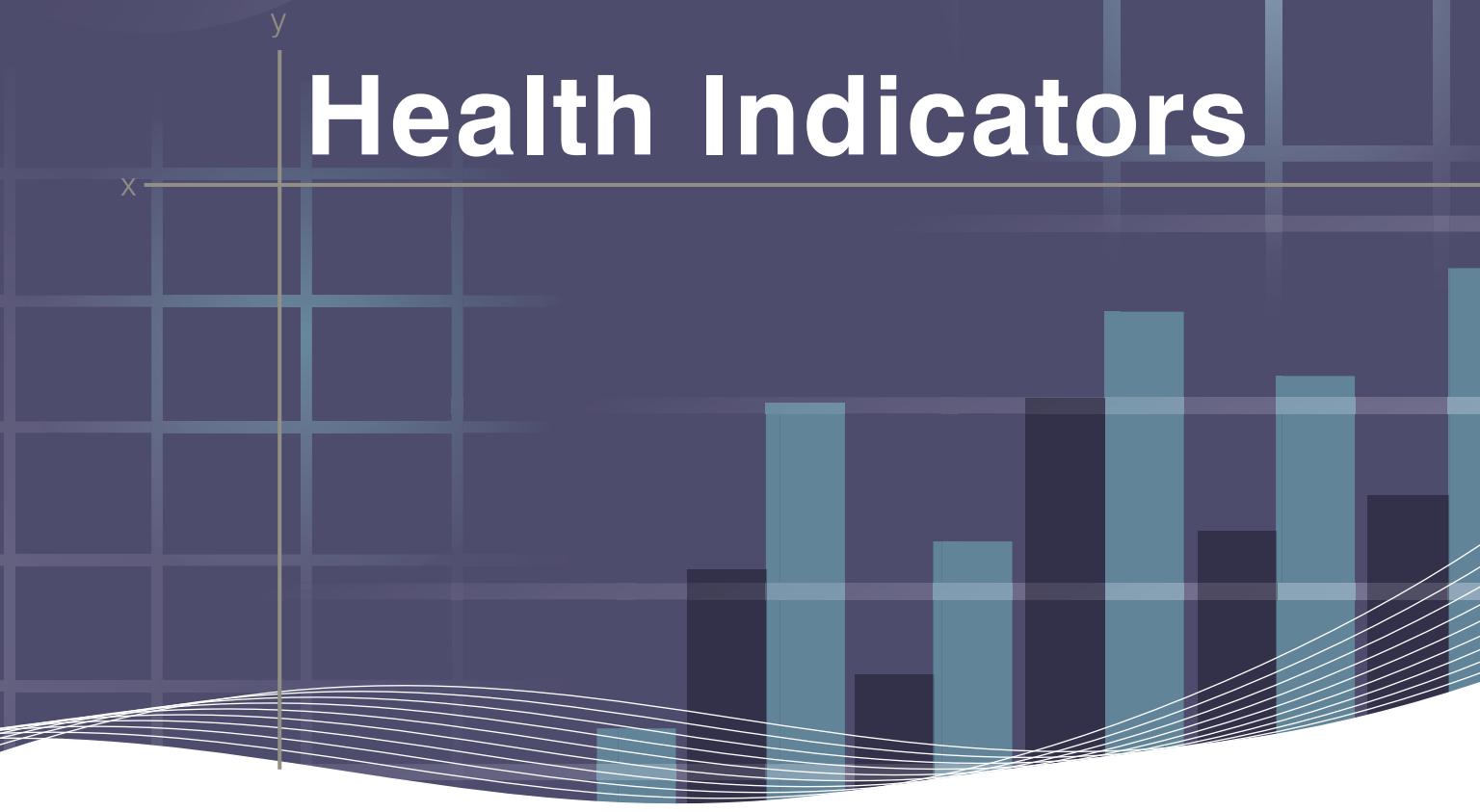
10th Anniversary

2009

Health Indicators



Statistics Canada
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Canadian Institute for Health Information
Institut canadien d'information sur la santé

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About the Canadian Institute for Health Information

The **Canadian Institute for Health Information** (CIHI) collects and analyzes information on health and health care in Canada and makes it publicly available. Canada's federal, provincial and territorial governments created CIHI as a not-for-profit, independent organization dedicated to forging a common approach to Canadian health information. CIHI's goal: to provide timely, accurate and comparable information. CIHI's data and reports inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health.

For more information, visit our website at www.cihi.ca.

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- **Mr. Munir Sheikh**, Chief Statistician of Canada, Statistics Canada
- **Mr. Howard Waldner**, President and Chief Executive Officer, Vancouver Island Health Authority

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Statistics Canada is authorized under the *Statistics Act* to collect, compile, analyze, abstract and publish statistics related to the health and well-being of Canadians. We conduct surveys of Canadians and collect administrative data to understand the status of the nation's health, characteristics and behaviours that promote health or place Canadians at risk of ill health, interactions of Canadians with the health system, direct measures of health, dynamics of health over time and health outcomes.

We inform Canadians through the analysis and dissemination of our data holdings. Statistics Canada publishes *Health Reports* monthly, a peer-reviewed and indexed journal of population health and health services research.

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- **Dr. Eric Bohm**, Assistant Professor of Surgery, University of Manitoba; Director of Research, Concordia Joint Replacement Group
- **Dr. Gary F. Teare**, Director, Quality Measurement and Analysis, Health Quality Council, Saskatchewan
- **Dr. Helen Johansen**, Senior Analyst, Health Analysis Division, Statistics Canada; Adjunct Professor, University of Ottawa
- **Dr. Jack Tu**, Professor of Medicine, University of Toronto; Senior Scientist, Institute for Clinical Evaluative Sciences
- **Dr. Jan Christilaw**, President, BC Women's Hospital and Health Centre; Clinical Professor of Obstetrics and Gynecology, University of British Columbia
- **Dr. John Millar**, Executive Director, Population Health, Provincial Health Services Authority, British Columbia
- **Dr. Michael J. Dunbar**, Associate Professor of Surgery, Dalhousie University; Director of Orthopedic Research, Queen Elizabeth II Health Sciences Centre
- **Dr. Michael D. Hill**, Chair, Information and Evaluation Committee, Canadian Stroke Strategy; Associate Professor of Neurology and Epidemiology, University of Calgary; Director, Stroke Unit, Foothills Medical Centre
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- **Dr. Patrice Lindsay**, Performance and Standards Specialist, Canadian Stroke Network; Adjunct Scientist, Institute for Clinical Evaluative Sciences; Associate Researcher, Ottawa Health Research Institute
- **Dr. Stephen J. Phillips**, Professor of Medicine, Dalhousie University; Director, Acute Stroke Program, Queen Elizabeth II Health Sciences Centre

It should be noted that the analyses and conclusions in this report do not necessarily reflect the opinions of the experts or their affiliated organizations.

The project team responsible for the development of this report includes:

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- **Dr. Liudmila Husak**, Senior Analyst
- **Ms. Anisha Abreo**, Senior Analyst
- **Ms. Emily St. Denis**, Analyst

The health indicators project is a joint effort by CIHI and Statistics Canada that produces information on a broad range of health indicators. Statistics Canada contributed data and indicators on health status, non-medical determinants of health and community and health system characteristics for the *Heath Indicators 2009* report. Statistics Canada and CIHI also jointly produce the *Health Indicators* e-publication, which provides additional health indicator data. Special appreciation goes to **Brenda Wannell**, **Tim Johnston** and **Lawson Greenberg** at Statistics Canada for their contribution to this print report.

This report could not have been completed without the generous support and assistance of many other CIHI staff members who compiled and validated the data; worked on the print, translation, communications, web design and distribution; and provided ongoing support to the core team.

Celebrating 10 Years of *Health Indicators*

Since 1999, CIHI and Statistics Canada have collaborated on the Health Indicators project, developing and providing a broad range of indicators for health regions across the country. The first *Health Indicators* report was released in 2000, published along with *Health Care in Canada*. At that time, the report included 13 indicators, providing the first-ever comparative data on a range of health and health system measures for Canada's 63 largest health regions as well as the provinces and territories. The goal was to provide objective and up-to-date information to support evidence-based decision-making for regional, provincial and national stakeholders. The indicators were to help answer two questions: how healthy are Canadians, and how healthy is the Canadian health care system? This year, CIHI and Statistics Canada celebrate the 10th release of this report—*Health Indicators 2009*.

Indicators should reflect the information needs of their users—decision-makers, health system managers, health professionals and the public. To gain a better understanding of the types of indicators to develop and report, CIHI convened the First Consensus Conference on Population Health Indicators in 1999, in cooperation with the Federal/Provincial/Territorial Advisory Committees on Population Health and Health Services, Health Canada and Statistics Canada. Conference participants agreed on a conceptual model for this project, the Health Indicator Framework, and provided advice for the selection of an initial set of indicators that could be compiled from existing data sources. Since then there have been two more consensus conferences to identify new challenges and information needs in health and health care.

The inventory of health indicators has expanded over the past 10 years to address growing information needs. New indicators reflecting resource use, health outcomes, wait times and patient safety have been introduced. This year, three new indicators are presented: the acute myocardial infarction event rate; the stroke event rate; and the hip fracture event rate. When new indicators are developed, regional, provincial and

What Is an Indicator?

A health indicator is a single measure (usually expressed in quantitative terms) that captures a key dimension of health (such as how many people have heart attacks or break their hips), the health care system (such as how often patients return to hospital for more care after they were treated) or other related factors. They can further our understanding of the health of Canadians, how the health care system works and what needs improvement. Health indicators can be used to inform health policy, manage the health care system, enhance our understanding of the broader determinants of health, as well as to identify gaps in health status and outcomes for specific populations.

There's More on the Web

CIHI and Statistics Canada jointly produce and maintain the *Health Indicators* e-publication. This free web-based product provides data for a broad range of health indicators from both CIHI and Statistics Canada in one integrated online publication. This interactive online resource provides easy access to the most recent health indicator results, as well as to data for all available years, with maps, complete technical notes and other important information.

***Health Indicators* e-publication:** to find more information on the latest readings on the health of Canadians—region by region—please visit www.cihi.ca/indicators or www.statcan.ca.

territorial stakeholders and other experts are consulted about issues ranging from definitions to technical details. Regions and provinces review indicator results and their feedback is integrated into revisions and further improvements.

It is also important to see how the indicators are being used. Some have been adopted as part of regional or provincial performance agreements or system report cards. Many jurisdictions have noted that health indicators data serve to identify priorities for more in-depth analysis. Others have used the indicators to identify potential opportunities for improvement.

Over the past 10 years, *Health Indicators* has evolved from a slim insert in *Health Care in Canada* into an established annual report with an increasing number of indicators reported at regional, provincial and national levels. More importantly, there are tremendous opportunities to extend the usefulness of this publication in the future, to help the health system face new challenges and strive toward goals with objective evidence and valuable information.

As in previous years, *Health Indicators 2009* presents the most recently available information about the health system and the health of the population in Canada's health regions, provinces and territories. In view of the 10-year anniversary, the report also presents national trends over time for selected indicators focusing on the following six themes: heart attacks and cardiac revascularization; stroke; women's health and men's health—selected surgical procedures; hip fractures; joint replacements; and preventing hospital admissions.

Highlights of This Report

Heart attacks and cardiac revascularization: rates of new hospitalized heart attack events, rates of 30-day in-hospital mortality after admission for heart attack as well as readmission rates after heart attacks decreased in Canada* between 2003–2004 and 2007–2008. From 1998–1999 to 2007–2008, there was a marked increase in the overall rate* of cardiac revascularization procedures (such as angioplasty and bypass surgery). Revascularization for heart attack patients has also been done sooner than in the past.

Stroke: rates of new hospitalized stroke events decreased in Canada* between 2003–2004 and 2007–2008, but the rates of 30-day in-hospital mortality after admission for stroke remained unchanged.

Women's health and men's health—selected surgical procedures: Caesarean section rates continued to increase between 2001–2002 and 2007–2008. The hysterectomy rate in Canada decreased between 1998–1999 and 2007–2008. No significant change was observed in the rates* of unplanned readmissions following hysterectomy or prostatectomy.

* Excluding Quebec.

Hip fractures: rates of hospitalized hip fracture events, reflecting hip fractures in the community, decreased in Canada* between 1998–1999 and 2007–2008, but the rate of hip fractures that occurred in acute care hospitals remained unchanged.

Joint replacements: there was a marked increase in rates of both hip and knee replacement surgeries in Canada,* from 1998–1999 to 2006–2007.

Preventing hospital admissions: improvements in some indicators related to potentially preventable hospitalizations were observed. From 2001–2002 to 2007–2008, hospitalization rates for injury and ambulatory care sensitive conditions decreased; however, rates of unplanned readmissions after discharge for asthma did not show a significant change.

What About Quebec?

Data on hospital stays in Quebec for 2006–2007 and 2007–2008 were not available to CIHI at the time of this publication. Historical Quebec data were included in the analysis to the extent possible. However, in the instances where availability of the data affected national trends, Quebec was not included in the analysis.

For More Information

Highlights and the full text of *Health Indicators 2009* are available free of charge in English and French on the CIHI website at www.cihi.ca. To order additional free copies of the printed report please contact:

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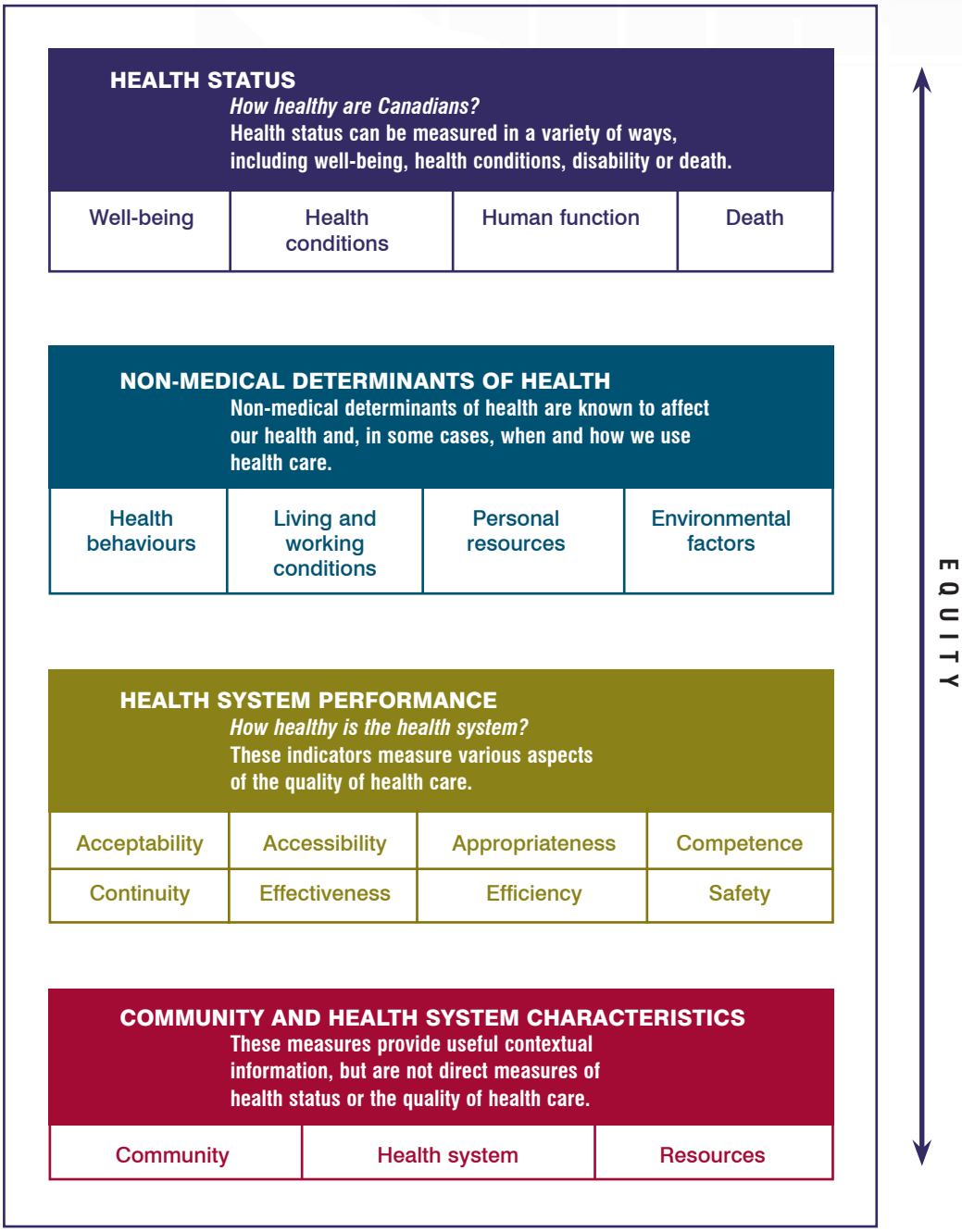
As always, we welcome your comments about this publication. Please send your comments on this report as well as suggestions about the indicators or priorities for future indicator development to indicators@cihi.ca.

* Excluding Quebec.

Health Indicator Framework



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In Focus: Heart Attacks and Cardiac Revascularization

Heart attack, or acute myocardial infarction (AMI), is one of the leading causes of death in Canada.[1] About 18,000 Canadians die as a result of heart attacks every year.[2] Heart attacks are life-threatening emergencies that happen when the coronary arteries—the blood vessels supplying blood to the heart muscle to keep it working—are suddenly blocked. Lack of blood damages the heart muscle, weakening its function or stopping it altogether, which can be fatal.

Some people have intrinsic characteristics that increase their chance of having a heart attack, but heart attacks may be largely preventable[3]—provided people and health professionals do the right things. For individuals, that means living a healthy life—eating a well-balanced diet, being active and not smoking—which can significantly reduce the risk of heart attack. Health care providers can counsel patients on factors affecting their health, support efforts to adopt a healthier lifestyle and ensure they get the right medications after a heart attack to prevent another one.

New approaches to care, which emphasize rapid re-opening of arteries (either by clot-busting medications or cardiac revascularization) are increasing people's chances of survival after heart attacks.[4–6] Cardiac revascularization, by angioplasty or bypass surgery, is done to restore blood flow to the heart muscle. While not all heart attack patients need revascularization procedures,[7] research suggests that there are benefits in providing revascularization to eligible patients as soon as possible after a heart attack.[8] Cardiac revascularization is not solely used to treat heart attacks; many patients have a procedure to open arteries that are narrowing but not yet blocked.

This section examines several indicators related to heart attacks:

- Rates of hospitalized AMI events—a new indicator added this year;
- Angioplasty and bypass surgery rates;
- In-hospital mortality within 30 days of an AMI; and
- The rate of unplanned readmissions following discharge for a heart attack.

Hospitalized Acute Myocardial Infarction Event Rate

Heart attacks (acute myocardial infarction, or AMI) are a major concern for clinicians, health care planners and public agencies because of the mortality and morbidity they cause, their cost to health care and society, and because many could be prevented.[3] As a result, there have been many efforts to reduce the number of heart attacks.

Until now, pan-Canadian statistics on heart attacks have been limited to the number of hospitalizations due to heart attack. But this did not paint an accurate picture because people who were admitted more than once for the same heart attack, or who were transferred from one hospital to another, were counted two or more times. For the first time this year, a new indicator—the hospitalized AMI event rate—was developed to measure only new events of heart attacks admitted to hospital, rather than counting all related hospitalizations. This still does not provide the full picture of the number of heart attacks occurring every year, because it is limited to patients admitted to hospital and does not include patients who died before they got there.

Indicator Definition

This indicator is the age-standardized rate of new heart attack events admitted to an acute care hospital per 100,000 population age 20 and older. A new event is defined as a first-ever hospitalization for a heart attack or a recurrent hospitalized heart attack occurring more than 28 days after the admission for the previous event in the reference period.[i]

Why Is This Important?

The rate of hospitalized AMI events provides an estimate of the incidence of heart attacks in the community. Monitoring the rates over time and across jurisdictions may serve as a starting point for evaluating the effect of prevention and treatment programs, planning health resources and estimating costs.

