centres in 2004. It is a standardized, multi-dimensional assessment system for determining client needs; it includes quality exhibits, client assessment protocols, outcome measurement scales and a case mix system. The data are supplied to the University of Waterloo by the Ontario Association of Community Care Access Centres.

1.2 Crude and Standardized Rates

Presenting crude (unstandardized) rates makes it difficult to compare exhibit results or performance among Local Health Integration Networks or over time because of differences in the characteristics of population distributions. Standardization of rates is used to help compare groups that differ according to an important health determinant (often age or sex). In standardization, one estimates the rate that would have been obtained if the study population had the same structure or distribution as an externally defined standard population. In this report, the standard population for all standardized rates is the 2001 Ontario population.

Unless otherwise stated, all exhibit results presented in the Chartbook are crude rates (i.e., rates as naturally observed in the population). Where adjusted rates are presented, the population characteristics and the standard population are noted under the exhibit.

1.3 MAPLe Scores

Several exhibits in the Chartbook report a Method of Assigning Priority Levels (MAPLe) score. MAPLe scores are based on several clinical variables, such as impairment of activities of daily living, cognitive impairment, wandering, behaviour problems, and the institutional risk Clinical Assessment Protocol.

MAPLe scores are generated using data from the Resident Assessment Instrument for Home Care (RAI-HC); the scores classify clients into five priority-level groups, yielding a score from 1 to 5. People with a high priority level have a higher relative need for care and risk of adverse outcomes, such as nursing home placement and caregiver distress. These scores may be used as a means of identifying clients at a higher priority for receiving services, assisting with the targeting of services and monitoring changes in need over time.

For more information on MAPLe scores, see: Hirdes J, Poss JW, Curtin-Telegdi N. The Method for Assigning Priority Levels (MAPLe): a new decision-support system for allocating home care resources. [BMC Medicine 2008; 6:9](#).

For more information on the RAI-HC database, see: www.interrai.org.

2. Demographic Patterns

2.1–2.7 Baseline Demographics

Exhibit description	Demographic patterns of Ontario seniors aged 65 and older in the years leading up to the Aging at Home Strategy	
Purpose/rationale	These data illustrate how age, sex and income distributions of seniors across the province have changed over time and across Local Health Integration Networks (LHINs).	
Data sources	RPDB, Census, DAD, NACRS, OHIP	
Method of calculation	The number of Ontarians in a given characteristic grouping divided by the total number of Ontarians and multiplied by 100	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	Distribution of age group, sex, neighbourhood income, rural location, neighbourhood immigration level, frailty	
	Inclusions	Ontario seniors eligible to receive health care
	Exclusions	Individuals with missing values for demographic characteristics
Denominator	Ontario population	
	Inclusions	<ol style="list-style-type: none"> 1. RPDB weighted population aged 18 years and older 2. RPDB weighted population aged 65 years and older
	Exclusions	N/A
Time frame	Data were reported quarterly and annually from 2002/03 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	N/A	
Notes	<p>An individual's neighbourhood (Dissemination Area) and the corresponding distribution of immigration status within that area were derived using administrative data. Neighbourhoods were then categorized in terms of low or high immigration levels, with more than half of the population in high-immigration neighbourhoods being immigrants.</p> <p>In this report, the Statistics Canada 'rural and small town' definition of rurality was used. This definition classifies a resident as rural if the individual's postal code corresponds to towns or municipalities outside the commuting zone of larger urban centres (with populations of 10,000 or more) and is based on the Statistics Canada Postal Code Conversion Files (PCCF).</p>	

For the purposes of this report, income is represented by the individual's neighbourhood-level income divided into quintiles, based on the Statistics Canada Postal Code Conversion Files (PCCF).

The frailty marker was derived using the Johns Hopkins University Adjusted Clinical Group (ACG) System. The ACG System estimates the burden of illness of individuals and, when aggregated, of populations. The frailty marker indicates whether an individual has a diagnosis falling within any one of 11 clusters that represent medical problems associated with frailty. These frailty concepts are comprised of 81 diagnostic codes that are highly associated with marked functional limitations among older individuals. The presence of any one of these diagnoses suggests frailty.