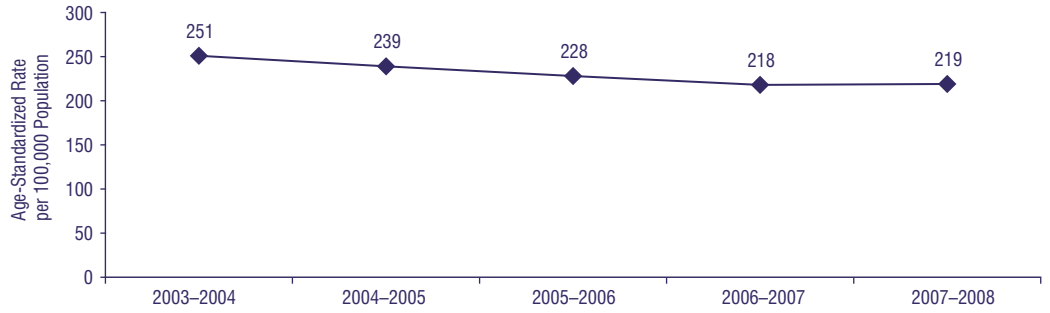
Key Findings

- The rates of hospitalized AMI events in Canada* decreased significantly over the last five years. From 2003–2004 to 2007–2008, there was a 13% drop, after population aging and growth were taken into account (Figure 1).
- In 2007–2008, 49,220 Canadians* were hospitalized for a heart attack; 1,678 people, or about 3.4%, had more than one heart attack in that year.
- Rates of hospitalized heart attack events varied across the country. In 2007–2008, residents of Newfoundland and Labrador had twice the rate of hospitalized heart attack events of people in British Columbia.
- Over the last five years, the rates of hospitalized heart attack events decreased at about the same pace for both sexes; however, the rates were consistently higher for males than females in all age groups.
- The differences between genders narrowed with age—males had four times as many heart attacks as females between the ages of 20 and 44, but only one and a half times more among those 65 and older (Figure 2).
- In 2007–2008,* rates of hospitalized heart attack events were 66% higher among people living in the least affluent neighbourhoods compared to people in the most affluent neighbourhoods (Figure 3). Between 2003–2004 and 2007–2008, the rates* of hospitalized heart attack events decreased in all income groups; however, the decrease was larger for people living in the most affluent neighbourhoods (17%) compared to those living in the least affluent neighbourhoods (10%).

* Excluding Quebec.

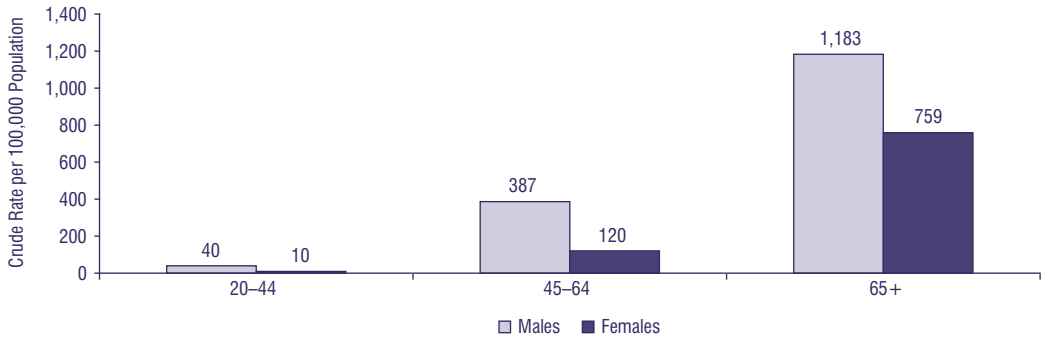
i. For more information on indicator methodology, please visit www.cihi.ca/indicators.

Figure 1 Rates of Hospitalized AMI Events, Canada



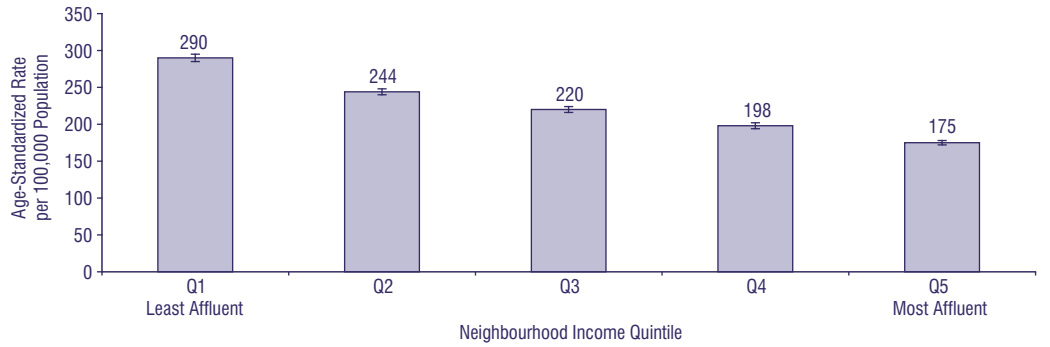
Notes: Rates include people age 20 and older. Rates for all years do not include Quebec due to differences in data collection. The rate for 2003–2004 does not include Manitoba due to differences in AMI definition in ICD-9-CM and ICD-10-CA. This exclusion does not affect the trend. The trend is statistically significant ($p<0.05$).
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 Rates of Hospitalized AMI Events by Age and Sex, Canada, 2007–2008



Note: Rates do not include Quebec due to differences in data collection.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Figure 3 Rates of Hospitalized AMI Events by Neighbourhood Income Quintile, Canada, 2007–2008



Notes: Rates include people age 20 and older. Rates do not include Quebec due to differences in data collection. Q1 represents the lowest neighbourhood income quintile and Q5 represents the highest. Population by income quintile for 2007–2008 was projected using 2001 and 2006 Canadian census data. I represents 95% confidence intervals.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Cardiac Revascularization Rates

Cardiac revascularization procedures are used to restore or improve blood supply to the heart muscle, which reduces the symptoms of coronary heart disease, such as chest pain and weakness. Revascularization can improve the quality of patients' lives[9, 10] and reduce mortality.[5, 6, 10, 11]

There are two kinds of revascularization procedures: bypass surgery and coronary angioplasty. Bypass surgery, also known as coronary artery bypass graft, or CABG, is major surgery where a patient's chest is opened. Blood vessels taken from other parts of the body are attached to a coronary artery to bypass blockages and restore blood flow to the heart muscle. For coronary angioplasty, also called percutaneous coronary intervention, or PCI, there is no need to open the chest, but it cannot be used to treat all coronary artery obstructions. The procedure involves inserting a catheter into a coronary artery, then inflating a small balloon at the end of it to dilate the narrowed segment of the artery so blood flows to the heart muscle. Coronary stents—tiny cage-like tubes—are often inserted at the same time to keep the artery open.

Until the early 1990s, CABG was the preferred procedure for treating coronary heart disease, because arteries cleared by angioplasty often became narrowed again, but that changed when stents increased the safety and efficiency of angioplasties.[12, 13] At the same time, potent anti-platelet drugs were introduced, which further decreased complications in angioplasty.[12] In 2002, the introduction of drug-eluting stents (which are coated with a slow-release drug) decreased the risk of a repeated narrowing and the need for additional procedures even more.[14, 15]

There have also been some improvements in bypass surgery, including the introduction of a minimally invasive procedure allowing certain types of patients to be treated without opening their chests. Another new approach, the off-pump technique, means some patients can have bypass surgery without having their hearts stopped. Nevertheless, angioplasty has an easier and quicker recovery than bypass surgery and puts less demand on hospital resources, which makes it an attractive alternative for both patients and care providers. As a result, the rates of CABG are decreasing, whereas angioplasty rates increased steeply in recent years.

Indicator Definitions

The percutaneous coronary intervention rate is the age-standardized rate of PCI performed in acute care hospitals, same-day surgery facilities or catheterization laboratories per 100,000 population age 20 and older.

Coronary artery bypass graft surgery rate is the age-standardized rate of CABG surgery performed in acute care hospitals per 100,000 population age 20 and older.

The cardiac revascularization rate is the age-standardized rate of the two procedures combined.

Why Is This Important?

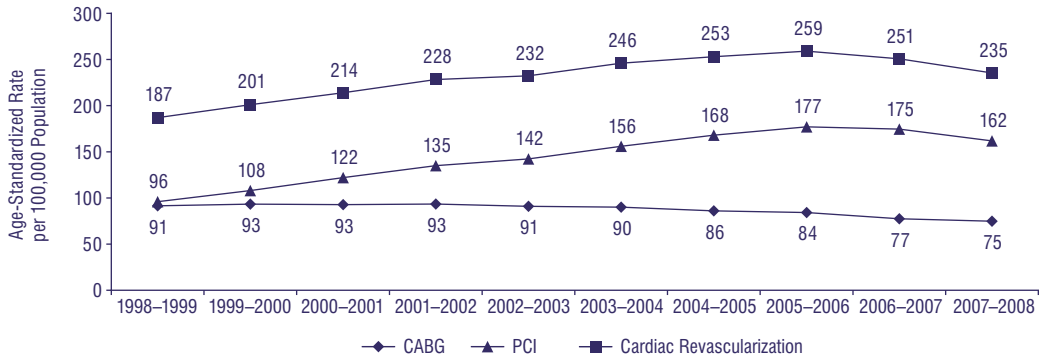
Rates of cardiac revascularization procedures provide information that can be used for allocating health human resources as well as planning and budgeting health services. Wide inter-regional variations in revascularization rates may be attributable to numerous factors, including prevalence of coronary heart disease in the population, availability of services and provider practice patterns. Monitoring the rates over time and across jurisdictions may provide useful information on patterns of care across the country.

Key Findings

- In Canada,* the overall cardiac revascularization rate increased 39% after aging and population growth were taken into account—from 187 per 100,000 population in 1998–1999 to a peak rate of 259 per 100,000 in 2005–2006 (Figure 1). The rates started to decrease after that.
  - The number of angioplasties performed in Canada* more than doubled over the past 10 years. In 1998–1999, there were just over 17,000 discharges for an angioplasty, whereas the number was more than 36,000 in 2007–2008. A peak rate of 177 angioplasties per 100,000 population was reached in 2005–2006, up from 96 per 100,000 in 1998–1999, an 84% increase after population aging and growth were taken into account (Figure 1).
  - The rates of CABG declined 18%—from 91 per 100,000 population in 1998–1999 to 75 per 100,000 in 2007–2008 (Figure 1).
- Rates of cardiac revascularization varied across the country. In 2007–2008,* the overall rate of cardiac revascularization ranged from 212 to 286 per 100,000 population (Figure 2).
- The choice of revascularization technique also varied by province. In 2007–2008, angioplasty accounted for 58% of cardiac revascularization in Newfoundland and Labrador, but in Alberta, 75% of all revascularization was performed as angioplasty (Figure 3).
- Over the past decade,* the revascularization rate for males was about three times higher than the rate for females, although the rate of hospitalized heart attacks in males was only twice that of females.
- Cardiac revascularization has been increasingly used to treat older patients. Over the past 10 years,* rates of these procedures increased fourfold for patients 85 and older. Increases for other age groups ranged from 19% to 35%.
- In recent years, insertion of stents has become standard practice. They were used in 96% of angioplasties in 2007–2008.*

* Excluding Quebec.

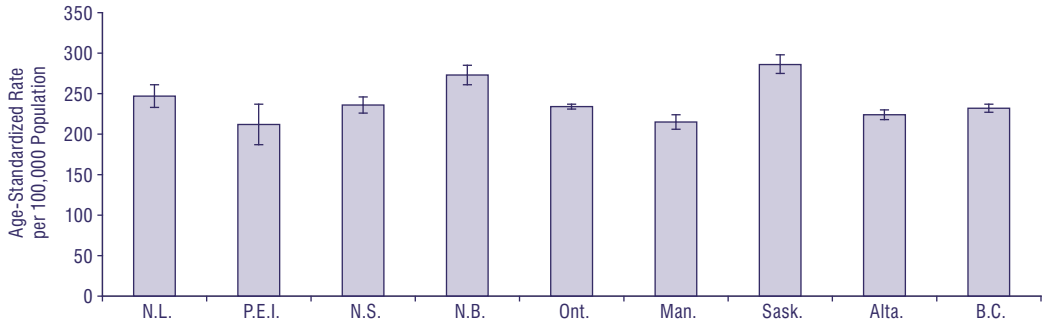
Figure 1 Rates of Cardiac Revascularization Procedures, Canada



Notes: Rates include people age 20 and older. Rates for all years exclude Quebec; data from Quebec for 2006–2007 and 2007–2008 were not available at the time of publication. The trend for each type of procedure is statistically significant ($p<0.05$).

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

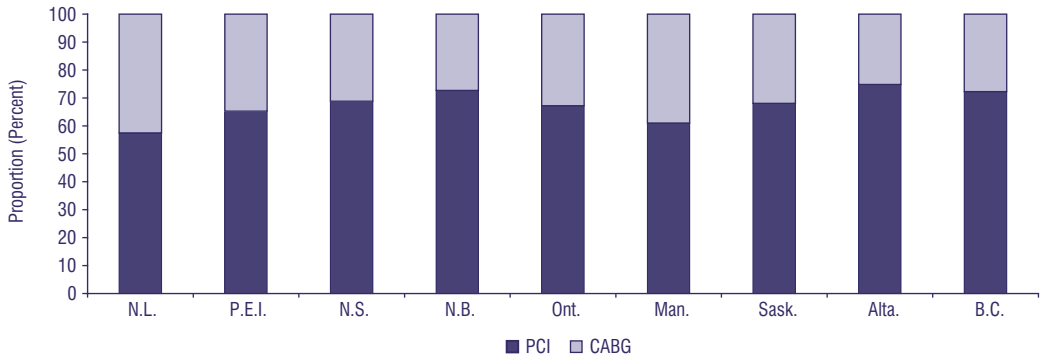
Figure 2 Rates of Cardiac Revascularization by Province, Canada, 2007–2008



Notes: Rates include people age 20 and older. Data from Quebec for 2007–2008 were not available at the time of publication. Rates for the territories are not presented due to small numbers. I represents 95% confidence intervals.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Figure 3 Types of Revascularization Procedures by Province, Canada, 2007–2008



Notes: Data from Quebec for 2007–2008 were not available at the time of publication. Data for the territories are not presented due to small numbers.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

30-Day Acute Myocardial Infarction In-Hospital Mortality Rate

A patient's risk of dying in the hospital after a heart attack (acute myocardial infarction, or AMI) depends on many factors. Some, such as age, cannot be modified after a patient has had an AMI. But breakthroughs in treatments, particularly the timing of re-opening coronary arteries for blood flow, are greatly increasing people's chances of survival.[4–6] Other care-related practices, such as adhering to expert guidelines and best practices, are also important to achieving better outcomes.[16]

Indicator Definition

This indicator is the risk-adjusted rate of all-cause in-hospital death occurring within 30 days of first admission to an acute care hospital with a diagnosis of heart attack.[ii]

Why Is This Important?

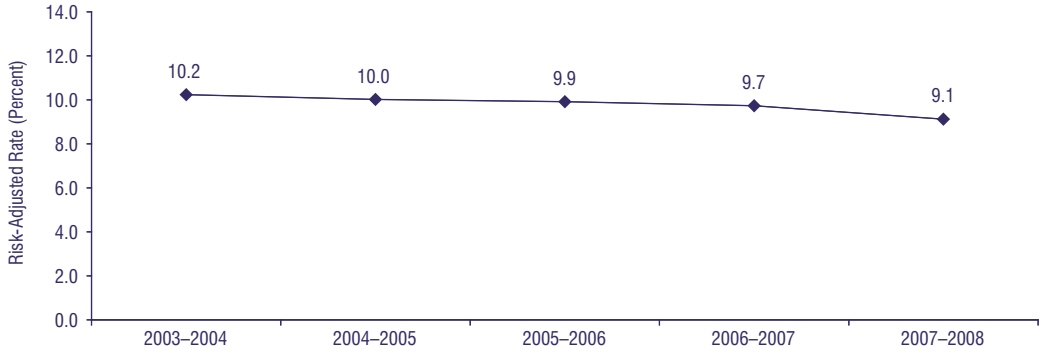
Mortality rates following a heart attack may reflect quality of care and the underlying effectiveness of treatment in the hospital, as well as care provided in the community. Monitoring in-hospital mortality after heart attacks over time can be used to review practice patterns, initiate improvements in care and evaluate progress.

Key Findings

- In 2007–2008 in Canada,[*] the risk-adjusted[iii] 30-day in-hospital mortality rate after admission for heart attack was 9.1%, down from 10.2% in 2003–2004. This represents an 11% drop over five years (Figure 1).
- There were variations in 30-day AMI in-hospital mortality rates across the country. In the period 2005–2006 to 2007–2008,[iv] the rates in Newfoundland and Labrador, Nova Scotia, New Brunswick and British Columbia were significantly above the national rate, whereas the rates in Manitoba and Alberta were significantly below the national rate.
- Mortality rates[*] fell in all age groups. However, the highest decrease in mortality was among patients age 20 to 44, who experienced a 41% decline. The smallest improvement (11%) was among the oldest patients, age 85 and older.
- Between 2003–2004 and 2007–2008, mortality rates[*] for females decreased at about the same pace as for males. However, despite this decrease, in 2007–2008,[*] mortality rates among females remained about 6% higher than among males, after differences in age and other illnesses were taken into account.
- More heart attack patients now get revascularization within 30 days of hospitalization for an AMI: 45% did in 2007–2008, compared to 34% in 2003–2004 (Figure 2).
- Over the past five years, patients who received a revascularization procedure within 30 days of being admitted to a hospital for a heart attack had lower mortality rates compared to patients who did not. Patients who received revascularization were younger and had fewer other illnesses, but even when those differences were taken into account, their risk of dying was significantly lower than that of patients without the procedure (Figure 2).
- Revascularization is also being done sooner than in the past. In 2007–2008, 43% of heart attack patients received a revascularization procedure the same day or the day after they were admitted to hospital for a heart attack, compared to 28% in 2003–2004 (Figure 3).

* Excluding Quebec.
ii. Rates are adjusted using a logistic regression model with age, sex and select preadmission comorbid conditions as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.
iii. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008.
iv. Rates based on three years of pooled data.

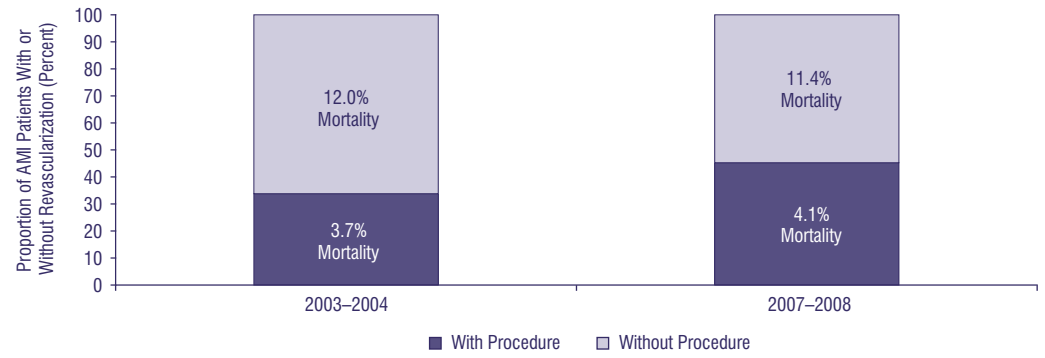
Figure 1 Rates of 30-Day AMI In-Hospital Mortality, Canada



Notes: Rates do not include Quebec due to differences in data collection. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008. The trend is statistically significant ($p<0.05$).

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

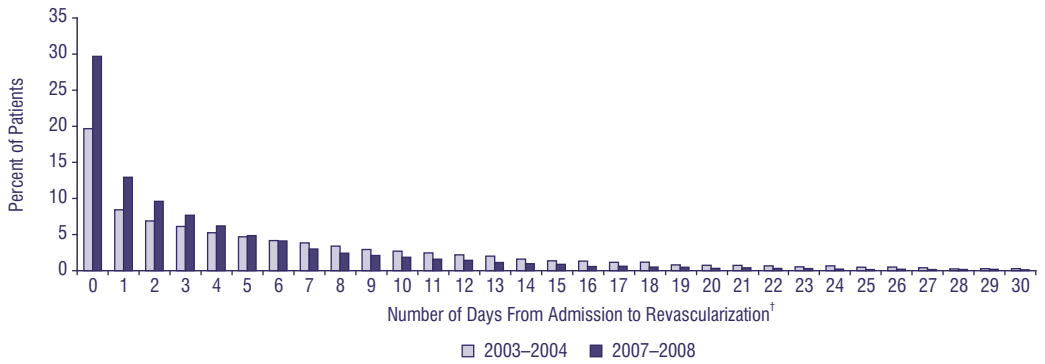
Figure 2 Proportion of Patients With and Without a Revascularization Procedure Within 30 Days of Admission to Hospital With a Heart Attack and Risk-Adjusted Rates of 30-Day In-Hospital Mortality, Canada



Note: Does not include Quebec due to differences in data collection.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Figure 3 Days From Admission to Hospital With a Heart Attack to a Revascularization Procedure, Canada



Notes: † Truncated at 30 days. Does not include Quebec due to differences in data collection.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Acute Myocardial Infarction Readmission Rate

Heart attacks (acute myocardial infarction, or AMI) can be deadly, but more than 90% of patients who are admitted to hospital for a heart attack survive. After they are discharged, most patients either recover at home or in another health care facility. However, some patients return to hospital shortly after discharge because they experience further health problems, such as another heart attack, persisting chest pain or heart failure,[17] or because they need additional care.

Indicator Definition

This indicator is the risk-adjusted rate of unplanned readmissions for selected reasons within 28 days following discharge for a heart attack.[v] Unless otherwise specified, results are based on three years of pooled data.

Why Is This Important?

While not all unplanned readmissions are avoidable, they are often seen as a measure of quality of care received during the initial stay and after discharge from the hospital. The risk of readmission following an AMI may be related to differences in provider adherence to clinical practice guidelines in hospital and after discharge, patient compliance with post-discharge therapy or the quality of follow-up care in the community. Other factors may include the availability of appropriate diagnostic or therapeutic technologies (angiograms or angioplasties) during the initial hospital stay as well as overall quality of care while in the hospital.

Key Findings

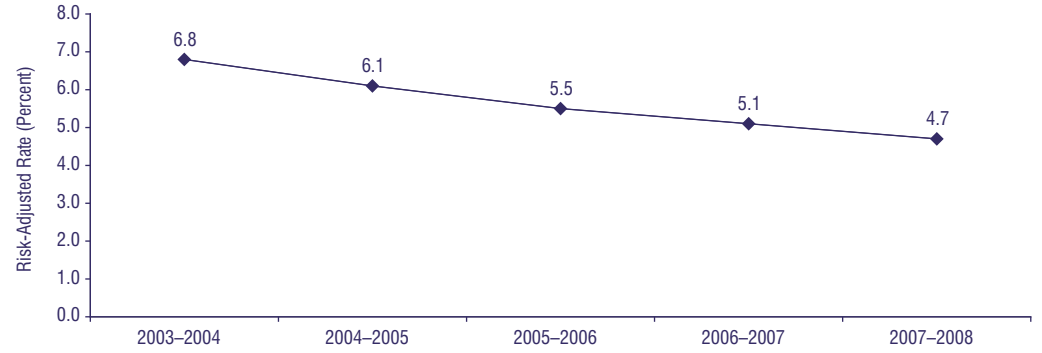
- In 2007–2008 in Canada,* the annual risk-adjusted rate[vi] of unplanned readmission following discharge for a heart attack was 4.7%, down from 6.8% in 2003–2004, representing a 31% drop over the past five years (Figure 1).
- Overall, the decrease in AMI readmission rates was observed in all provinces and variation in rates diminished over the past five years. In 2003–2004, the rates ranged from 9.7% to 4.4%, while in 2007–2008, the provincial rates ranged from 6.1% to 4.0% (Figure 2).
- Readmissions occurred shortly after discharge. Nearly half (45%) of unplanned readmissions after a heart attack happened within the first week of discharge.
- Coronary artery disease was the leading reason for readmissions nationwide, accounting for about 90% of all unplanned return stays.
- Over the past five years, readmissions after heart attack had the same length of stay as the original hospitalization. In 2007–2008, the median length of stay for both the original hospitalization and the readmission was five days.
- Overall, patients who received a revascularization procedure during their initial episode of care returned to hospital at approximately one-third of the rate of those without the procedure.

* Excluding Quebec.

v. Rates are adjusted using a logistic regression model with age, sex and multiple previous AMI admissions as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

vi. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008.

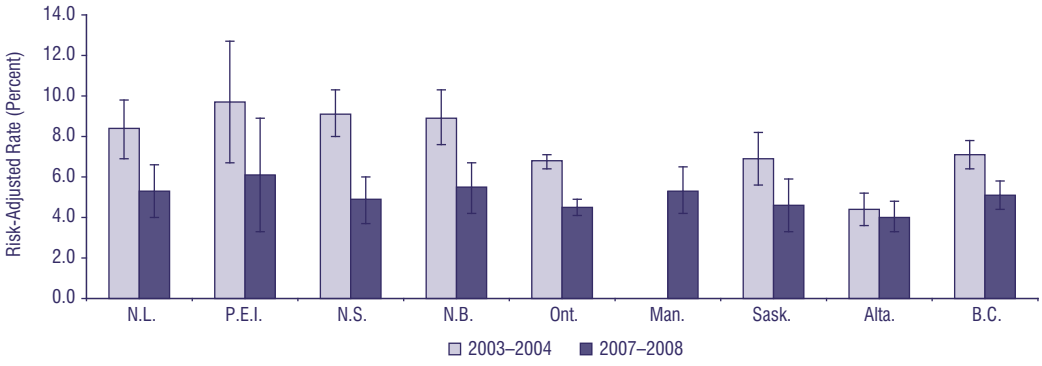
Figure 1 Annual Rates of Readmission After a Heart Attack, Canada



Notes: Rates do not include Quebec due to differences in data collection. The rate for 2003–2004 does not include Manitoba due to differences in data collection. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008. The trend is statistically significant ($p<0.05$).

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Figure 2 Rates of Readmission After a Heart Attack by Province, Canada



Notes: Rates do not include Quebec due to differences in data collection. The rate for 2003–2004 for Manitoba is not presented due to differences in data collection. Rates for the territories are not shown due to small numbers. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008. I represents 95% confidence intervals.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

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In Focus: Stroke

Stroke and other cerebrovascular diseases are the third leading cause of mortality in Canada after cancer and heart disease, causing about 15,000 deaths every year.[1] Many patients who survive a stroke are left with disability. The impact of a stroke depends on what part of the brain is affected and how severe the damage is. The effects can range from mild impairments to devastating loss of abilities, including mobility, speech, vision or memory. These disabling effects of stroke leave more than half of stroke survivors needing some assistance from others in their day-to-day activities.[2]

On average, stroke patients stay in hospital for about three weeks, but recovery from a stroke may take many months after they are discharged from hospital. Most stroke survivors require at least some rehabilitation to restore functions damaged by the stroke. Some patients with lasting disabilities may also require long-term care.[3]

Preventing stroke and improving care for stroke patients is a priority for health care providers, planners and the public. For example, the Canadian Stroke Strategy, a joint initiative of the Canadian Stroke Network and the Heart and Stroke Foundation of Canada, is working toward an integrated approach to stroke prevention, treatment and rehabilitation in every province and territory.[4]

This section focuses on two indicators related to stroke:

- Hospitalized stroke event rate—a new indicator added this year; and
- Rate of in-hospital deaths within 30 days of hospital admission for a stroke.

Hospitalized Stroke Event Rate

Stroke is a major cause of death and suffering in Canada, and yet it is largely preventable.[5] There have been many efforts to reduce the number of strokes.

Until this year, pan-Canadian statistics on occurrence of stroke were limited to the number of discrete hospitalizations they cause. These numbers included transfers from one hospital to another and readmissions, so they overstated the number of strokes in any given year. To address this, the hospitalized stroke event rate is being introduced this year. This new indicator was developed to measure only new events of stroke admitted to hospital, rather than all hospitalizations related to strokes. However, because it only counts people admitted to hospital, this measure does not include patients who died before reaching the hospital, who did not come to a hospital for treatment or who were treated without being admitted.

Indicator Definition

This indicator is the age-standardized rate of new stroke events admitted to an acute care hospital per 100,000 population age 20 and older. A new event is defined as a first-ever hospitalization for stroke or a recurrent hospitalized stroke occurring more than 28 days after the admission for the previous event in the reference period.[i]

Why Is This Important?

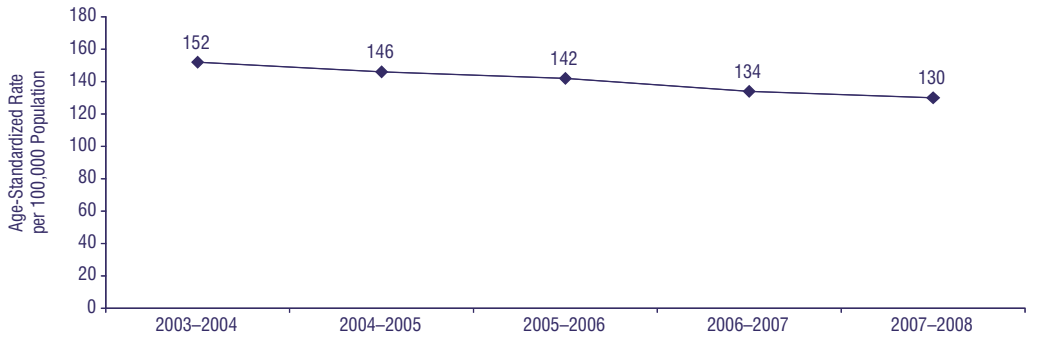
Monitoring strokes over time can help to understand whether the efforts to prevent stroke are succeeding. Understanding variations among jurisdictions and over time may point to differences in lifestyle, awareness about the signs and symptoms of stroke or the provision of preventive care, as well as other factors. This indicator can provide a useful and timely estimate for planning and evaluating preventive strategies, allocating health resources and estimating costs.

Key Findings

- The rate of hospitalized stroke events in Canada* decreased significantly over the last five years. From 2003–2004 to 2007–2008, there was a 14% reduction, after population aging and growth were taken into account (Figure 1). The number of new stroke events admitted to hospital dropped from 32,097 in 2003–2004 to 30,542 in 2007–2008.
- In 2007–2008, 29,874 Canadians* were hospitalized for a stroke; 646 people, or 2.2%, had more than one stroke in that year.
- Between 2003–2004 and 2007–2008, hospitalized stroke event rates decreased significantly in most provinces, and variations in rates across the country narrowed. In 2007–2008,* provincial age-standardized rates ranged from 121 to 155 strokes per 100,000 population, compared to 131 to 193 strokes per 100,000 population in 2003–2004.
- The rates of hospitalized stroke were higher in older age groups for both males and females. In fact, 75% of hospitalized stroke events were among people 65 or older.
- In 2007–2008,* rates of hospitalized stroke were 54% higher among people who lived in the least affluent neighbourhoods compared to those living in the most affluent areas (Figure 2). Between 2003–2004 and 2007–2008, the rates of hospitalized stroke events decreased in all income groups; however, the decrease was larger for people living in more affluent neighbourhoods (ranging from 15% to 20%) compared to people living in less affluent neighbourhoods (ranging from 11% to 12%).

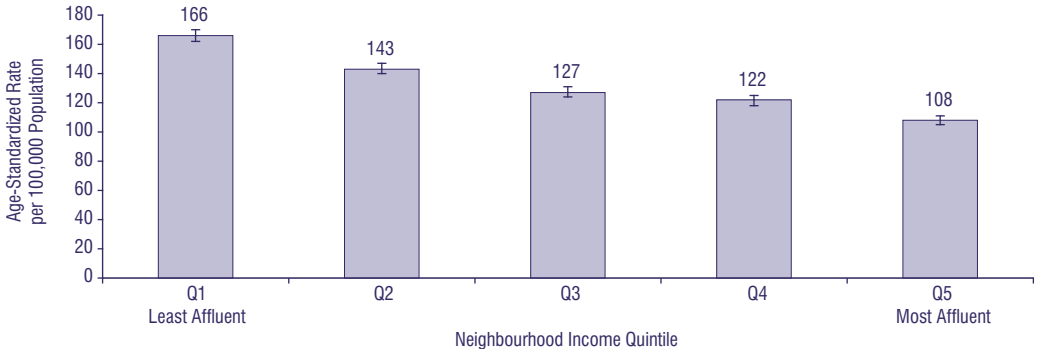
* Excluding Quebec.
i. For more information on indicator methodology, please visit www.cihi.ca/indicators.

Figure 1 Rates of Hospitalized Stroke Events, Canada



Notes: Rates include people age 20 and older. Rates do not include Quebec due to differences in data collection. The trend is statistically significant ($p<0.05$).
Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 Rates of Hospitalized Stroke Events by Neighbourhood Income Quintile, Canada, 2007–2008



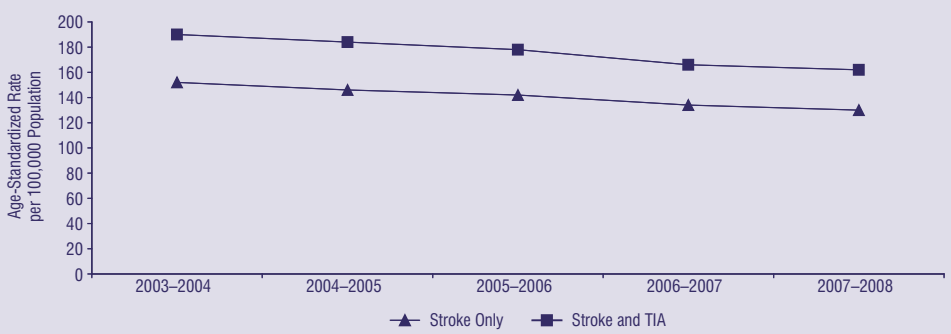
Notes: Rates include people age 20 and older. Rates do not include Quebec due to differences in data collection. Q1 represents the lowest neighbourhood income quintile and Q5 represents the highest. Population by income quintile for 2007–2008 was projected using 2001 and 2006 Canadian census data. I represents 95% confidence intervals.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Transient Ischemic Attacks

Patients who suffer a transient ischemic attack (TIA), or "mini-stroke," have symptoms of a stroke, but the symptoms go away within 24 hours and do not cause permanent loss of brain function. TIA is a serious warning for patients and physicians to start preventive measures. Up to 20% of TIA patients will have a stroke within three months and many of these happen in the first week after the TIA.[6] Recent treatment guidelines for TIA patients call for immediate follow-up assessment and care by a neurologist.[7]

TIA patients are often evaluated in emergency departments or community clinics and may not be admitted to a hospital. Currently there is no pan-Canadian data set on these outpatient visits, but hospitalization data provide at least a partial picture of the burden of TIAs.

Figure 3 Rates of Hospitalized Stroke Events and Transient Ischemic Attacks, Canada



Notes: Rates include people age 20 and older. Rates do not include Quebec due to differences in data collection.
Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

30-Day Stroke In-Hospital Mortality Rate

Stroke is caused by either blocked blood flow to the brain (ischemic stroke) or rupture of blood vessels and bleeding into the brain (hemorrhagic stroke). Only about one in five strokes is caused by bleeding, but patients with hemorrhagic strokes have higher mortality rates. Age, overall health status and the extent of brain damage may also affect the chance of dying after a stroke.[8, 9]

The quality of care provided to stroke patients is another important factor. For example, timely access to imaging technology such as computed tomography (CT) or magnetic resonance imaging (MRI) is essential in distinguishing the two types of strokes and deciding on appropriate treatment,[7] yet about 30% of strokes were not classified to either type in the data submitted by hospitals to CIHI. Early treatment with thrombolytics (clot-busting medications) can benefit patients with ischemic strokes.[7, 10] Being cared for by a specialist or by a stroke team may lead to better results as well.[8, 9]

Indicator Definition

This indicator is the risk-adjusted rate of all-cause in-hospital death occurring within 30 days of first admission to an acute care hospital with a diagnosis of stroke.[ii]

Why Is This Important?

Risk-adjusted mortality rates following stroke may reflect, for example, the severity of the stroke, the underlying effectiveness of treatment and quality of care. There is an increasing body of evidence and guidelines about improving treatment for stroke patients, such as the recent "Canadian Best Practice Recommendations for Stroke Care (Update 2008),"[7] developed by a panel of experts from across the country. Variations in stroke mortality rates may reflect differences in standards of care, as well as other factors, such as early recognition of symptoms and seeking medical care as quickly as possible. Monitoring the percentage of patients who die in hospital after a stroke can be used to review practice patterns, evaluate progress and initiate improvements in care.

Key Findings

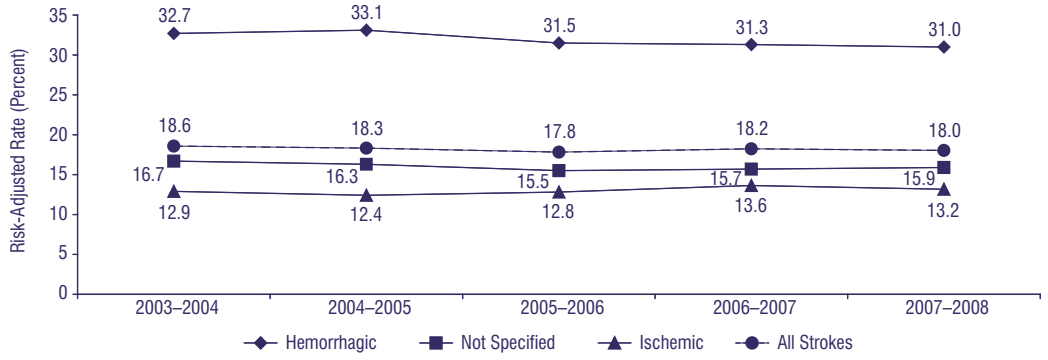
- The rates of in-hospital mortality after stroke within 30 days of admission to hospital remained unchanged in Canada* between 2003–2004 and 2007–2008. In-hospital mortality rates for different types of stroke also remained constant (Figure 1).
- Over the past five years, stroke in-hospital mortality rates improved only among patients age 20 to 44—a 28% drop. The rates did not change for other age groups (Figure 2).
- There were large variations in stroke in-hospital mortality rates across the country. In the period 2005–2006 to 2007–2008,[iii] the risk-adjusted 30-day stroke in-hospital mortality rate was significantly lower than the national rate in Prince Edward Island, New Brunswick, Saskatchewan and Alberta, and higher in Newfoundland and Labrador and Nova Scotia.
- Stroke in-hospital mortality rates were associated with the type of provider. Stroke patients who were attended to by a neurologist or neurosurgeon as the most responsible physician were 40% less likely to die in hospital than patients not treated by a specialist, after differences in patient characteristics were taken into account. Only about 23% of stroke patients had a neurology or neurosurgery specialist as their most responsible physician in 2003–2004. This remained unchanged in 2007–2008 (at about 25%).

* Excluding Quebec.

ii. Rates are adjusted using a logistic regression model with age, sex, type of stroke and select preadmission comorbid conditions as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

iii. Rates are based on three years of pooled data.

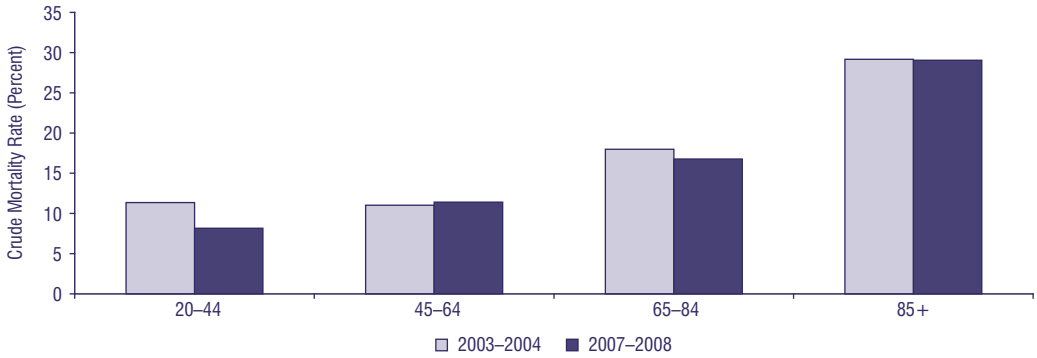
Figure 1 Rates of 30-Day Stroke In-Hospital Mortality, Canada



Notes: Rates do not include Quebec due to differences in data collection. To obtain annual results rates were risk-adjusted using data from 2003–2004 to 2007–2008.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 Age-Specific Rates of 30-Day Stroke In-Hospital Mortality, Canada



Notes: Rates do not include Quebec due to differences in data collection. Difference is statistically significant for age 20 to 44 ($p<0.05$).

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

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In Focus: Women's Health, Men's Health—Selected Surgical Procedures

While women and men share many health issues, some are unique to each sex, such as those relating to reproductive organs. In fact, the most common surgical procedures for adult Canadians include Caesarean section (C-section), hysterectomy and prostatectomy. More than 78,000[i] C-sections were performed in Canada[*] in 2007–2008, making it the most frequently utilized surgical procedure for Canadian women. The second most common surgery for women is hysterectomy[i]—surgical removal of the uterus. Prostatectomy is the second most utilized operation for men, after coronary angioplasty.[i] Both hysterectomies and prostatectomies are mainly done for non-cancerous conditions.

Like all surgical procedures, there are risks of complications after hysterectomy or prostatectomy, which may take the patient back to hospital. Although the rates of readmission are not high, these are common surgical procedures, which means even a low rate may represent many extra days in hospital, at a cost to the patient and the health care system.

This section looks at several indicators:

- Caesarean section rates;
- Hysterectomy rates;
- Rates of readmission to hospital after hysterectomy; and
- Rates of readmission to hospital after prostatectomy.

* Excluding Quebec.
i. Discharge Abstract Database, Canadian Institute for Health Information.