3. Emergency Department Visits

3.1 Unscheduled Emergency Department Visits

Exhibit description	Rate of unscheduled emergency department (ED) visits by Ontario seniors	
Purpose/rationale	Unscheduled ED visits are visits that were not planned or arranged in advance. The rate of ED visits helps us to understand the extent to which other parts of the health system are not meeting the needs of older adults.	
Data sources	NACRS, RPDB	
Method of calculation	The number of unscheduled ED visits divided by the Ontario seniors population and multiplied by 1,000	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	Total number of unscheduled ED visits	
	Inclusions	Visit types 3 and 5
	Exclusions	<ol style="list-style-type: none"> 1. Planned or scheduled visits 2. Transfers between emergency departments 3. Visits to urgent care centres
Denominator	Ontario seniors population	
	Inclusions	RPDB weighted population aged 65 and older
	Exclusions	Age less than 65 years or more than 120 years
Time frame	Data were reported quarterly and annually from 2002/03 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	Potentially anomalous results seen in 2002/03 and 2003/04 could be a result of the SARS outbreak during which time emergency department volumes decreased, particularly in the Greater Toronto Area.	
Notes	N/A	

3.2 Potentially Preventable Emergency Department Visits

Exhibit description	Rate of emergency department (ED) visits by Ontario seniors for potentially preventable conditions			
Purpose/rationale	Potentially preventable visits describe visits to the ED for pre-existing conditions that are known to be responsive to primary care, such as diabetes and chronic obstructive pulmonary disease. When these conditions are not adequately managed, patients may experience worsening symptoms and/or serious complications that result in a visit to the ED. This exhibit helps us to understand the extent to which people with these pre-existing conditions are not receiving enough care to prevent the ED visit. This is a measure of early and ongoing primary care to manage these conditions; patients may still be quite sick when they arrive at the ED.			
Data sources	NACRS, RPDB			
Method of calculation	Number of ED visits for the selected conditions divided by the population of Ontario seniors and multiplied by 1,000			
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 			
Numerator	ED visits for the selected conditions			
	Inclusions	Condition	ICD-10-CA	Exclude
		Angina	I20, I23.82, I24.0, I24.8, I24.9	Cases with surgical procedures (CCI: 1, 2, 5)
		Asthma	J45	
		Cellulitis	L03	Cases with surgical procedures (CCI: 1, 2, 5)
		Chronic obstructive pulmonary disease	J41–J44, J47 (and J12–J16, J18, J20 but only when “Other diagnosis” of J41–J44, J47 is present)	
		Congestive heart failure	I50, J81	Cases with surgical procedures (CCI: 1HB53–1HB55, 1HD53–1HD55, 1HZ53, 1HZ55, 1HZ85, 1IJ50, 1IJ76)
		Dehydration	E86	
		Diabetes	E101, E106, E107, E109–E111, E116, E117, E119, E130, E131, E136, E137, E139–E141, E146, E147, E149	

		Gastroenteritis	K52 (other non-infective gastroenteritis and colitis)	
		Grand mal seizure disorders	G40, G41	
		Hypertension	I100, I101, I11	Cases with surgical procedures (CCI: 1HB53–1HB55, 1HD53–1HD55, 1HZ53, 1HZ55, 1HZ85, 1IJ50, 1IJ76)
		Hypoglycemia	E162	
		Kidney/urinary tract infection	N10, N11, N136, N151, N390	
		Pneumonia	J12–J16, J18	
		Severe ear, nose or throat infection	J02, J03, J312	
	Exclusions	1. Transfers between emergency departments 2. Planned or scheduled visits		
Denominator	Ontario seniors population			
	Inclusions	RPDB weighted population aged 65 years and older		
	Exclusions	1. Age at admission date less than 65 years or more than 120 years 2. Those in acute care at the beginning of each time period		
Time frame	Data were reported quarterly and annually from 2002/03 to 2008/09.			
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.			
Limitations	Potentially anomalous results seen in 2002/2003 and 2003/04 may be a result of the SARS outbreak during which emergency department volumes decreased, particularly in the Greater Toronto Area.			
Notes	N/A			