Caesarean Section Rate

Not so long ago, very few babies were delivered by Caesarean section, or C-section, but this has changed over time. About 5% of Canadian women delivered via C-section in the 1960s, nearly 20% in the late 1980s,[1, 2] and C-sections now account for more than 25% of deliveries.[ii]

Several possible explanations for this increase have been suggested, including maternal and obstetric practice–related factors. There is higher risk of C-section for women who are older,[1, 2] obese,[3] having their first child[1] or expecting a multiple birth.[2] In Canada the number of deliveries for older mothers increased,[4] as did the proportion of women having their first child at an older age.[5] Multiple births are also increasing in Canada,[6] mainly due to the increased use of fertility treatments. Women who previously delivered a baby via C-section are more likely to give birth by C-section in subsequent pregnancies. Some obstetric practices may also increase the frequency of C-sections, including increased use of fetal monitoring,[7] epidural anesthesia[7] and fewer doctors using forceps to assist delivery.[6–9]

C-sections are usually performed to protect the health of the fetus or the mother, for example, when the fetus is thought to be in distress or in breech position, or because of difficult or slow labour.[2] In some cases C-sections may be performed in the absence of medical risk or at the request of the mother.[10]

The increasing rates of C-section are a particular concern because they are associated with increased maternal illness and mortality,[7] and they are also more costly.[11] In December 2008, the Society of Obstetricians and Gynaecologists of Canada and other organizations released a joint policy statement encouraging the promotion and protection of normal childbirth—that is, deliveries without interventions such as C-sections.[12] In 2004, among 26 countries submitting data to the Organisation for Economic Co-operation and Development (OECD), C-section rates ranged from 13.6% in the Netherlands to 37.9% in Mexico; Canada was slightly above the OECD average of 23.6%.[13] While Canada has not identified a target C-section rate, several recommendations have been put forth. The U.S. Healthy People 2010 objectives have suggested the C-section rate for low-risk deliveries should not exceed 15% for first-time mothers or 68% for women with a previous C-section.[14]

Indicator Definition

The C-section rate is the number of women who deliver an infant by C-section, per 100 deliveries in acute care hospitals.

Why Is This Important?

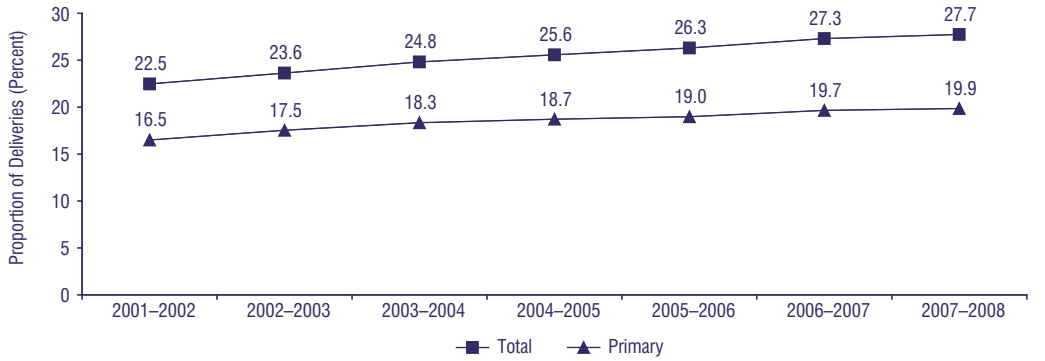
Monitoring C-section rates over time and across jurisdictions can be used to monitor clinical practices and understand patterns of use. Variations can serve as a flag to examine appropriateness of care, as well as maternal and neonatal outcomes.

Key Findings

- The Canadian C-section rate increased 23% over seven years—from 22.5% in 2001–2002 to 27.7% in 2007–2008* (Figure 1).
- Between 2001–2002 and 2007–2008, the C-section rate increased in most provinces. Large variations in C-section rates across Canada persisted. In 2007–2008,* C-section rates ranged from 6.7% in Nunavut and 19.7% in the Northwest Territories to 31.7% in Prince Edward Island and 31.3% in British Columbia (Figure 2).
- Over the past seven years, the rate of primary C-section, or a first C-section, increased by 21% (Figure 1). Most of this increase occurred between 2001–2002 and 2004–2005.
- Less than one in five women (18%) with a previous C-section delivered vaginally in 2007–2008,* while 82% had a subsequent C-section, up from 73% in 2001–2002.
- Between 2001–2002 and 2007–2008, C-section rates increased for mothers of all ages* (Figure 3). Women 35 and older accounted for an increasing proportion of deliveries over this period: 16.8% in 2001–2002 and 18.5% in 2007–2008.

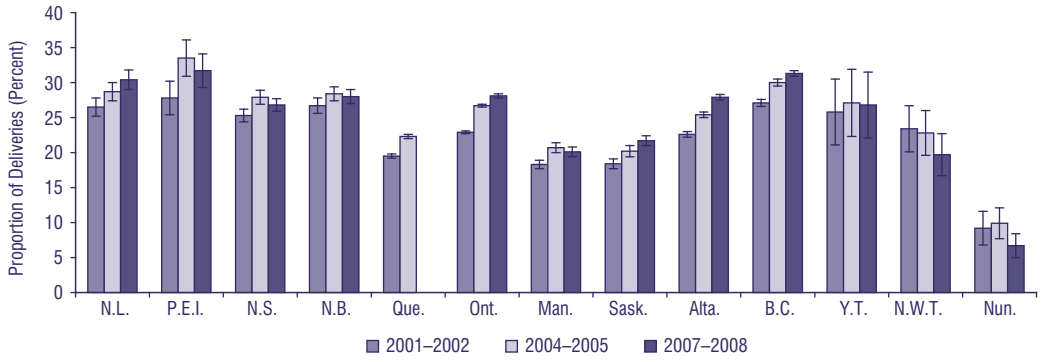
* Excluding Quebec.
ii. Discharge Abstract Database, Canadian Institute for Health Information.

Figure 1 Caesarean Section Rates, Canada



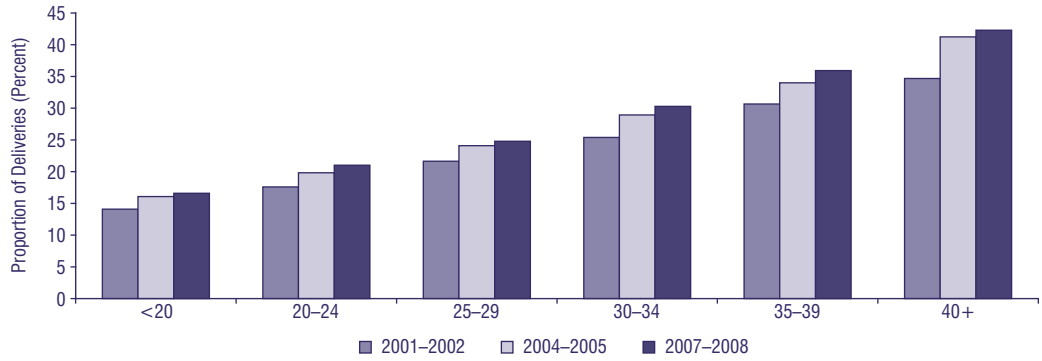
Notes: Rates for 2006–2007 and 2007–2008 do not include Quebec; data were not available at the time of publication. This exclusion does not affect the trend. The trends are statistically significant ($p<0.05$).
Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 Caesarean Section Rates by Province/Territory, Canada



Notes: Data from Quebec for 2007–2008 were not available at the time of publication. I represents 95% confidence intervals.
Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 3 Caesarean Section Rates by Maternal Age, Canada



Note: All rates do not include Quebec; data for 2007–2008 were not available at the time of publication.
Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Hysterectomy Rate

The hysterectomy rate has been in decline since the early 1980s;[15] however, hysterectomy—complete or partial removal of the uterus—remains the second most common surgery for Canadian women after Caesarean section. It is estimated that more than one in four Canadian women older than 45 has had a hysterectomy.[16]

More than 36,000 procedures[iii] were performed in 2007–2008.* About 90% of these procedures were done for non-cancerous indications, such as irregular menstruation, fibroids and genital prolapse.

Hysterectomy can be performed vaginally, laparoscopically or by making an incision through the abdomen. The choice of approach may depend on the experience of the surgeon, the reason for surgery and the patient's characteristics and preference.[17, 18] The Society of Obstetricians and Gynaecologists of Canada encourages physicians to perform vaginal rather than abdominal hysterectomy wherever possible,[17] because this approach is less invasive, results in easier recovery and is less expensive.[18] The continued extensive use of abdominal hysterectomy may be influenced by training, surgical experience or ability.[19, 20] It has been suggested that the choice of abdominal hysterectomy may have less to do with patient characteristics and more to do with surgeon familiarity with the procedure and other factors.[20]

Indicator Definition

This indicator is the age-standardized rate of hysterectomies performed in acute care hospitals or same-day surgery facilities per 100,000 women age 20 or older.

Why Is This Important?

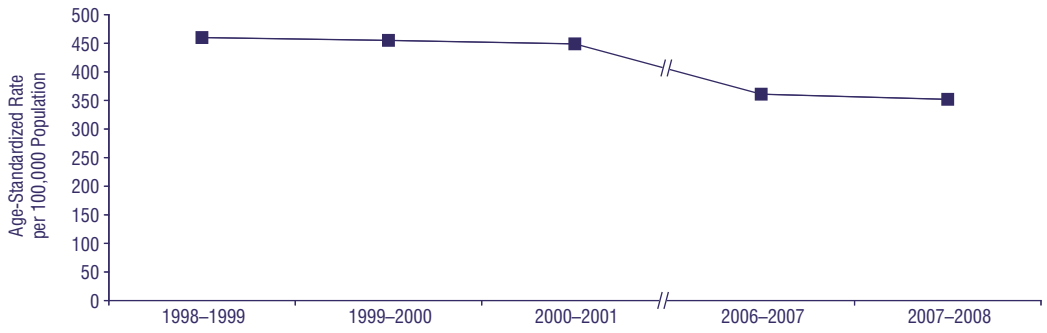
As with other surgical procedures, variations in hysterectomy rates can be attributed to numerous factors, including differences in population demographics, physician practice patterns and availability of services.[15] The "right" level of utilization is not known. However, examining these rates over time or between jurisdictions can help us to better understand patterns of use.

Key Findings

- The hysterectomy rate in Canada decreased 23% between 1998–1999 and 2007–2008,* after population aging and growth were taken into account (Figure 1).
- Between 1998–1999 and 2007–2008, hysterectomy rates decreased in most of the provinces and territories. However, in 2007–2008, the rates still varied substantially across jurisdictions, from 172 per 100,000 women in Nunavut to 595 per 100,000 in Prince Edward Island.
- Over the last decade,* hysterectomy rates decreased for women in all age groups. The biggest decrease (30%) was for women younger than 45. Women age 45 to 54 had the highest hysterectomy rate compared to other age groups (Figure 3).
- Rates decreased significantly for both benign and malignant indications. The rate of hysterectomy for gynecological cancer[iv] decreased 19% between 1998–1999* and 2007–2008,* whereas the hysterectomy rate for benign indications decreased 24% over the same time period.
- The surgical approach varied with the indication for hysterectomy. In 2007–2008,* the abdominal approach accounted for about 85% of hysterectomies for cancer and three in five (60%) hysterectomies without a diagnosis of gynecological cancer. In 1998–1999,* 90% of hysterectomies for cancer and two-thirds (67%) of hysterectomies without a diagnosis of cancer were performed abdominally.

* Excluding Quebec.
iii. Discharge Abstract Database, Canadian Institute for Health Information.
iv. Malignant neoplasm of female genital organs (vulva, vagina, cervix uteri, corpus uteri, uterus, ovary, fallopian tube or placenta) or carcinoma in situ of female genitals.

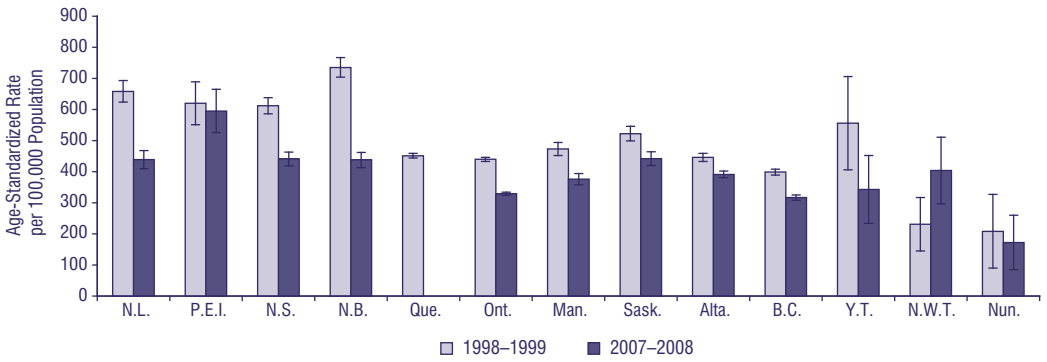
Figure 1 Hysterectomy Rates, Canada



Notes: Rates include women age 20 and older. Rates for 2006–2007 and 2007–2008 do not include Quebec; data were not available at the time of publication. This exclusion does not affect the trend. Due to changes in the coding systems, identification of total and subtotal hysterectomies in a consistent way was only possible for 1998–1999, 1999–2000, 2000–2001, 2006–2007 and 2007–2008. The trend is statistically significant ($p<0.05$).

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

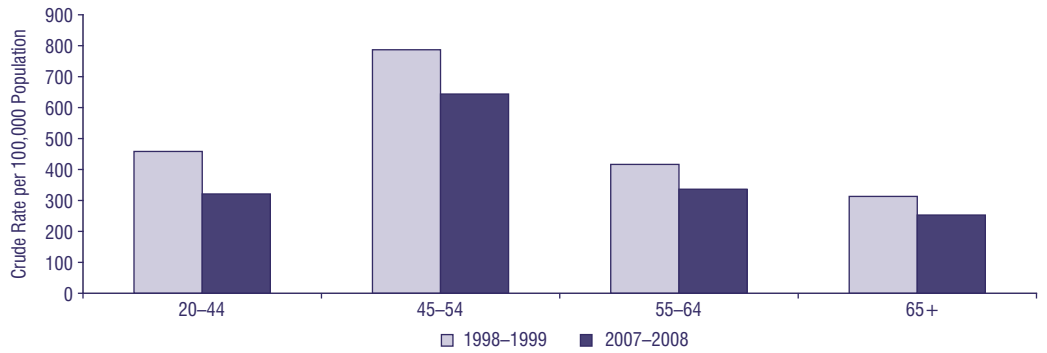
Figure 2 Hysterectomy Rates by Province/Territory, Canada



Notes: Rates include women age 20 and older. Data from Quebec for 2007–2008 were not available at the time of publication. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 3 Age-Specific Hysterectomy Rates, Canada



Note: All rates do not include Quebec; data for 2007–2008 were not available at the time of publication.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Hysterectomy Readmission Rate

In most cases women do not experience complications necessitating an urgent, unplanned readmission to hospital after hysterectomy; however some do. The main reasons for a return to hospital are post-operative infection, bleeding and abdominal pain.[21]

Indicator Definition

This indicator is the risk-adjusted rate of unplanned readmission following hysterectomy for benign conditions. Readmissions are urgent hospital admissions within either 7 or 28 days of discharge, depending on the condition.[v] Unless otherwise specified, results are based on three years of pooled data.

Why Is This Important?

Readmission rates provide one measure of quality of care. Although readmission following surgery may involve factors outside the direct control of the hospital, high rates of readmission act as a signal to hospitals to look more carefully at their practices, including infection prevention, discharge planning and the relationship with community physicians and community-based care.

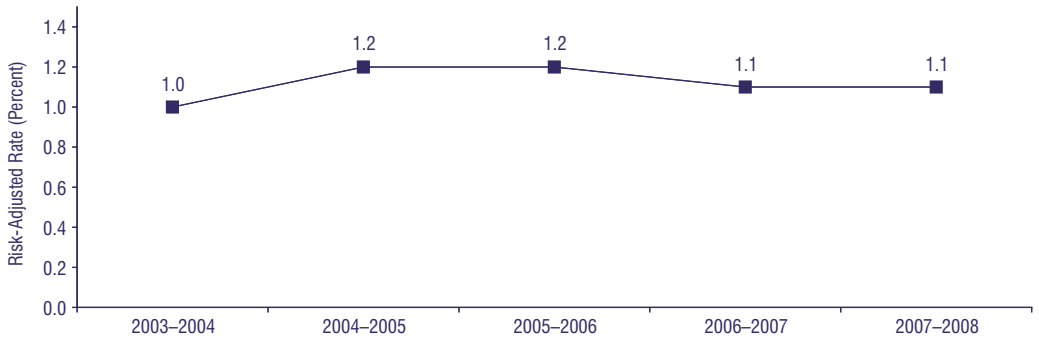
Key Findings

- The annual risk-adjusted rate of unplanned readmission after hysterectomy did not change significantly in Canada* between 2003–2004 and 2007–2008 (Figure 1).
- The national readmission rates were stable, but provincial variations existed. Readmission rates in the period 2005–2006 to 2007–2008 in Saskatchewan and Manitoba were significantly higher, at 1.9%, than the national rate of 1.1%.
- Overall, younger women had higher readmission rates than older women (Figure 2). Though they are a minority of hysterectomy patients, for 2005–2006 to 2007–2008, 2.5% of women younger than 30 had an unplanned readmission, whereas only 0.7% of women age 70 to 84 were readmitted after hysterectomy.
- In all years, more than 90% of readmissions after hysterectomy were for post-operative infection (Figure 3). Infections accounted for approximately 94% of readmissions for women age 30 to 49 and for two-thirds of readmissions for women age 70 to 84 in the period 2005–2006 to 2007–2008. Urinary tract infections were the next most common reason for readmission among older patients.

* Excluding Quebec.

v. Rates are adjusted using a logistic regression model with age groups as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

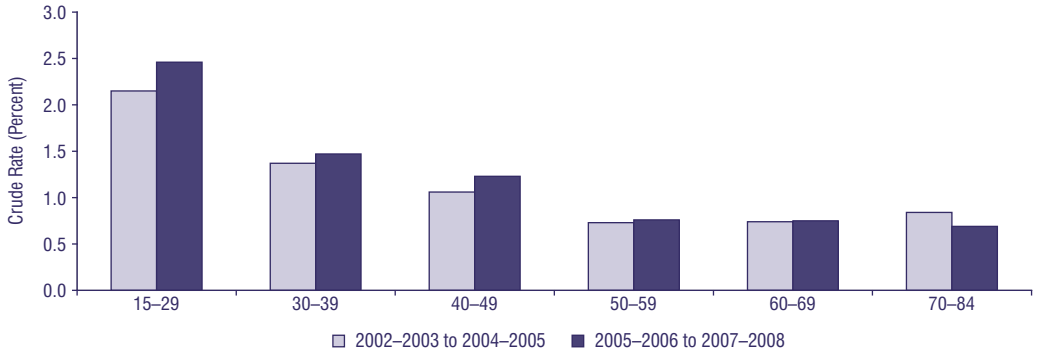
Figure 1 Annual Rates of Readmission After Hysterectomy, Canada



Notes: Rates do not include Quebec due to differences in data collection. The rate for 2003–2004 does not include data from Manitoba outside Winnipeg due to differences in data collection. This exclusion does not affect the trend. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

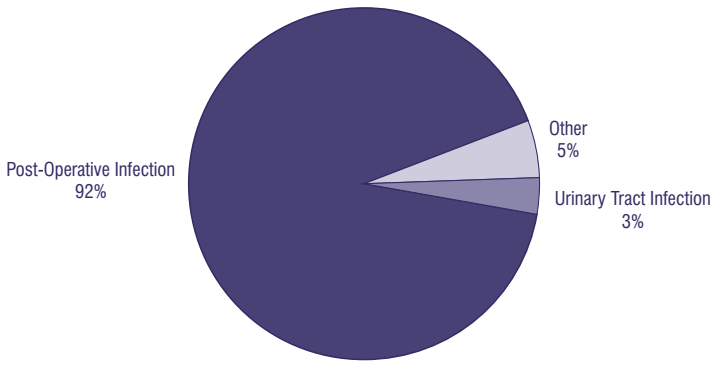
Figure 2 Age-Specific Rates of Readmission After Hysterectomy, Canada



Notes: Rates do not include Quebec due to differences in data collection. Rates do not include data from Manitoba outside Winnipeg prior to 2004–2005 due to differences in data collection. The readmission rates for 40- to 49-year-olds increased significantly between the periods 2002–2003 to 2004–2005 and 2005–2006 to 2007–2008 ($p < 0.05$).