3.3 Emergency Department Visits for Fall-Related Injuries

Exhibit description	Rate of emergency department (ED) visits by Ontario seniors for fall-related injuries	
Purpose/rationale	Falls are an important safety concern among older adults and are among the top reasons why older adults visit the emergency department. Falls can result in serious injuries, such as fractures, that result in hospitalization, long-term care admission, and even death. Risk factors for falls and fall-related injuries include health conditions such as osteoporosis, medications that can cause dizziness, decreased strength with age, and environmental hazards. Many risk factors can be modified or eliminated so that the risk of falls is reduced.	
Data sources	NACRS, RPDB	
Method of calculation	Total number of falls resulting in an ED visit divided by the Ontario seniors population and multiplied by 1,000	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	Total number of falls resulting in an ED visit	
	Inclusions	Any S or T00-T14 code reported in the Main Problem field with any W00-W19 code reported in any Other Problem field
	Exclusions	<ol style="list-style-type: none"> 1. Transfers between emergency departments 2. Planned or scheduled visits
Denominator	Ontario senior adult population	
	Inclusions	RPDB weighted population aged 65 years and older
	Exclusions	Age at admission date was less than 65 years or more than 120 years
Time frame	Data were reported quarterly and annually from 2002/03 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	Potentially anomalous results seen in 2002/2003 and 2003/04 could be a result of the SARS outbreak during which emergency department volumes decreased, particularly in the Greater Toronto Area.	
Notes	N/A	

4. Alternate Level of Care

4.1 Inpatient Days Accounted for by Alternate Level of Care

Exhibit description	Percentage of inpatient days 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.	
Purpose/rationale	Individuals who occupy acute care hospital beds but no longer require acute care services are commonly described as alternate level of care (ALC) patients. The care needs of these individuals can often be met in a more appropriate setting (such as in the community with adequate home care or in a long-term care home) but individuals remain in hospital due to unavailable services, support and/or beds. This exhibit helps us to understand the percentage of all inpatient bed days that are occupied by ALC patients.	
Data sources	DAD, RPDB	
Method of calculation	Total number of inpatient days designated as ALC for each quarter of each fiscal year divided by the total number of inpatient days for each quarter of each fiscal year and multiplied by 100	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	Total number of inpatient days designated as ALC for each quarter of each fiscal year	
	Inclusions	N/A
	Exclusions	N/A
Denominator	Total number of inpatient days for each quarter of each fiscal year	
	Inclusions	<ol style="list-style-type: none"> 1. Acute care hospitals, 2. AP hospitals (acute care hospitals with psychiatric beds), and 3. AT hospitals (acute care hospitals without psychiatric beds)
	Exclusions	<ol style="list-style-type: none"> 1. Records with missing or invalid discharge date 2. Age less than 65 years or more than 120 years
Time frame	Data were reported quarterly and annually from 2002/03 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	N/A	
Notes	N/A	

4.2 Measuring Need Among ALC Patients Waiting for LTC Placement

Exhibit description	Distribution of MAPLe priority levels for Ontario seniors designated as Alternate Level of Care (ALC) and waiting for a long-term care (LTC) placement	
Purpose/rationale	Evidence-informed decisions regarding the need for LTC placement is vital for the well-being of persons in hospitals and the sustainability of the health care system. Appropriate targeting strategies should be used to allocate the limited supply of long-term care beds and maximize the potential for older adults to remain in the community.	
Data source	RAI-HC	
Method of calculation	Number of assessed clients waiting for LTC placement, by MAPLe priority levels, divided by all client assessments completed within the fiscal quarter or LHIN.	
Global exclusions	Community RAI-HC assessments	
Numerator	Distribution of MAPLe priority level	
	Inclusions	N/A
	Exclusions	N/A
Denominator	Assessed clients waiting for LTC placement in acute and complex hospitals	
	Inclusions	Hospital RAI-HC assessments
	Exclusions	Age less than 65 years or more than 120 years
Time frame	Data were reported quarterly and annually from 2005/06 to 2008/09.	
Levels of comparability	Data were available at the LHIN level.	
Limitations	MAPLe levels presented here reflect health status at the time of LTC application and may or may not represent the characteristics of these ALC patients during their entire length of stay.	
Notes	Priority level for access to community and facility care is based on the Method for Assigning Priority Levels (MAPLe), which is used to inform the allocation of home care resources and prioritization of clients needing community or facility care (see section 1.3). RAI-HC assessments are completed in acute and complex care hospitals for ALC patients applying to long-term care.	