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Figure 3 Reasons for Readmission After Hysterectomy, Canada, 2005–2006 to 2007–2008



Notes: Does not include Quebec due to differences in data collection. "Other" includes respiratory complications, urine retention, cardiac complications, paralytic ileus and acute post-hemorrhagic anemia.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Prostatectomy Readmission Rate

Approximately 16,000 prostatectomies[vi] are performed annually in Canada* for non-cancerous conditions. Most of these surgeries were performed to treat benign enlargement of the prostate, which can lead to difficulty urinating, retention of urine or frequent urinary tract infections. Fifty-year-old men have an estimated 35% lifetime probability of getting treatment for urinary tract symptoms caused by benign enlargement of the prostate.[22]

There are a number of treatments available, ranging from open prostatectomy and transurethral resection of the prostate to minimally invasive techniques.[23] Transurethral resection of the prostate has been the standard surgical treatment for benign prostatic enlargement for decades,[23, 24] and it remains one of the most common operations for males in the Western world.[25]

While most men do not experience complications necessitating an unplanned return to hospital after prostatectomy, some do, most often due to urine retention, urinary tract infection or for surgical revision.[24]

Indicator Definition

This indicator is the risk-adjusted rate of unplanned readmission following prostatectomy for benign conditions. Readmission in this case is an urgent hospital admission for selected reasons within 28 days of hospital discharge.[vii] Unless otherwise specified, results are based on three years of pooled data.

Why Is This Important?

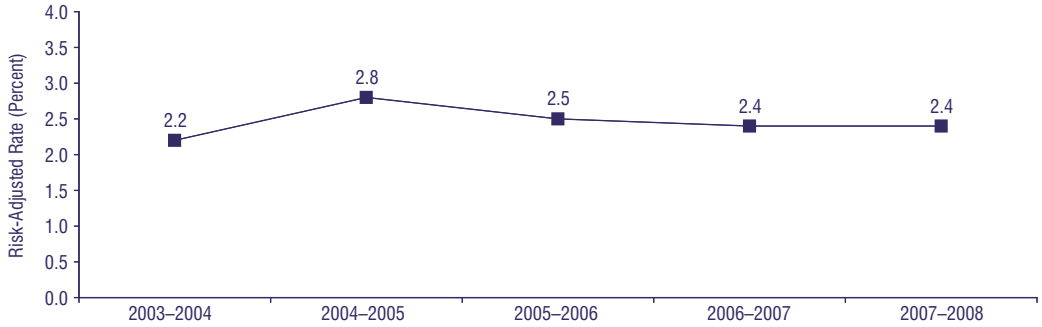
Readmission rates provide one measure of quality of care. Although readmission following surgery may involve factors outside the direct control of the hospital, high rates of readmission may act as a signal to hospitals to look more carefully at their clinical practices and the relationship with community physicians and community-based care.

Key Findings

- The annual risk-adjusted rate of unplanned readmission to hospital following prostatectomy did not change significantly in Canada* between 2003–2004 and 2007–2008 (Figure 1).
- Prostatectomy readmission rates varied across the country. For 2005–2006 to 2007–2008, the rate in New Brunswick (3.2%) was significantly higher than the national rate (2.4%) whereas the rate in Manitoba (1.4%) was significantly lower.
- For men younger than 60, the prostatectomy readmission rate decreased significantly in the period 2005–2006 to 2007–2008, compared to the rate in the period 2002–2003 to 2004–2005 (Figure 2). There was no significant change in rates for other age groups.
- Readmissions after prostatectomy happened shortly after discharge. Nearly half of unplanned readmissions occurred within the first week after discharge (45% for 2005–2006 to 2007–2008*).
- In the period 2005–2006 to 2007–2008,* the main reasons for readmission after prostatectomy were hematuria (blood in the urine—40%), urine retention (17%) and urinary tract infection or hemorrhagic complications (11% each) (Figure 3). One-third of readmissions had an urgent surgery, most of which were bladder operations (75%).

* Excluding Quebec.
vi. Discharge Abstract Database, Canadian Institute for Health Information.
vii. Rates are adjusted using a logistic regression model with age and select preadmission comorbid conditions as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

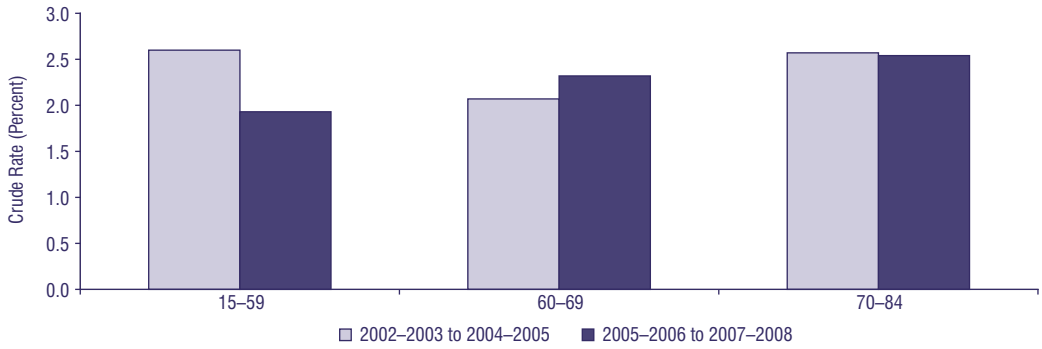
Figure 1 Annual Rates of Readmission After Prostatectomy, Canada



Notes: Rates do not include Quebec due to differences in data collection. The rate for 2003–2004 does not include data from Manitoba outside Winnipeg due to differences in data collection. This exclusion does not affect the trend. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

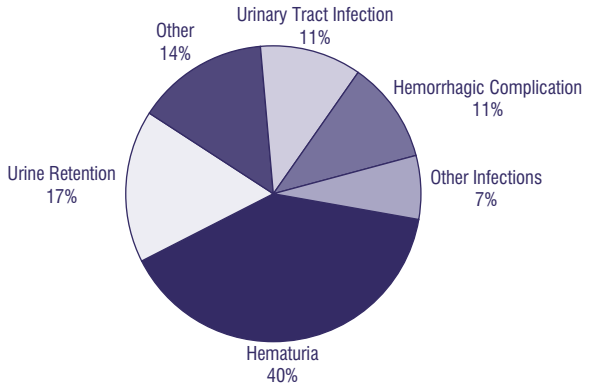
Figure 2 Age-Specific Rates of Readmission After Prostatectomy, Canada



Notes: Rates do not include Quebec due to differences in data collection. Rates do not include data from Manitoba outside Winnipeg prior to 2004–2005 due to differences in data collection. The readmission rates for 15- to 59-year-olds decreased significantly between the periods 2002–2003 to 2004–2005 and 2005–2006 to 2007–2008 ($p<0.05$).

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Figure 3 Reasons for Readmission After Prostatectomy, Canada, 2005–2006 to 2007–2008



Notes: Does not include Quebec due to the differences in data collection. "Other" denotes diagnoses including respiratory complications, prostatic hypertrophy and cardiac complications. "Other infections" denotes diagnoses including post-operative infection, intestinal infection and pneumonia.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

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In Focus: Hip Fractures

Hip fracture is a serious injury, particularly for elderly people. Complications resulting from hip fracture can affect independence and quality of life, and can be life-threatening. About 10% to 20% of people who break a hip die within six months, 50% are unable to walk without assistance and 25% require care at home for a long time.[1]

The majority of hip fractures happen in the community; however, many occur in health care facilities as well. In most cases, hip fractures are caused by the impact of a fall on a senior's brittle hip bones. Falls are a particular hazard for elderly women, who suffer 80% of broken hips.[2] Falls occur for various reasons, including environmental hazards (such as loose carpets or poor lighting), the prescription of potentially inappropriate psychotropic medications to the elderly and safety issues in health care facilities. Other reasons may include patient-related factors, such as impaired balance or vision.[3, 4]

Hip fractures almost always require patients to be admitted to hospital for treatment, most often for surgery to repair the fracture. While not all patients are medically fit for surgery, research suggests that eligible patients benefit from prompt surgery to repair a broken hip, whereas delaying it can be detrimental.[5–8]

This section focuses on three indicators related to hip fractures:

- Hip fracture event rate—a new indicator measuring hip fractures in the community;
- In-hospital hip fracture; and
- Wait time for hip fracture surgery.

Hospitalized Hip Fracture Event Rate

The prevention of hip fractures is an important component of caring for the health of the elderly. Strategies focus on the prevention of falls in vulnerable seniors[9, 10] and maintaining bone and muscle strength across the lifespan.[11, 12]

Until this year, pan-Canadian statistics on hip fractures were limited to the number of all related hospitalizations, including in-hospital hip fractures and transfers between hospitals for the same hip fracture. This year, a new indicator—the hospitalized hip fracture event rate—was introduced to provide a better estimate of the number of new hip fractures occurring in the community.

Indicator Definition

This indicator is the age-standardized rate of new hip fractures admitted to an acute care hospital per 100,000 population age 65 and older. A new hip fracture is defined as a first-ever hospitalization for hip fracture or a recurrent hospitalized hip fracture occurring more than 28 days after the admission for the previous event in the reference period.[i]

Why Is This Important?

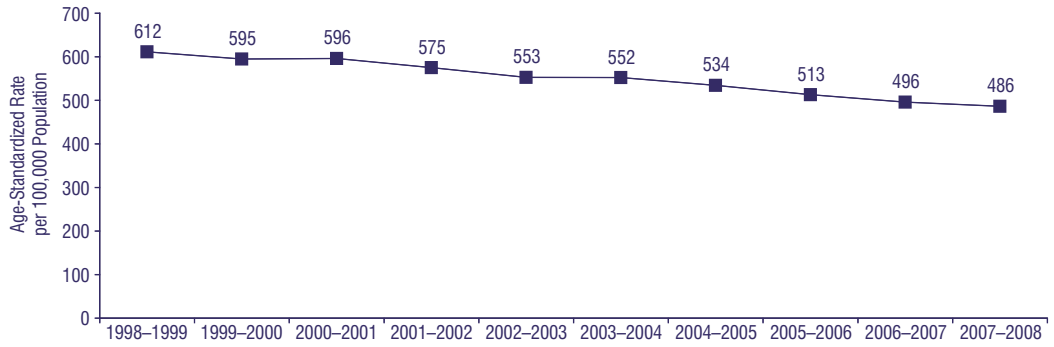
This indicator provides a useful and timely estimate on the risk of hip fracture in the community. Monitoring hip fracture event rates over time and across the country may serve as a starting point for evaluating the effectiveness of prevention programs, resource planning and budgeting.

Key Findings

- From 1998–1999 to 2007–2008, there was a 21% decrease in the rate of hospitalized hip fracture events in Canada,* after population aging and growth were taken into account (Figure 1).
- There were variations in the rates of hospitalized hip fracture events across the country. In 2007–2008, the highest rates were observed in Newfoundland and Labrador (601 per 100,000 population) and in Prince Edward Island (592 per 100,000 population). In the rest of the country, the rates ranged from 476 per 100,000 population in Ontario to 517 per 100,000 population in Nova Scotia. From 1998–1999 to 2007–2008, the rates decreased in most of the provinces (Figure 2).
- Over the past decade,* the rate decreased 18.9% for males and 19.9% for females, but the rate for females remained almost twice as high as the rate for males (Figure 3).
- Between 1998–1999 and 2007–2008, hip fracture event rates* for females decreased in all age groups, but for males the decrease was observed only for those age 75 and older.
- In 2007–2008,* hip fracture surgery was performed for 92% of new hip fractures.

* Excluding Quebec.
i. For more information on indicator methodology, please visit www.cihi.ca/indicators.

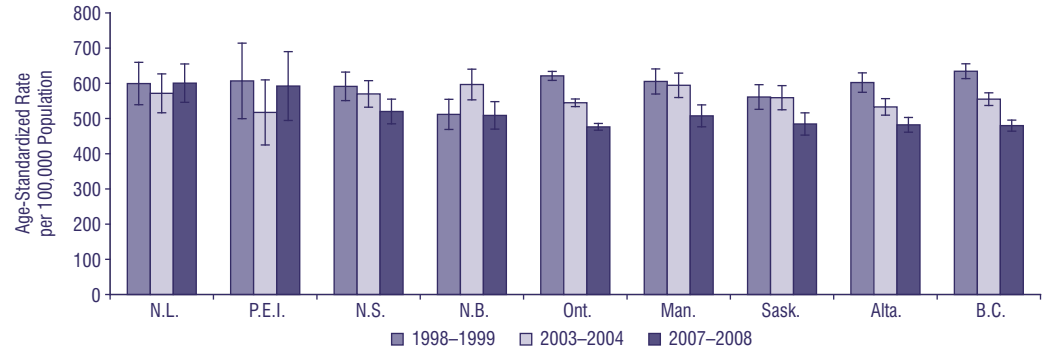
Figure 1 Hospitalized Hip Fracture Event Rates, Canada



Notes: Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. The trend is statistically significant ($p<0.05$).

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

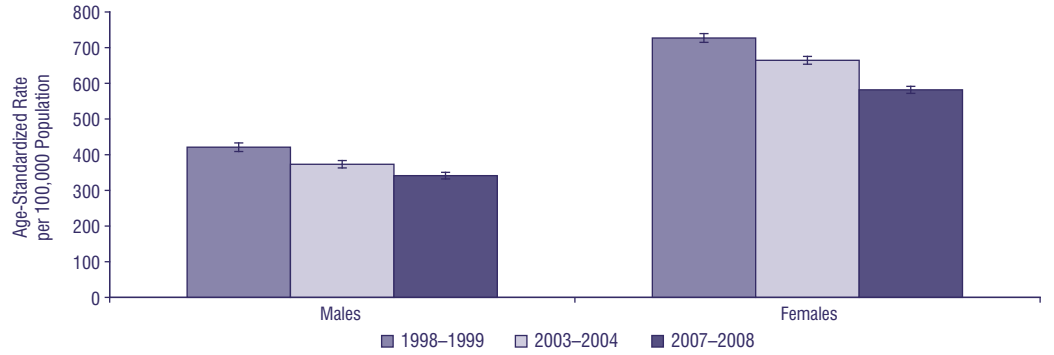
Figure 2 Hospitalized Hip Fracture Event Rates by Province, Canada



Notes: Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. Rates for the territories are not presented due to small numbers. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 3 Hospitalized Hip Fracture Event Rates by Sex, Canada



Notes: Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

In-Hospital Hip Fracture Rate

Falls resulting in hip fractures are common in hospitals and long-term care settings. Although seniors in hospitals may be more frail than those in the community,[13] hip fractures are often preventable and several strategies have been proposed, including identifying and monitoring high-risk patients, modifying the physical environment, increasing supervision and educating staff.[14–16]

Indicator Definition

This indicator is the risk-adjusted rate of in-hospital hip fracture among acute care inpatients age 65 and older per 1,000 discharges.[ii] Unless otherwise specified, rates are based on three years of pooled data.

Why Is This Important?

In-hospital hip fractures represent a potentially preventable complication resulting from inpatient stays in an acute care hospital. Monitoring rates over time and across jurisdictions can provide information on the effect of actions to prevent falls and hip fractures in acute care hospitals. High rates may prompt investigation of potential opportunities and strategies to reduce falls and, ultimately, fractures of the hip.

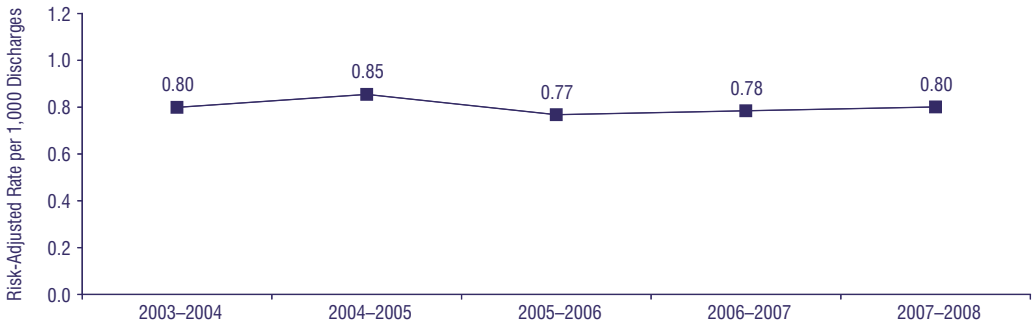
Key Findings

- The annual risk-adjusted rates of in-hospital hip fracture in Canada* remained unchanged between 2003–2004 and 2007–2008—almost one in 1,000 acute care hospitalizations for seniors resulted in in-hospital hip fracture (Figure 1). This translates to about 600 in-hospital hip fractures every year.
- In-hospital hip fracture rates varied across the country. In the period 2005–2006 to 2007–2008, the rate in Ontario hospitals (0.6 per 1,000 discharges) was significantly below the national average (0.8 per 1,000 discharges), while rates in Manitoba (1.1 per 1,000 discharges) and in Alberta (1.0 per 1,000 discharges) were significantly above the national average (Figure 2).
- Older patients were more likely to fracture a hip in hospital, and the risk of fracture increased with age. After differences in sex and comorbidities were taken into account, the risk of hip fracture for patients age 70 to 74 was almost double the risk for those age 65 to 69. The risk for patients age 85 to 89 was more than four times higher than that for 65- to 69-year-olds.
- Females had a 34% higher risk of suffering in-hospital hip fracture than their male counterparts, after differences in age and comorbidities were taken into account.

* Excluding Quebec.

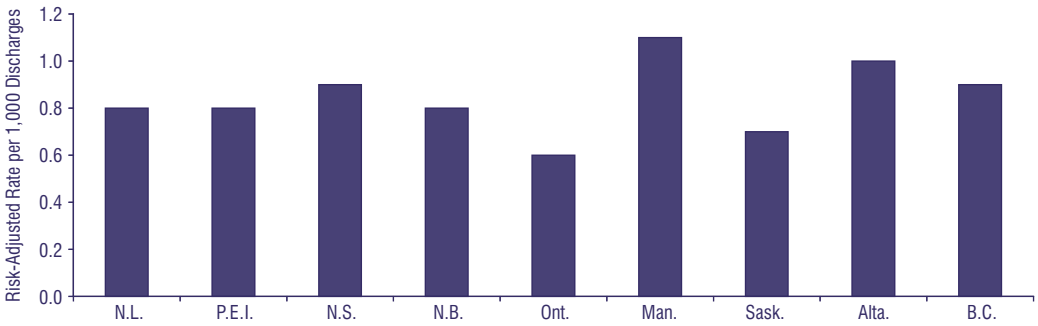
ii. Rates are adjusted using a logistic regression model with age, sex, select comorbid conditions and having a surgery as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

Figure 1 Annual In-Hospital Hip Fracture Rates, Canada



Notes: Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. The rate for 2003–2004 does not include Manitoba due to differences in data collection. This exclusion does not affect the trend. To obtain annual results the rates were risk-adjusted using data from 2003–2004 to 2007–2008.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 In-Hospital Hip Fracture Rates by Province, Canada, 2005–2006 to 2007–2008



Notes: Based on three years of pooled data. Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. Rates for the territories are not presented due to small numbers.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Wait Time for Hip Fracture Surgery

Hip fracture surgery may be delayed while patients await consultations and tests, or if operating rooms, surgeons or other resources are not available.[17, 18] In Canada, patients admitted to larger community or teaching hospitals, those admitted during evening hours or on weekends and those transferred between hospitals tended to wait longer for surgery.[19] Some patients may also require treatment prior to surgery to stabilize their medical condition, which could also cause delays.

However, research suggests that patients with timely repair have better outcomes, such as lower risk of mortality, fewer post-operative complications, shorter stays in hospital and better recovery of function.[5–8, 19] In December 2005, Canada's health ministers adopted a common goal of providing hip fracture surgery within 48 hours.[iii, 21]

Indicator Definition

This indicator measures the risk-adjusted[iv] proportion of hip fracture patients, age 65 and older, who received surgery:

- On the day of admission to hospital or the next day; or
- On the day of admission, the next day or the day after that.

Why Is This Important?

Monitoring wait time for hip fracture surgery provides information on access to care. Geographical and temporal variations in this indicator may reflect differences in medical practices and resource availability. Exploring these variations may help to identify potential opportunities for improvement.

Key Findings

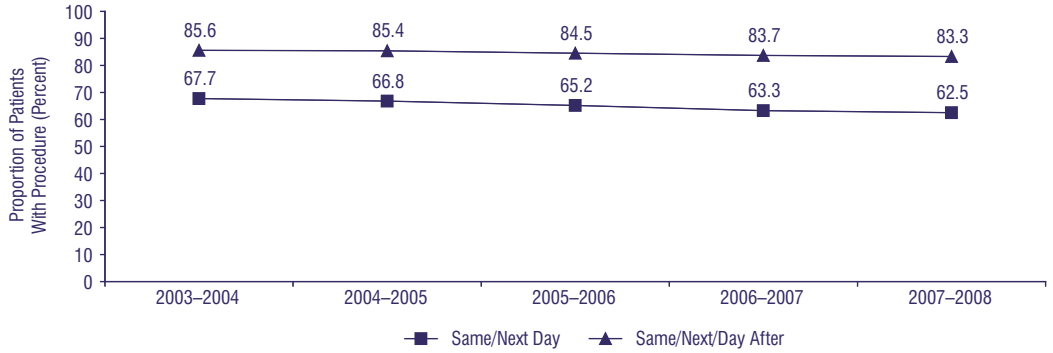
- The proportion of hip fracture patients who received surgery on the day of admission or the next day in Canada* decreased 8% over the past five years. In 2007–2008, 62.5% of patients had surgery on the day of admission or the next day, compared to 67.7% in 2003–2004 (Figure 1).
- Waits varied across the country. In 2007–2008, in New Brunswick and British Columbia the proportion of patients who received surgery on the day of admission or the next day, (67.7% each), was significantly above the national average (62.5%), while proportions in Manitoba (51.8%) and Saskatchewan (48.2%) were significantly below the national average (Figure 2).
- Females were 5% more likely than males to receive hip fracture surgery on the day they were admitted or the next day, after differences in age and comorbidities were taken into account.
- Between 2003–2004 and 2007–2008, longer waits for hip fracture surgery were associated with higher mortality. In 2007–2008,* hip fracture patients who received surgery on the day of admission or the next day were 18% less likely to die in hospital within 30 days of admission than those who had their surgery later, after differences in age and comorbidities were taken into account.

* Excluding Quebec.

iii. In the companion agreement, *Asymmetrical Federalism That Respects Quebec's Jurisdiction*, it was noted that Quebec would apply its own wait time reduction plan, in accordance with the objectives, standards and criteria established by the relevant Quebec authorities.[20]

iv. Rates are adjusted using a logistic regression model with age, sex and select comorbid conditions as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

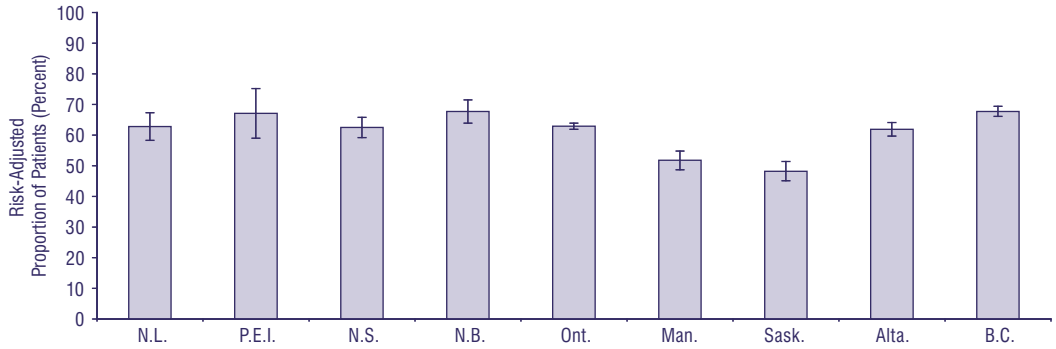
Figure 1 Proportion of Hip Fracture Patients Who Received Surgery on the Day of Admission, the Next Day or the Day After That, Canada



Notes: Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. The trends are statistically significant ($p<0.05$).

Source: Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 Proportion of Hip Fracture Patients Receiving Surgery on the Day of Admission or the Next Day by Province, Canada, 2007–2008



Notes: Rates include people age 65 and older. Rates do not include Quebec due to differences in data collection. Rates for the territories are not presented due to small numbers. I represents 95% confidence intervals.

Source: Discharge Abstract Database, Canadian Institute for Health Information.

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In Focus: Joint Replacement Surgery

Joint replacement surgery can be very effective for relieving pain and improving function for persons suffering from conditions such as osteoarthritis or injury.[1] It is not a surprise, then, that the number of hip and knee replacements performed is rising annually and is expected to continue to increase.[2]

The increase in utilization is not just because of an aging population that tends to have age-related musculoskeletal diseases. Attitudes toward joint replacement surgery have changed.[2, 3] As people expect to live longer and to be more active in their old age than earlier generations, they may be more willing to have surgery to enhance their high-activity lifestyles and enjoy better quality of life. In addition, higher rates of hip and knee joint replacement surgery have also been linked to obesity,[1] which is increasing in Canada. However, as demand for joint replacements increases, so do the wait times for surgery. Research indicates that waiting longer than six months for a joint replacement may make the operation less effective.[4]

Joint replacements were identified as one of the priority areas in Canada's *10-Year Plan to Strengthen Health Care*[i] in September 2004,[6] where the federal government committed to investing $4.5 billion to shorten waits over six years, beginning in 2004–2005.[7] Since then, most provinces have performed additional operations and created websites to report on wait times.[8]

This section focuses on two indicators related to the most common types of joint replacement operations:

- Knee replacement rate; and
- Hip replacement rate.

i. In the companion agreement, *Asymmetrical Federalism That Respects Quebec's Jurisdiction*, it was noted that Quebec would apply its own wait time reduction plan, in accordance with the objectives, standards and criteria established by the relevant Quebec authorities.[5]

Knee Replacement Rate

From simple activities to competitive sports, the knee is a critical joint. If arthritis or an injury affects the knee, the impact can be debilitating. The success of knee replacement is strongly supported by more than 20 years of follow-up data. Rapid and substantial improvement in the patient's pain, functional status and overall health-related quality of life occur in about 90% of patients; about 85% of patients are satisfied with the results of surgery.[9]

Indicator Definition

This indicator is the age-standardized rate of unilateral or bilateral knee replacement surgery performed in acute care hospitals or same-day surgery facilities per 100,000 population age 20 and older.

Why Is This Important?

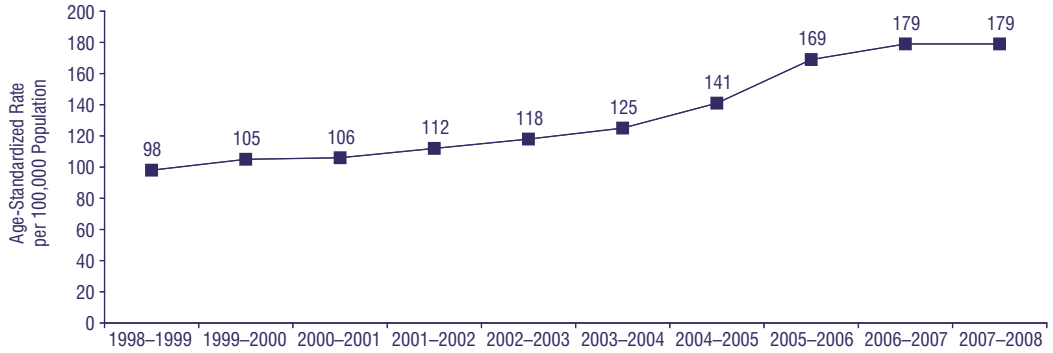
Knee replacement rates provide information that can be used for planning, allocation and training of health human resources, as well as planning and budgeting of health services. Wide regional or temporal variations in knee replacement rates may be attributable to numerous factors, including the availability of services, provider practice patterns and patient preferences.

Key Findings

- Knee replacement rates increased by 83% in Canada* from 1998–1999 to 2007–2008, after population aging and growth were taken into account (Figure 1). The most rapid increase occurred between 2004–2005 and 2005–2006.
- Over the 10-year period, there was a 127% increase in the number of knee replacements, from 17,171 in 1998–1999* to 39,044 in 2007–2008.* About 95% of these operations were elective.
- Between 1998–1999 and 2007–2008, age-standardized rates increased significantly in most of the provinces. However, variations in knee replacement rates persisted across the country. In 2007–2008, the highest rates of 196 and 195 per 100,000 population were observed in Ontario and Manitoba, respectively. For the remaining provinces, the rates tended to be higher in the west—ranging from 157 per 100,000 population in British Columbia to 176 per 100,000 population in Saskatchewan—than in the east, where the rates varied from 116 per 100,000 population in Newfoundland and Labrador to 149 per 100,000 population in Prince Edward Island (Figure 2).
- Knee replacement rates were higher for females than for males. Over the 10-year period,* the rates for females also increased more rapidly—a 93% increase compared to 72% for males (Figure 3).
- The highest rates of knee replacements were among people age 65 to 84, but the greatest increase in rates up to 2005–2006 was for 45- to 54-year-olds (128%) and 55- to 64-year-olds (92%).

* Excluding Quebec.

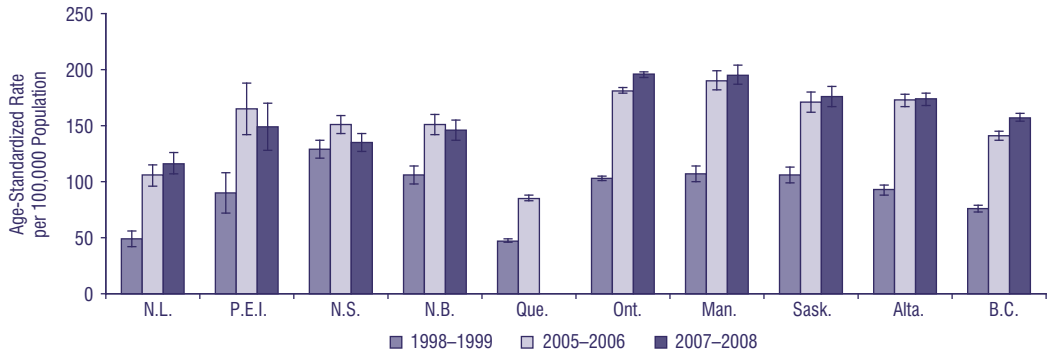
Figure 1 Knee Replacement Rates, Canada



Notes: Rates include people age 20 and older. All rates do not include Quebec; data for 2006–2007 and 2007–2008 were not available at the time of publication. The trend is statistically significant ($p<0.05$).

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database and Alberta Acute Care Database, Alberta Health and Wellness.

Figure 2 Knee Replacement Rates by Province, Canada



Notes: Rates include people age 20 and older. Data from Quebec for 2007–2008 were not available at the time of publication. Rates for the territories are not presented due to small numbers. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database and Alberta Acute Care Database, Alberta Health and Wellness.

Figure 3 Knee Replacement Rates by Sex, Canada

Notes: Rates include people age 20 and older. All rates do not include Quebec; data for 2007–2008 were not available at the time of publication. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database and Alberta Acute Care Database, Alberta Health and Wellness.

Hip Replacement Rate

Total hip replacement—surgery to replace a damaged hip joint with a prosthetic one—can help people suffering from a variety of hip problems resulting from either wear and tear from a lifetime of activity or from disease and injury. Previously, hip replacement surgery was reserved mainly for the elderly with age-related joint diseases. Now, new technologies are making this surgery a viable option for younger people.[4] Ninety percent of patients have good or excellent results after total hip replacement.[10]

Indicator Definition

This indicator is the age-standardized rate of unilateral or bilateral total hip replacement surgery performed in acute care hospitals per 100,000 population age 20 and older.

Why Is This Important?

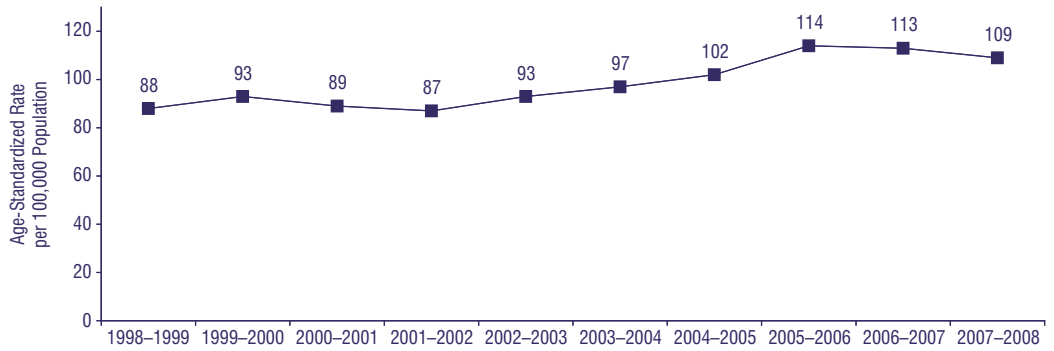
Monitoring hip replacement rates over time may provide useful information for planning health human resources and health services. Variations in the rate over time and/or across the country may be explained by several factors, such as differences in the availability of services, clinical indications for hip replacement and patient preferences.

Key Findings

- There was an overall 24% increase in the rate of total hip replacement in Canada* from 1998–1999 to 2007–2008, after population aging and growth were taken into account (Figure 1). The rates peaked in 2005–2006, and have since decreased by 4%. The fastest increase was observed between 2004–2005 and 2005–2006 (12%).
- Over the 10-year period, the number of hip replacements increased 55%, from 15,614 in 1998–1999* to 24,257 in 2007–2008.* Most operations (85%) were elective.
- Between 1998–1999 and 2007–2008, hip replacement rates increased significantly in most of the provinces. The largest increases were in Newfoundland and Labrador (69%) and British Columbia (41%). Provincial variations persisted over the decade. In 2007–2008, the rates ranged from 81 per 100,000 population in Newfoundland and Labrador to 120 per 100,000 population in Manitoba (Figure 2).
- Hip replacement rates were on average 15% higher for females than for males over the decade. Between 1998–1999 and 2005–2006, the rates increased at about the same pace for both males and females. After 2005–2006, however, the rate for females dropped by 6%, while the rate for males stayed steady (Figure 3).
- Males tended to have surgery earlier than females. In 2007–2008, the mean age at surgery was 65.3 (±12.5) for males and 69.2 (±12.3) for females; this was consistent over the 10 years.
- The highest hip replacement rates were for 75- to 84-year-olds, but the highest increases over the 10-year period were among 45- to 54-year-olds (66%) followed by 55- to 64-year-olds (35%).

* Excluding Quebec.

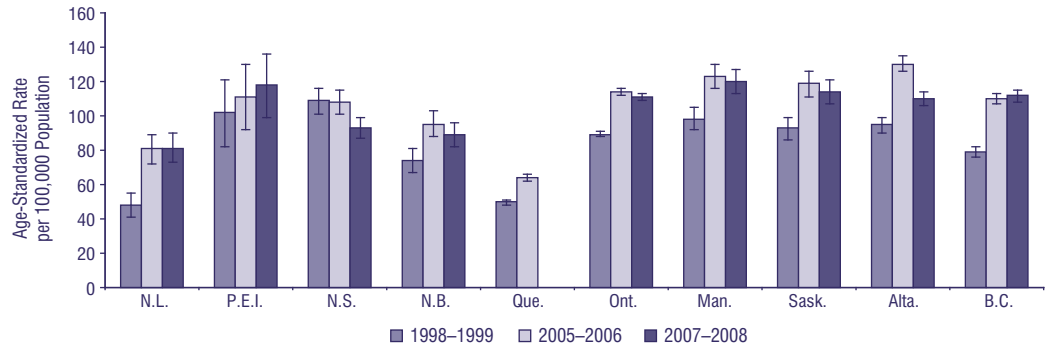
Figure 1 Hip Replacement Rates, Canada



Notes: Rates include people age 20 and older. All rates do not include Quebec; data for 2006–2007 and 2007–2008 were not available at the time of publication. The rates were significantly higher in 2007–2008 than in 1998–1999 ($p<0.05$).

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information; Alberta Acute Care Database, Alberta Health and Wellness.

Figure 2 Hip Replacement Rates by Province, Canada



Notes: Rates include people age 20 and older. Quebec data for 2007–2008 were not available at the time of publication. Rates for the territories are not presented due to small numbers. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information; Alberta Acute Care Database, Alberta Health and Wellness.

Figure 3 Hip Replacement Rates by Sex, Canada

Notes: Rates include people age 20 and older. All rates do not include Quebec; data for 2007–2008 were not available at the time of publication. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information; Alberta Acute Care Database, Alberta Health and Wellness.

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In Focus: Preventing Hospital Admissions

Many Canadians are hospitalized for conditions which can either be prevented or managed in the community with proper primary care, resources and education. Hospital stays are stressful and disruptive for patients and their families and are expensive for the health system.

There are a number of ways that hospital stays can be prevented. Certain problems that bring people into hospitals can be avoided before they occur. For example, transportation-related collisions can be prevented through careful roadway design, by driving sober and within the speed limit, and by being attentive. The effects of these collisions can be minimized by the proper use of seat belts and other safety restraints.[1] As well, appropriate primary health care, coupled with good lifestyle choices and patient education, can prevent or slow the progression of many chronic diseases and reduce the need for hospitalization.

This section focuses on three indicators related to potentially preventable reasons for hospitalization:

- Injury;
- Chronic diseases that can be managed in the community with appropriate primary health care (also known as ambulatory care sensitive conditions); and
- Readmission after an asthma hospitalization.

Injury Hospitalization Rate

Injuries were traditionally regarded as random and unavoidable "accidents,"[2] but many can be prevented. Around the world, programs to prevent injuries through public policy, education and plans to create safer communities have been implemented. While some injuries are intentional, such as assault, most are unintentional, such as those resulting from transportation-related collisions, fires or falls.

Injuries are a major cause of hospitalization[3] and premature death in Canada; unintentional injuries are the leading cause of death for young Canadians (age 1 to 35).[4] However, deaths and hospitalizations represent only a fraction of the harm and suffering injuries cause each year. The World Health Organization estimates that for every injury death, dozens are hospitalized, hundreds are treated in emergency departments and thousands are seen by physicians.[1] While only 6% of unintentional injuries in Canada result in a hospital stay,[5] the cost to individuals, society and the health care system of the approximately three million injuries sustained each year is substantial. Injuries cost Canadians more than $12.7 billion[i] in 1998, including $2.5 billion in hospitalization expenses alone.[6]

Indicator Definition

This indicator is the age-standardized rate of acute care hospitalizations due to injuries resulting from the transfer of energy (such as transport collisions, falls and assaults) per 100,000 population. Of note, it excludes poisonings, which are included in many other injury indicators.

Why Is This Important?

There are well-known prevention strategies for falls, transport collisions and other types of injuries.[1] This indicator can help policy-makers design and choose targets for injury prevention programs and assess whether these efforts are effective. By understanding variations in injury hospitalization rates and their causes—including variations by age and sex—there is potential to address appropriate prevention strategies.

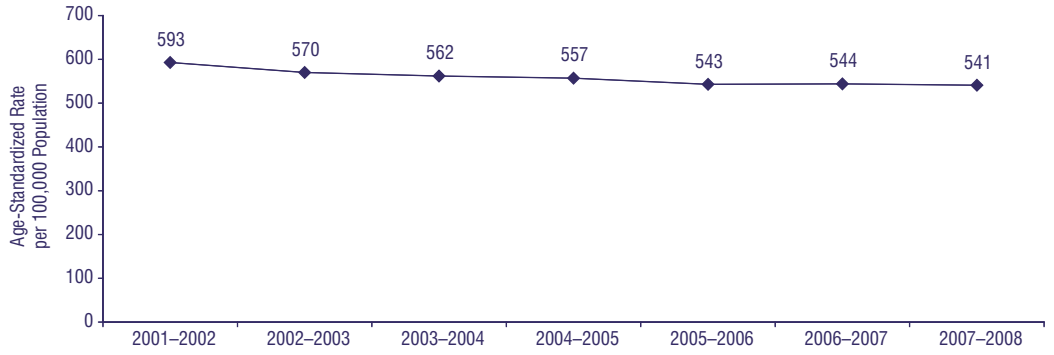
Key Findings

- The overall rate of injury hospitalization in Canada decreased 9% between 2001–2002 and 2007–2008,* from 593 to 541 per 100,000 population, after population aging and growth were taken into account (Figure 1). Injuries accounted for nearly 154,000 inpatient hospitalizations in 2007–2008,* down from 156,000 in 2001–2002.*
- Between 2001–2002 and 2007–2008, injury hospitalization rates decreased in New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia and increased in the Yukon and Nunavut (Figure 2). Marked variations in injury hospitalization rates persisted across jurisdictions. In 2007–2008, the rates ranged from 430 per 100,000 population in Ontario to 1,448 per 100,000 population in the Northwest Territories.

* Excluding Quebec.

i. This figure includes the costs of medical care, rehabilitation, premature mortality and short- and long-term disability for a single year; including longer-term medical costs and lost income would increase this number substantially.

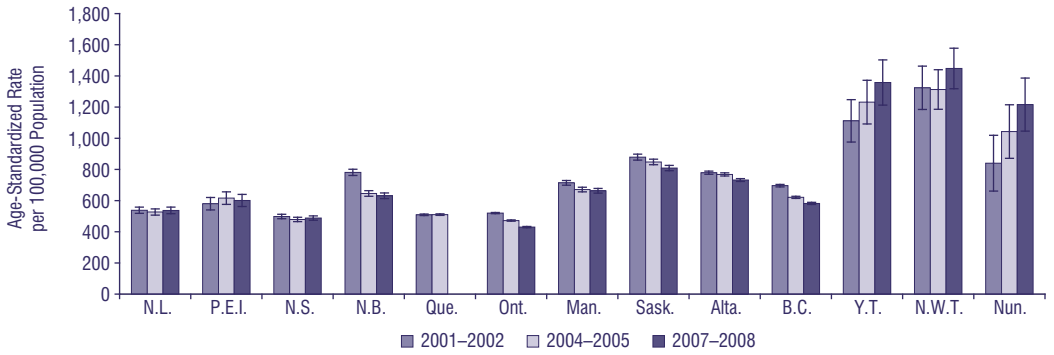
Figure 1 Injury Hospitalization Rates, Canada



Notes: Rates for 2006–2007 and 2007–2008 do not include Quebec; data were not available at the time of publication. This exclusion does not affect the trend. The trend is statistically significant ($p<0.05$).