5. Long-Term Care Placement Process

5.1–5.2 Wait Time to Long-Term Care Placement

Exhibit description	The median time that clients placed in Ontario long-term care (LTC) homes have been waiting for placement.	
Purpose/rationale	LTC homes (nursing homes, charitable homes for the aged and municipal homes for the aged) provide care for people who are not able to live independently in their own homes and who require 24-hour nursing or personal care, support and/or supervision. In Ontario, the LTC home admission process is centrally managed through regional waiting lists. This exhibit helps us to understand how much time people spend waiting to be placed in LTC.	
Data sources	CPRO, RPDB	
Method of calculation	The time, in days, from the earlier of the date of application or the client consent date to the date of LTC placement	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	The median wait time in days	
	Inclusions	N/A
	Exclusions	Transfers between LTC homes
Denominator	All clients identified as placed in long-term care	
	Inclusions	All clients whose departure from the wait list was due to placement or interim placement
	Exclusions	<ol style="list-style-type: none"> 1. Age less than 65 years or more than 120 years 2. Death prior to placement date 3. Wait time less than 0 days
Time frame	Data were reported quarterly and annually from 2003/04 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	Only the earliest placement in a given time period was captured. Clients awaiting transfer between LTC homes were excluded from these analyses.	
Notes	LTC home waiting lists are managed by the Community Care Access Centres by classifying clients into priority categories on admission. For technical definitions of priority categories, please refer to the Community Care Access Centres Client Service Policy Manual .	

5.3 Wait Time to Long-Term Care Placement by Location at Placement

Exhibit description	The median time that clients placed in Ontario long-term care (LTC) homes have been waiting for placement, stratified by location at placement.	
Purpose/rationale	LTC homes (nursing homes, charitable homes for the aged and municipal homes for the aged) provide care for people who are not able to live independently in their own homes and who require 24-hour nursing or personal care, support and/or supervision. In Ontario, the LTC home admission process is centrally managed through regional waiting lists. This exhibit helps us to understand how much time people spend waiting to be placed in LTC.	
Data sources	CPRO, RPDB	
Method of calculation	The time in days from the earlier of the date of application or the client consent date to the date of LTC placement	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	The median wait time in days	
	Inclusions	N/A
	Exclusions	N/A
Denominator	All clients identified as placed in long-term care	
	Inclusions	All clients whose departure from the wait list was due to placement or interim placement
	Exclusions	<ol style="list-style-type: none"> 1. Age less than 65 years or more than 120 years 2. Death prior to placement date 3. Wait time less than 0 days
Time frame	Data were reported quarterly and annually from 2003/04 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	Only the earliest placement in a given time period was captured.	
Notes	LTC home waiting lists are managed by the Community Care Access Centres by classifying clients into priority categories on admission. For technical definitions of priority categories, please refer to the Community Care Access Centres Client Service Policy Manual .	

5.4 Measuring Need Among Newly Placed Applicants to Long-Term Care

Exhibit description	MAPLe priority levels prior to long-term care (LTC) placement for Ontario seniors aged 65 and older	
Purpose/rationale	Because LTC beds are a scarce resource, it is important to understand the characteristics of individuals who are admitted to these beds so that community and facility-based resources are used efficiently. Ideally, most individuals who are placed should be drawn from the highest categories of need.	
Data sources	RAI-HC, HCD (Waterloo)	
Method of calculation	Individuals aged 65 and over discharged from the Community Care Access Centre (CCAC) referral system to long-term care are selected and matched to the most recent RAI-HC assessment, from which the MAPLe level is calculated.	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid age 2. Those discharged to LTC where no RAI-HC assessment could be matched 	
Numerator	Distribution of MAPLe priority levels	
	Inclusions	Clients discharged from CCACs because LTC placement had occurred
	Exclusions	N/A
Denominator	Individuals recently placed in long-term care	
	Inclusions	N/A
	Exclusions	Age less than 65 years or more than 120 years
Time frame	Data were reported quarterly and annually from 2005/06 to 2008/09.	
Levels of comparability	Data were reported at the LHIN level.	
Limitations	N/A	
Notes	Priority level is determined based on the Method for Assigning Priority Levels (MAPLe) (see section 1.3). The priority level is calculated from items in a placed individual's most recent RAI-HC assessment, which is required for long-term care application in Ontario.	

6. Home Care Services

6.1 Time from Application to First Service

Exhibit description	Average wait time from home care application to first service	
Purpose/rationale	Home care services provided to older adults are an important factor for maintaining individuals in the community. Improved access to these and related community-based services is a key goal of the Aging at Home Strategy. For individuals who are eligible for in-home services, timely service is a key area for performance that may affect health outcomes and satisfaction with service. This is relevant both for short-stay 'acute' clients who are expected to require less than 60 days of service and for long-stay clients expected to require service over longer periods.	
Data sources	HCD (ICES), RPDB	
Method of calculation	The time in days from home care application to first home care service	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	Mean wait time from home care application to first service	
	Inclusions	N/A
	Exclusions	Clients with wait times of less than 0 days or more than 60 days
Denominator	Home care applicants	
	Inclusions	All home care applicants who received a service visit
	Exclusions	<ol style="list-style-type: none"> 1. Death date preceded application date 2. Age at application date less than 65 years or more than 120 years 3. Missing service date 4. First service date preceded application date 5. Clients not assigned to long-stay/acute home care categories 6. Service records for case management, placement, respite or other services
Time frame	Data were reported quarterly and annually from 2005/06 to 2008/09.	
Levels of comparability	Data were reported at the LHIN and sub-LHIN levels.	
Limitations	Average wait time from application to service was calculated for clients who received a home care visit within 60 days of their application. This included 99% of short-stay/acute clients and 95% of long-stay clients. Short-stay/acute clients were those who were expected to be on service for less than 60 days, and long-stay clients were expected to receive services for a longer period of time.	
Notes	The service code on the first visit was used to determine whether the client was a short-stay or acute client versus a long-stay or maintenance client.	

6.2 Time from Hospital Discharge to First Service

Exhibit description	Wait time to first nursing service visit for newly-referred home care clients discharged from hospital.	
Purpose/rationale	Home care services provided to older adults are an important factor for maintaining individuals in the community. For individuals who are eligible for in-home services, timely service is a key area for performance that may affect health outcomes and satisfaction with service. The majority (approximately 70%) of home care clients referred from hospital receive nursing services.	
Data sources	HCD (ICES), RPDB, DAD	
Method of calculation	The time in days from hospital discharge to first nursing home care service	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	Mean wait time from hospital discharge to first nursing service	
	Inclusions	N/A
	Exclusions	N/A
Denominator	Home care applicants receiving services	
	Inclusions	New referrals to home care from a hospital setting
	Exclusions	<ol style="list-style-type: none"> 1. Death date preceded application date 2. Age at application date less than 65 years or more than 120 years 3. Missing service date 4. First service date preceded application date 5. Clients not assigned as long-stay/acute home care 6. Service records for case management, placement, respite or other services
Time frame	Data were reported quarterly and annually from 2005/06 to 2008/09.	
Levels of comparability	Data were available at the LHIN and sub-LHIN levels.	
Limitations	N/A	
Notes	Data from the DAD is used to determine whether home care recipients have been referred from an acute care setting.	