Source: National Trauma Registry, Canadian Institute for Health Information.

Figure 2 Injury Hospitalization Rates by Province/Territory, Canada



Notes: Data from Quebec for 2007–2008 were not available at the time of publication. I represents 95% confidence intervals.

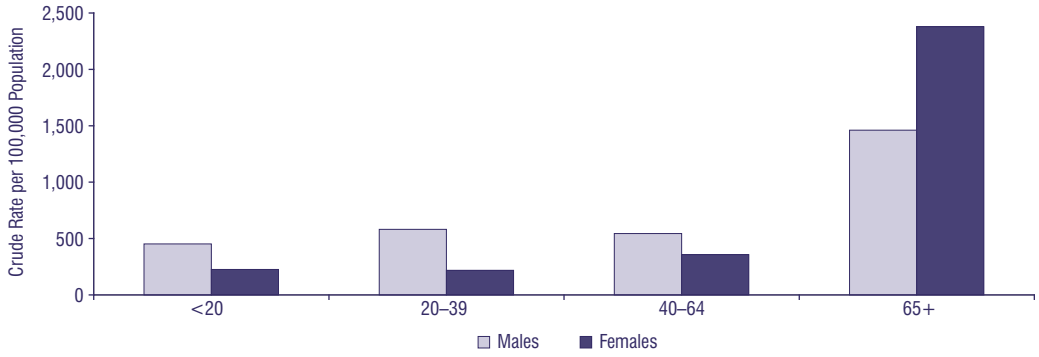
Source: National Trauma Registry, Canadian Institute for Health Information.

Key Findings (continued)

- Overall, males were hospitalized for injury more than females. In 2007–2008,* injury hospitalization rates among males younger than 65 were at least 1.9 times those for females. However, among those age 65 or older, injury hospitalization rates for females were 1.6 times those for males. The highest rate for both sexes was among people age 65 and older (Figure 3).
- Falls and transport collisions have been the leading reasons for injury hospitalizations for both sexes since 2001–2002. In 2007–2008,* falls (39%), transport collisions (23%) and assaults (9%) were leading reasons for injury hospitalizations for Canadians younger than 65. Among Canadians age 65 or older, most injury hospitalizations followed a fall (77% for males and 88% for females).
- People who lived in the least affluent neighbourhoods had an injury hospitalization rate 1.6 times that of people who lived in the most affluent neighbourhoods in 2007–2008* (Figure 4). While rates* for all neighbourhood income groups decreased significantly between 2001–2002 and 2007–2008, the hospitalization rate for residents of the most affluent neighbourhoods decreased nearly twice as much as for those in the least affluent neighbourhoods (15.3% versus 8.8%).
- Although the leading causes of injury were the same, rural residents had higher age-standardized rates of injury hospitalization than urban residents in 2007–2008* (834 versus 497 per 100,000 population). Though the rates* for residents of all areas decreased significantly, the decrease for those living in urban areas (14%) was twice that of those living in rural areas (7%) between 2001–2002 and 2007–2008.

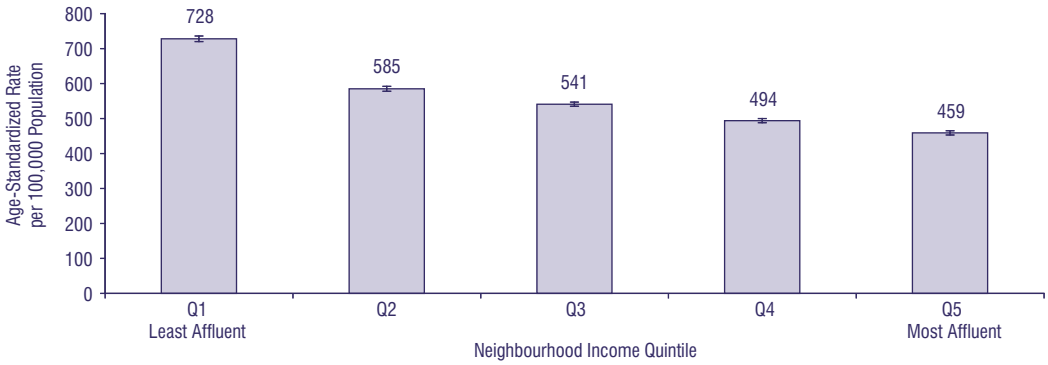
* Excluding Quebec.

Figure 3 Injury Hospitalization Rates by Age and Sex, Canada, 2007–2008



Note: Rates do not include Quebec; data for 2007–2008 were not available at the time of publication.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Figure 4 Injury Hospitalization Rates by Neighbourhood Income Quintile, Canada, 2007–2008



Notes: Rates do not include Quebec; data for 2007–2008 were not available at the time of publication. Q1 represents the lowest neighbourhood income quintile and Q5 represents the highest. Population by income quintile for 2007–2008 was projected using 2001 and 2006 Canadian census data. I represents 95% confidence intervals.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Hospitalization Rate for Ambulatory Care Sensitive Conditions

Many chronic illnesses, including diabetes, asthma and high blood pressure, can be effectively managed in the community with appropriate medical screening, monitoring and follow-up. Combined with education and support for patients to manage their own conditions, such practices can potentially reduce the number of hospital stays by people with one or more chronic conditions. These chronic conditions that can potentially be managed in the community are also referred to as ambulatory care sensitive conditions (ACSCs). While not all hospitalizations for ACSCs are avoidable, appropriate ambulatory care may prevent or reduce the need for hospitalization.

Indicator Definition

This indicator measures the acute care hospitalization rate for seven ACSCs among Canadians younger than 75 per 100,000 population. The seven conditions are angina, asthma, chronic obstructive pulmonary disease (COPD), diabetes, epilepsy, heart failure and pulmonary edema, and hypertension.

Why Is This Important?

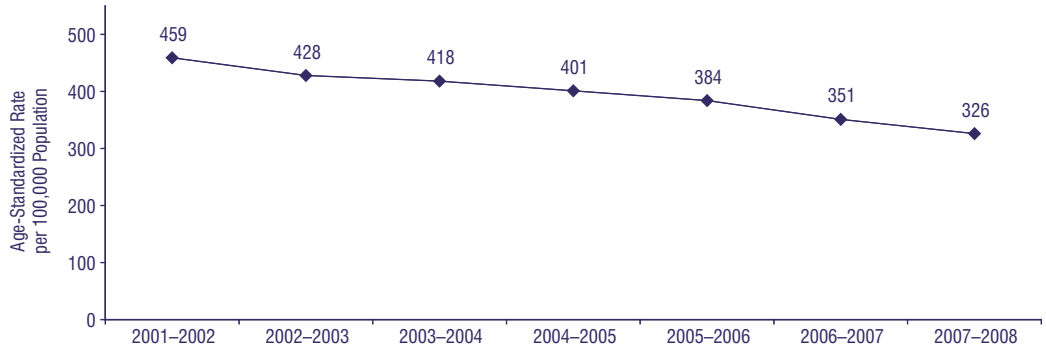
Optimizing management and treatment of ACSCs in the community can potentially contribute to both improved health outcomes and more efficient resource utilization. Variations over time and between jurisdictions can be examined to determine the extent to which they are due to the accessibility and quality of community-based care, hospital admitting practices or prevalence and acuity of these chronic health conditions.

Key Findings

- The hospitalization rate for ACSCs in Canada decreased 29% from 2001–2002 to 2007–2008,* after population aging and growth were taken into account (Figure 1).
- Between 2001–2002 and 2007–2008, rates of hospitalization for ACSCs decreased significantly in all provinces (Figure 2). Marked variations between provinces and territories, however, remained. In 2007–2008, rates ranged from 281 per 100,000 population in British Columbia to 1,298 per 100,000 population in Nunavut.
- Similar to previous years, older Canadians (age 60 to 74) accounted for approximately half of all hospitalizations for ACSCs in 2007–2008.*
- In 2007–2008,* the hospitalization rates for ACSCs among those living in the least affluent neighbourhoods were 2.6 times those of residents of the most affluent areas (Figure 3); the difference was 2.2 times in 2001–2002.* Between 2001–2002* and 2007–2008,* the ACSC hospitalization rate decreased 34% in the most affluent neighbourhoods compared to 23% in the least affluent neighbourhoods.

* Excluding Quebec.

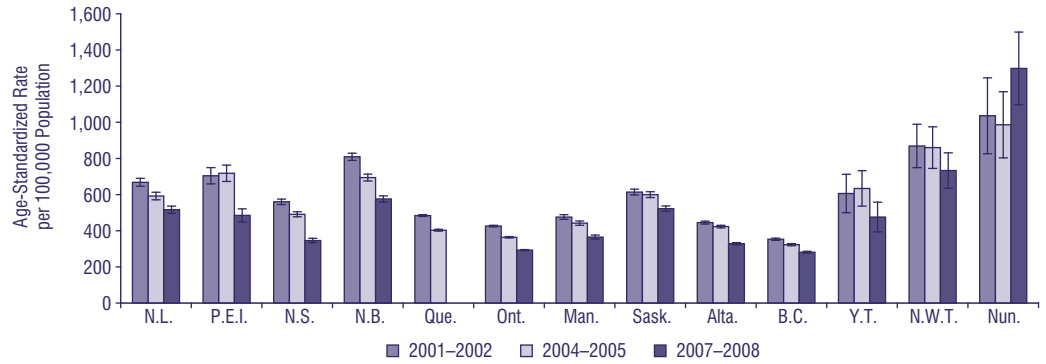
Figure 1 Ambulatory Care Sensitive Conditions Hospitalization Rates, Canada



Notes: Rates include people younger than 75. Rates for 2006–2007 and 2007–2008 do not include Quebec; data were not available at the time of publication. This exclusion does not affect the trend. The trend is statistically significant ($p<0.05$).

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2 Ambulatory Care Sensitive Conditions Hospitalization Rates by Province/Territory, Canada



Notes: Rates include people younger than 75. Data from Quebec for 2007–2008 were not available at the time of publication. I represents 95% confidence intervals.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Figure 3 Ambulatory Care Sensitive Conditions Hospitalization Rates by Neighbourhood Income Quintile, Canada, 2007–2008

Notes: Rates include people younger than 75. Rates do not include Quebec; data for 2007–2008 were not available at the time of publication. Q1 represents the lowest neighbourhood income quintile and Q5 represents the highest. Population by income quintile for 2007–2008 was projected using 2001 and 2006 Canadian census data. I represents 95% confidence intervals.

Source: Discharge Abstract Database, Canadian Institute for Health Information.

Asthma Readmission Rate

Asthma symptoms include difficulty breathing, chest tightness, coughing and wheezing, which can occur chronically or as acute asthma attacks.[7] Symptoms result from airway restriction or sensitivity due to triggers such as dust, pollen, mould, tobacco smoke, exercise or air pollution. Although often associated with childhood, asthma affects Canadians of all ages. Approximately 8% of Canadians 12 and older have been diagnosed with asthma by a health professional.[8] Among people diagnosed with asthma, 48% of males and 60% of females reported symptoms or attacks in the previous 12 months.[9] Adult females have higher rates of asthma diagnosis[8] and hospitalization[10] than males.

There are multiple reasons why asthma may be poorly controlled, including insufficient patient education, underuse of anti-inflammatory agents (including inadequate dose or patient non-use) and lack of continuity of care in the community.[11] Poorly managed asthma can lead to such severe symptoms that patients require hospitalization, usually for steroid treatment and respiratory monitoring. There are approximately 5,000 hospitalizations[ii] for asthma annually for Canadians[*] age 15 to 84, and some of these patients return to hospital shortly after they are discharged.

Indicator Definition

This indicator is the risk-adjusted rate of unplanned readmissions following discharge for asthma. Patients are considered readmitted if they have an urgent admission within 28 days of an asthma discharge for an eligible condition.[iii] Unless otherwise specified, rates are based on three years of pooled data.

Why Is This Important?

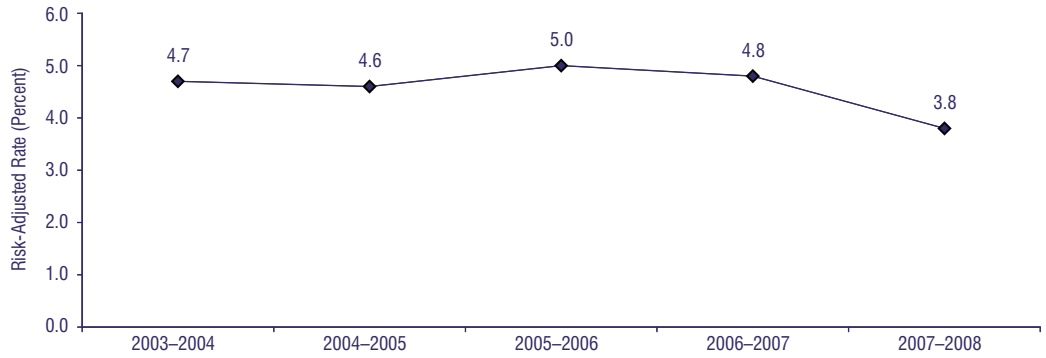
Readmission rates are one measure of quality of care. While some factors influencing hospital readmission are outside the direct control of the hospital, high rates of unplanned readmissions act as a signal to health care providers to look at practices, including inpatient care,[12] inpatient education,[13] discharge criteria and discharge instructions.[14] Patients admitted to hospital likely have poorly controlled asthma, which may be due, in part, to potential gaps in medical or educational follow-up in their community.[13, 15]

Key Findings

- The annual risk-adjusted readmission rate after an asthma hospitalization in Canada[*] did not change significantly between 2003–2004 and 2007–2008 (Figure 1).
- Asthma readmission rates varied by province. In the period 2005–2006 to 2007–2008, the rate in New Brunswick (2.7%) was significantly lower than the national rate (4.5%), whereas the rate in Manitoba (6.6%) was significantly higher.
- Many readmissions occur within one week of discharge. For 2005–2006 to 2007–2008,[*] 40% of readmissions occurred within seven days of discharge from the initial asthma hospitalization.
- In the period 2005–2006 to 2007–2008,[*] females accounted for most adult asthma hospitalizations (70%) and readmissions (73%).
- For 2005–2006 to 2007–2008,[*] 92% of readmissions were because of a subsequent asthma attack. The rest were readmitted for pneumonia (7%) or respiratory collapse or arrest (1%) (Figure 2).

* Excluding Quebec.
ii. Discharge Abstract Database, Canadian Institute for Health Information.
iii. Rates are adjusted using a logistic regression model with age, sex and multiple previous asthma admissions as covariates. For more information on indicator methodology, please visit www.cihi.ca/indicators.

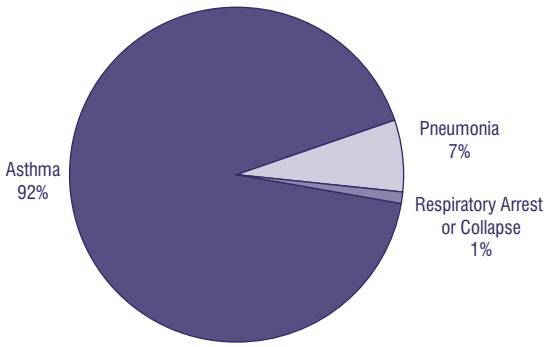
Figure 1 Annual Rates of Asthma Readmission, Canada



Notes: Rates do not include Quebec due to differences in data collection. The rate for 2003–2004 does not include data from Manitoba outside Winnipeg due to differences in data collection. This exclusion does not affect the trend. To obtain annual results, rates were risk-adjusted using data from 2003–2004 to 2007–2008.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Figure 2 Reasons for Readmission After Asthma Hospitalization, Canada, 2005–2006 to 2007–2008



Note: Does not include Quebec due to differences in data collection.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

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Health Indicators—Region by Region

Health indicators are standardized measures of various aspects of health and health care which can be used to monitor health status of the population and the performance and characteristics of the health system over time and across the country. As in previous years, the *Health Indicators* annual report provides up-to-date comparable information for health regions and provinces and territories. This information can be used by regions and governments to evaluate progress and identify areas for improvement.

What Are Health Regions?

Health regions are administrative bodies, legislated by the provincial ministries of health. They are defined by geographical areas and are responsible for providing health services to their residents. The role of health regions in determining how resources are allocated and their relationship with local hospitals varies by province.

For this report, data are provided for all regions with a population of at least 50,000. In addition, data for the smaller regions as well as Nova Scotia zones and Ontario public health units are included in the Health Indicators e-publication (www.cihi.ca/indicators or www.statcan.ca). Please see page 132 for a map of all the health regions in Canada.

Interpreting the Indicators

Unless otherwise specified, health indicators are reported based on where a patient lives, not where he or she was hospitalized. Consequently, these figures reflect the experience of residents of a region regardless of where they were treated, even if it was outside their own province, rather than showing the activity of hospitals in a given region.

Confidence intervals are provided for most indicators to aid interpretation. The width of the confidence interval illustrates the degree of variability associated with the rate. Indicator values are estimated to be accurate within the upper and lower confidence interval 19 times out of 20 (95% confidence interval).

Symbols and Abbreviations

..	Figures not available
*	Figures suppressed due to small numbers or incomplete data
▼	Interpret with caution
95% CI	95% confidence interval
✦	Statistically significantly different from the national (Canada) rate ($p \leq 0.05$)
ASSS	Agence de la santé et des services sociaux
HSDA	Health service delivery area
LHIN	Local health integration network
RHA	Regional health authority

Map Code	Health Region	Legend Name	Population ('000) 2007	% Population Age 65+ 2007	Dependency Ratio 2007
Newfoundland and Labrador		**N.L.**	**507**	**13.9**	**55.1**
1011	Eastern Regional Integrated Health Authority	Eastern, N.L.	296	13.1	52.8
1012	Central Regional Integrated Health Authority	Central, N.L.	94	16.7	59.2
1013	Western Regional Integrated Health Authority	Western, N.L.	79	16.0	59.0
Prince Edward Island		**P.E.I.**	**139**	**14.5**	**63.4**
Nova Scotia		**N.S.**	**935**	**14.8**	**58.6**
1211	South Shore District Health Authority	South Shore, N.S.	60	19.0	61.4
1212	South West Nova District Health Authority	South West Nova, N.S.	62	17.0	62.9
1213	Annapolis Valley District Health Authority	Annapolis Valley, N.S.	82	16.8	64.7
1214	Colchester East Hants Health Authority	Colchester East Hants, N.S.	73	15.2	61.9
1218	Cape Breton District Health Authority	Cape Breton, N.S.	126	17.1	65.0
1219	Capital District Health Authority	Capital, N.S.	406	11.9	52.3
New Brunswick		**N.B.**	**751**	**14.5**	**57.2**
1301	Zone 1	Zone 1, N.B. (Moncton area)	198	14.5	54.8
1302	Zone 2	Zone 2, N.B. (Saint John area)	175	14.2	60.5
1303	Zone 3	Zone 3, N.B. (Fredericton area)	172	13.3	57.2
1304	Zone 4	Zone 4, N.B. (Edmundston area)	51	15.2	56.6
1306	Zone 6	Zone 6, N.B. (Bathurst area)	80	15.6	53.4
Quebec		**Que.**	**7,720**	**14.4**	**57.9**
2401	ASSS du Bas-Saint-Laurent	Bas-Saint-Laurent	202	17.3	60.9
2402	ASSS du Saguenay–Lac-Saint-Jean	Saguenay–Lac-Saint-Jean	273	15.1	58.1
2403	ASSS de la Capitale nationale	Capitale nationale	675	15.7	54.3
2404	ASSS de la Mauricie et du Centre-du-Québec	Mauricie et Centre-du-Québec	490	16.8	61.3
2405	ASSS de l'Estrie	Estrie	304	15.3	60.6
2406	ASSS de Montréal	Montréal	1,872	15.4	55.2
2407	ASSS de l'Outaouais	Outaouais	349	11.4	54.7
2408	ASSS de l'Abitibi-Témiscamingue	Abitibi-Témiscamingue	145	13.2	60.3
2409	ASSS de la Côte-Nord	Côte-Nord	96	12.4	56.8
2411	ASSS de la Gaspésie–Îles-de-la-Madeleine	Gaspésie–Îles-de-la-Madeleine	95	18.2	60.4
2412	ASSS de Chaudière-Appalaches	Chaudière-Appalaches	400	14.6	59.1
2413	ASSS de Laval	Laval	382	14.3	62.1
2414	ASSS de Lanaudière	Lanaudière	445	12.2	58.7
2415	ASSS des Laurentides	Laurentides	528	12.5	58.8
2416	ASSS de la Montérégie	Montérégie	1,403	13.1	58.9
Ontario		**Ont.**	**12,851**	**13.2**	**59.7**
3501	Erie St. Clair LHIN	Erie St. Clair	646	14.2	63.3
3502	South West LHIN	South West	937	14.9	64.3
3503	Waterloo Wellington LHIN	Waterloo Wellington	714	12.0	59.5
3504	Hamilton Niagara Haldimand Brant LHIN	Hamilton Niagara Haldimand Brant	1,377	15.1	63.9
3505	Central West LHIN	Central West	779	9.8	56.8
3506	Mississauga Halton LHIN	Mississauga Halton	1,140	10.1	57.6
3507	Toronto Central LHIN	Toronto Central	1,168	13.3	54.6
3508	Central LHIN	Central	1,641	11.6	56.1
3509	Central East LHIN	Central East	1,494	13.4	59.5
3510	South East LHIN	South East	483	16.6	63.9
3511	Champlain LHIN	Champlain	1,193	13.1	58.0
3512	North Simcoe Muskoka LHIN	North Simcoe Muskoka	431	14.8	65.3
3513	North East LHIN	North East	566	16.2	63.2
3514	North West LHIN	North West	235	13.8	64.1
Manitoba		**Man.**	**1,190**	**13.6**	**66.6**
4610	Winnipeg RHA	Winnipeg	667	13.7	60.2
4625	South Eastman Health	South Eastman	65	10.3	73.7
4630	Interlake RHA	Interlake	80	15.0	70.9
4640	RHA—Central Manitoba Inc.	Central	104	13.0	77.1
4645	Assiniboine RHA	Assiniboine	69	18.6	79.5