6.3 Time to Client Assessments

Exhibit description	Wait time in days to home care assessment among Ontario seniors designated for initial assessment (using the Resident Assessment Instrument for Home Care, or RAI-HC)	
Purpose/rationale	It is important to understand the often complicated care needs of long-stay home care clients. A comprehensive and standardized in-home assessment by a home care case manager can ensure that care planning is in place to address the needs of frail older persons.	
Data sources	RAI-HC, HCD (Waterloo)	
Method of calculation	Home care referrals who were expected to receive an assessment were matched to the closest assessment after the referral date and then classified into waiting time periods.	
Global exclusions	Invalid age	
Numerator	Wait time was categorized as: (a) up to 14 days, (b) 15 to 60 days; (c) 61 or more days, or no assessment.	
	Inclusions	N/A
	Exclusions	N/A
Denominator	Ontario senior adults designated for initial assessment	
	Inclusions	<ol style="list-style-type: none"> 1. Individuals admitted as service recipient codes 93 (maintenance) or 94 (long-term supportive), 2. Individuals who stayed on service for at least 60 days, and 3. Individuals who received either personal support service or at least two other types of service.
	Exclusions	Referral was from another Community Care Access Centre.
Time frame	Data were reported quarterly and annually from 2005/06 to 2008/09.	
Levels of comparability	Data were reported at the LHIN level.	
Limitations	This exhibit may overestimate proportions with no RAI-HC assessment due to identifier data entry error, estimated at perhaps 5% of cases.	
Notes	N/A	

6.4 Need Among Home Care Clients

Exhibit description	MAPLe priority levels for Ontario seniors who have been assessed and are receiving home care services	
Purpose/rationale	Community Care Access Centres (CCAC) manage services for a variety of older individuals with longer-term needs. Some clients require more resources and attention to live safely in their homes, and are at higher risk of being placed in a long-term care bed. The MAPLe assignment gives each assessed individual a relative level of priority regarding this risk.	
Data sources	RAI-HC, HCD (Waterloo)	
Method of calculation	Senior adults assessed in the community who subsequently received home care services were classified into one of five MAPLe priority levels	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid age 2. Individuals who had their RAI-HC assessment done in hospital 	
Numerator	Distribution of MAPLe priority level	
	Inclusions	Community-assessed clients who were receiving services 15 days prior to the assessment to 90 days after
	Exclusions	N/A
Denominator	Assessed CCAC service clients	
	Inclusions	N/A
	Exclusions	N/A
Time frame	Data were reported quarterly and annually from 2005/06 to 2008/09.	
Levels of comparability	Data were reported at the LHIN level.	
Limitations	N/A	
Notes	<p>Priority level is based on the Method for Assigning Priority Levels (MAPLe) (see section 1.3).</p> <p>Assessments are assigned to the quarter in which they were completed. Each quarter includes only clients who were assessed in that quarter.</p>	

6.5 Self-Perceived Unmet Home Care Need

Exhibit description	Percentage of Ontario seniors reporting having unmet home care needs in the past year stratified by age group, sex, household type and income level	
Purpose/rationale	A variety of home care services, which assist elderly Ontarians in living independently as long as possible, are available from Community Care Access Centres (CCAC) across Ontario. Not all individuals who feel they need services, however, receive them. Identifying those with unmet home care need can assist providers with service planning and identifying target populations.	
Data sources	CCHS, RPDB	
Method of calculation	All respondents reporting unmet home care needs in the past year divided by the total number of survey respondents and multiplied by 100	
Global exclusions	<ol style="list-style-type: none"> 1. Invalid health care number 2. Health care number not found in the RPDB (i.e., missing age and sex) 3. Invalid age (less than 0 years or more than 120 years) 4. Not an Ontario resident 	
Numerator	All respondents reporting unmet home care needs in the previous 12 months	
	Inclusions	All respondents who answered “yes” to survey question HMCx: “During the past 12 months, was there ever a time when you felt that you needed home care services but didn’t receive them?”
	Exclusions	Results with invalid home-care-need values
Denominator	All survey respondents for CCHS cycles 2.1 to 4.1	
	Inclusions	Respondents aged 65 years and older
	Exclusions	<ol style="list-style-type: none"> 1. Age less than 65 years or more than 120 years at time of interview 2. Invalid/missing home care value
Time frame	Data were reported semi-annually from 2003 to 2005 and annually from 2007 to 2008.	
Levels of comparability	Data were reported at the LHIN level.	
Limitations	N/A	
Notes	N/A	



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