Map Code	Health Region	Legend Name	Population ('000) 2007	% Population Age 65+ 2007	Dependency Ratio 2007
Saskatchewan		**Sask.**	**1,003**	**14.9**	**71.1**
4701	Sun Country Health Region	Sun Country	52	17.3	75.2
4702	Five Hills Health Region	Five Hills	53	18.5	73.5
4704	Regina Qu'Appelle Health Region	Regina	244	14.1	64.3
4705	Sunrise Health Region	Sunrise	55	21.8	83.4
4706	Saskatoon Health Region	Saskatoon	291	13.4	64.6
4709	Prince Albert Parkland RHA	Prince Albert	75	15.1	80.2
4710	Prairie North Health Region	Prairie North	68	12.3	80.4
Alberta		**Alta.**	**3,487**	**10.4**	**56.4**
4821	Chinook Health	Chinook	163	12.8	68.2
4822	Palliser Health Region	Palliser	107	13.1	63.7
4823	Calgary Health Region	Calgary	1,275	9.5	51.5
4824	David Thompson Health Region	David Thompson	317	11.0	60.1
4825	East Central Health	East Central	118	15.1	70.2
4826	Capital Health	Capital	1,086	10.9	55.6
4827	Aspen Regional Health	Aspen	185	11.1	67.9
4828	Peace Country Health	Peace Country	147	8.0	61.2
4829	Northern Lights Health Region	Northern Lights	78	3.2	49.8
British Columbia		**B.C.**	**4,403**	**14.1**	**57.1**
5911	East Kootenay HSDA	East Kootenay	79	15.5	61.0
5912	Kootenay Boundary HSDA	Kootenay Boundary	80	17.1	62.4
5913	Okanagan HSDA	Okanagan	345	19.7	68.9
5914	Thompson Cariboo Shuswap HSDA	Thompson/Cariboo/Shuswap	222	15.5	61.5
5921	Fraser East HSDA	Fraser East	275	13.9	67.2
5922	Fraser North HSDA	Fraser North	579	11.7	52.1
5923	Fraser South HSDA	Fraser South	673	12.0	59.7
5931	Richmond HSDA	Richmond	187	13.1	52.5
5932	Vancouver HSDA	Vancouver	625	12.7	42.6
5933	North Shore/Coast Garibaldi HSDA	North Shore	276	14.9	58.9
5941	South Vancouver Island HSDA	South Vancouver Island	366	17.2	57.2
5942	Central Vancouver Island HSDA	Central Vancouver Island	262	18.8	67.2
5943	North Vancouver Island HSDA	North Vancouver Island	121	15.0	61.6
5951	Northwest HSDA	Northwest	77	9.9	61.8
5952	Northern Interior HSDA	Northern Interior	145	10.3	56.9
5953	Northeast HSDA	Northeast	68	7.9	57.4
Yukon		**Y.T.**	**31**	**7.9**	**48.6**
Northwest Territories		**N.W.T.**	**42**	**5.2**	**58.4**
Nunavut		**Nun.**	**31**	**3.1**	**87.0**
Canada		**Canada**	**33,091**	**13.4**	**59.0**

Population

The number of people living in a geographic area. A population's size and age/sex composition may affect the health status of a region and its need for health services. Population data also provide the denominators used to calculate rates for most health and social indicators.

Sources: Demography Division, Statistics Canada. Data are derived from the census and administrative sources on births, deaths and migration. Population growth for health regions in Alberta and British Columbia were supplied by Alberta Health and Wellness and BC Stats, respectively.

Dependency ratio

The ratio of the combined population age 0 to 19 and the population age 65 and older to the population age 20 to 64. This ratio is presented as the number of dependents for every 100 people in the working-age population. Canadians age 65 and older and those younger than age 20 are more likely to be socially and/or economically dependent on working-age Canadians, and they may also put additional demands on health services.

Source: Demography Division, Statistics Canada.

Aboriginal Population	2001 %	2006 %
N.L.	3.7	4.7
P.E.I.	1.0	1.3
N.S.	1.9	2.7
N.B.	2.4	2.5
Que.	1.3	1.5
Ont.	1.8	2.0
Man.	13.6	15.5
Sask.	13.6	14.9
Alta.	5.4	5.8
B.C.	4.4	4.8
Y.T.	22.9	25.1
N.W.T.	50.5	50.3
Nun.	85.2	85.0
Canada	**3.4**	**3.8**

Immigrant Population	2001 %	2006 %
N.L.	1.6	1.7
P.E.I.	3.1	3.6
N.S.	4.6	5.0
N.B.	3.1	3.7
Que.	9.9	11.5
Ont.	26.8	28.3
Man.	12.1	13.3
Sask.	5.0	5.0
Alta.	14.9	16.2
B.C.	26.1	27.5
Y.T.	10.6	10.0
N.W.T.	6.4	6.8
Nun.	1.7	1.6
Canada	**18.4**	**19.8**

Rural Population	2001 %	2006 %
N.L.	42.4	42.4
P.E.I.	55.5	55.3
N.S.	44.4	44.7
N.B.	49.8	49.1
Que.	19.8	20.0
Ont.	15.4	14.9
Man.	28.3	28.7
Sask.	35.9	35.2
Alta.	19.3	18.0
B.C.	15.4	14.7
Y.T.	41.3	40.5
N.W.T.	41.7	41.8
Nun.	67.6	56.8
Canada	**20.4**	**19.9**

Aboriginal population

Proportion of Aboriginal People living in a geographic area. Aboriginal People are those who reported that their ancestors belonged to at least one Aboriginal group (for example, North American Indian, Métis or Inuit) and/or those who reported being a Treaty Indian or a Registered Indian as defined by the *Indian Act* and/or those who were members of an Indian Band or First Nation. Health status characteristics and non-medical determinants of Aboriginal People differ from the non-Aboriginal population.
Sources: 2001 and 2006 Census, Statistics Canada.

Immigrant population

Proportion of immigrants living in a geographic area. Refers to people who are or have been landed immigrants in Canada. A landed immigrant is a person who has been granted the right to live in Canada permanently by immigration authorities. Studies have shown that immigrants, particularly non-European immigrants, generally have a longer life expectancy and lower risk of certain chronic conditions than the native-born population.
Sources: 2001 and 2006 Census, Statistics Canada.

Rural population

Proportion of people living in rural areas. A rural area is defined as having a population of less than 1,000 and a population density of less than 400 people per square kilometre.
Sources: 2001 and 2006 Census, Statistics Canada.

Map Code	Health Region	Hospitalized Acute Myocardial Infarction Event 2007–2008		Hospitalized Stroke Event 2007–2008	
		Age-Standardized Rate per 100,000	95% CI	Age-Standardized Rate per 100,000	95% CI
Newfoundland and Labrador		***351**	**(334–368)**	***155**	**(144–166)**
1011	Eastern, N.L.	*335	(313–357)	*152	(137–167)
1012	Central, N.L.	*438	(398–478)	*156	(132–180)
1013	Western, N.L.	*300	(263–337)	152	(125–179)
Prince Edward Island		***308**	**(278–337)**	**138**	**(118–157)**
Nova Scotia		***270**	**(259–280)**	***121**	**(114–128)**
1211	South Shore, N.S.	*274	(235–314)	142	(114–170)
1212	South West Nova, N.S.	*308	(265–352)	*165	(134–196)
1213	Annapolis Valley, N.S.	*289	(252–326)	112	(90–134)
1214	Colchester East Hants, N.S.	*321	(280–363)	127	(100–153)
1218	Cape Breton, N.S.	*318	(288–349)	*105	(87–122)
1219	Capital, N.S.	221	(205–237)	*118	(106–129)
New Brunswick		***278**	**(266–290)**	***148**	**(139–157)**
1301	Zone 1, N.B. (Moncton area)	*280	(256–304)	140	(123–157)
1302	Zone 2, N.B. (Saint John area)	*254	(230–278)	132	(114–150)
1303	Zone 3, N.B. (Fredericton area)	*281	(255–308)	142	(123–161)
1304	Zone 4, N.B. (Edmundston area)	202	(163–242)	146	(112–180)
1306	Zone 6, N.B. (Bathurst area)	*296	(259–333)	149	(123–175)
Quebec		**..**	**.. ..**	**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..	..	.. ..
2403	Capitale nationale	..	.. ..	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..	..	.. ..
2405	Estrie	..	.. ..	..	.. ..
2406	Montréal	..	.. ..	..	.. ..
2407	Outaouais	..	.. ..	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..	..	.. ..
2409	Côte-Nord	..	.. ..	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..	..	.. ..
2412	Chaudière-Appalaches	..	.. ..	..	.. ..
2413	Laval	..	.. ..	..	.. ..
2414	Lanaudière	..	.. ..	..	.. ..
2415	Laurentides	..	.. ..	..	.. ..
2416	Montérégie	..	.. ..	..	.. ..
Ontario		**219**	**(217–222)**	***132**	**(130–135)**
3501	Erie St. Clair	*253	(240–265)	*161	(151–171)
3502	South West	*239	(229–249)	137	(129–144)
3503	Waterloo Wellington	210	(198–222)	126	(117–135)
3504	Hamilton Niagara Haldimand Brant	*244	(236–253)	*138	(132–145)
3505	Central West	227	(214–239)	*142	(132–152)
3506	Mississauga Halton	*174	(165–183)	*116	(109–123)
3507	Toronto Central	*165	(157–172)	131	(124–138)
3508	Central	*163	(156–170)	*122	(116–128)
3509	Central East	226	(218–234)	125	(119–131)
3510	South East	*237	(224–251)	136	(126–147)
3511	Champlain	213	(204–222)	*120	(114–127)
3512	North Simcoe Muskoka	234	(219–248)	138	(126–149)
3513	North East	*309	(294–323)	*150	(140–161)
3514	North West	*363	(337–388)	*180	(162–198)
Manitoba		***253**	**(244–263)**	***137**	**(130–144)**
4610	Winnipeg	*242	(229–254)	136	(126–145)
4625	South Eastman	*271	(223–318)	*93	(66–121)
4630	Interlake	*255	(220–290)	143	(117–170)
4640	Central	*261	(226–295)	140	(115–164)
4645	Assiniboine	216	(182–250)	*89	(68–110)

Map Code	Health Region	Hospitalized Acute Myocardial Infarction Event 2007–2008		Hospitalized Stroke Event 2007–2008	
		Age-Standardized Rate per 100,000	95% CI	Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**227**	**(218–237)**	**134**	**(127–141)**
4701	Sun Country	202	(164–241)	‡93	(68–118)
4702	Five Hills	235	(195–276)	134	(103–165)
4704	Regina	224	(204–245)	142	(126–158)
4705	Sunrise	210	(174–246)	140	(111–169)
4706	Saskatoon	203	(186–221)	138	(123–152)
4709	Prince Albert	‡317	(274–359)	‡162	(132–192)
4710	Prairie North	‡273	(229–317)	126	(96–156)
Alberta		**221**	**(215–226)**	**‡124**	**(119–128)**
4821	Chinook	227	(202–253)	128	(109–147)
4822	Palliser	‡276	(242–310)	148	(124–173)
4823	Calgary	‡192	(183–201)	‡112	(105–119)
4824	David Thompson	‡258	(237–278)	144	(129–159)
4825	East Central	217	(189–244)	129	(108–150)
4826	Capital	223	(213–233)	‡117	(110–125)
4827	Aspen	239	(213–264)	139	(119–158)
4828	Peace Country	‡277	(242–312)	‡184	(155–213)
4829	Northern Lights	213	(151–274)	156	(95–216)
British Columbia		**‡169**	**(166–173)**	**‡121**	**(117–124)**
5911	East Kootenay	228	(195–260)	137	(112–162)
5912	Kootenay Boundary	204	(174–234)	124	(102–146)
5913	Okanagan	209	(195–223)	134	(123–145)
5914	Thompson/Cariboo/Shuswap	230	(210–249)	132	(116–147)
5921	Fraser East	‡169	(152–185)	142	(127–156)
5922	Fraser North	‡128	(118–139)	125	(115–136)
5923	Fraser South	‡176	(165–187)	131	(121–140)
5931	Richmond	‡135	(117–152)	‡109	(93–125)
5932	Vancouver	‡139	(129–149)	‡96	(88–104)
5933	North Shore	‡178	(162–193)	‡108	(96–120)
5941	South Vancouver Island	‡118	(107–128)	‡101	(92–111)
5942	Central Vancouver Island	‡187	(172–203)	118	(106–131)
5943	North Vancouver Island	‡194	(169–219)	126	(106–147)
5951	Northwest	226	(186–266)	‡177	(141–213)
5952	Northern Interior	246	(217–276)	142	(119–165)
5953	Northeast	‡281	(230–331)	160	(121–200)
Yukon		**189**	**(129–249)**	**187**	**(117–256)**
Northwest Territories		**207**	**(133–280)**	**151**	**(94–208)**
Nunavut		**256**	**(130–382)**	**210**	**(92–328)**
Canada without Quebec data		**219**	**(218–221)**	**130**	**(129–132)**

Hospitalized acute myocardial infarction event

Age-standardized rate of new acute myocardial infarction (AMI, or heart attack) events admitted to an acute care hospital per 100,000 population age 20 and older. New event is defined as a first-ever hospitalization for an AMI or a recurrent hospitalized AMI occurring more than 28 days after the admission for the previous event in the reference period. AMI is one of the leading causes of morbidity and death. This indicator is important for planning and evaluating preventive strategies, allocating health resources and estimating costs.
Note: Rates for Quebec are not available due to the differences in data collection.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Hospitalized stroke event

Age-standardized rate of new stroke events admitted to an acute care hospital per 100,000 population age 20 and older. New event is defined as a first-ever hospitalization for stroke or a recurrent hospitalized stroke occurring more than 28 days after the admission for the previous event in the reference period. Stroke is one of the leading causes of long-term disability and death. This indicator is important for planning and evaluating preventive strategies, allocating health resources and estimating costs.
Note: Rates for Quebec are not available due to the differences in data collection.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Injury Hospitalization 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Newfoundland and Labrador		**527**	**(508–547)**	**537**	**(516–557)**
1011	Eastern, N.L.	423	(400–446)	472	(448–497)
1012	Central, N.L.	477	(434–520)	436	(394–478)
1013	Western, N.L.	643	(588–699)	549	(495–603)
Prince Edward Island		**620**	**(579–661)**	**601**	**(562–640)**
Nova Scotia		**492**	**(478–506)**	**488**	**(474–502)**
1211	South Shore, N.S.	461	(409–514)	516	(460–572)
1212	South West Nova, N.S.	482	(430–534)	464	(412–516)
1213	Annapolis Valley, N.S.	402	(361–444)	486	(441–532)
1214	Colchester East Hants, N.S.	534	(481–587)	584	(528–640)
1218	Cape Breton, N.S.	648	(604–691)	523	(483–563)
1219	Capital, N.S.	403	(384–423)	421	(401–441)
New Brunswick		**669**	**(651–687)**	**631**	**(613–648)**
1301	Zone 1, N.B. (Moncton area)	561	(529–594)	520	(489–551)
1302	Zone 2, N.B. (Saint John area)	546	(513–580)	546	(512–579)
1303	Zone 3, N.B. (Fredericton area)	715	(676–755)	668	(631–705)
1304	Zone 4, N.B. (Edmundston area)	844	(766–923)	913	(828–998)
1306	Zone 6, N.B. (Bathurst area)	595	(543–648)	595	(539–651)
Quebec		**506**	**(501–511)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	601	(567–635)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	646	(616–677)	..	.. ..
2403	Capitale nationale	505	(488–522)	..	.. ..
2404	Mauricie et Centre-du-Québec	588	(566–610)	..	.. ..
2405	Estrie	630	(602–659)	..	.. ..
2406	Montréal	394	(385–402)	..	.. ..
2407	Outaouais	462	(439–486)	..	.. ..
2408	Abitibi-Témiscamingue	668	(625–711)	..	.. ..
2409	Côte-Nord	773	(716–830)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	802	(744–861)	..	.. ..
2412	Chaudière-Appalaches	503	(481–525)	..	.. ..
2413	Laval	392	(372–412)	..	.. ..
2414	Lanaudière	520	(497–543)	..	.. ..
2415	Laurentides	612	(590–635)	..	.. ..
2416	Montérégie	500	(488–512)	..	.. ..
Ontario		**472**	**(468–475)**	**430**	**(426–433)**
3501	Erie St. Clair	520	(503–537)	446	(430–461)
3502	South West	600	(585–615)	525	(511–539)
3503	Waterloo Wellington	478	(462–494)	429	(414–444)
3504	Hamilton Niagara Haldimand Brant	521	(509–532)	502	(490–513)
3505	Central West	373	(358–387)	359	(345–372)
3506	Mississauga Halton	359	(347–371)	337	(326–347)
3507	Toronto Central	385	(374–396)	377	(367–388)
3508	Central	340	(331–350)	310	(302–318)
3509	Central East	410	(400–420)	374	(365–384)
3510	South East	468	(450–487)	426	(408–444)
3511	Champlain	449	(438–461)	432	(420–443)
3512	North Simcoe Muskoka	611	(587–634)	516	(496–536)
3513	North East	698	(677–720)	658	(637–679)
3514	North West	768	(733–802)	834	(797–870)
Manitoba		**720**	**(705–735)**	**663**	**(648–677)**
4610	Winnipeg	552	(535–570)	490	(474–506)
4625	South Eastman	687	(619–755)	606	(547–665)
4630	Interlake	786	(723–849)	709	(649–769)
4640	Central	847	(790–903)	718	(667–768)
4645	Assiniboine	898	(829–967)	765	(700–829)

Map Code	Health Region	Injury Hospitalization 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**†848**	**(830–866)**	**809**	**(792–826)**
4701	Sun Country	†1,166	(1,075–1,256)	1,129	(1,039–1,219)
4702	Five Hills	†890	(812–967)	739	(668–811)
4704	Regina	†881	(844–917)	771	(737–805)
4705	Sunrise	†814	(738–890)	829	(753–905)
4706	Saskatoon	†642	(613–671)	606	(579–633)
4709	Prince Albert	†991	(919–1,063)	982	(910–1,053)
4710	Prairie North	†927	(854–1,001)	1,006	(928–1,084)
Alberta		**†774**	**(765–784)**	**732**	**(723–741)**
4821	Chinook	†788	(745–831)	830	(787–874)
4822	Palliser	†1,115	(1,050–1,180)	940	(882–997)
4823	Calgary	†616	(601–631)	588	(575–602)
4824	David Thompson	†1,132	(1,094–1,171)	1,036	(1,001–1,071)
4825	East Central	†951	(895–1,007)	830	(780–881)
4826	Capital	†634	(619–650)	635	(620–649)
4827	Aspen	†1,196	(1,144–1,248)	1,005	(959–1,052)
4828	Peace Country	†1,333	(1,268–1,398)	1,144	(1,088–1,201)
4829	Northern Lights	†801	(715–886)	813	(729–898)
British Columbia		**†634**	**(626–641)**	**582**	**(575–589)**
5911	East Kootenay	†988	(919–1,058)	914	(847–981)
5912	Kootenay Boundary	†926	(856–995)	829	(764–895)
5913	Okanagan	†723	(694–752)	670	(643–697)
5914	Thompson/Cariboo/Shuswap	†811	(773–850)	750	(714–787)
5921	Fraser East	†641	(611–672)	581	(553–609)
5922	Fraser North	564	(544–583)	509	(491–527)
5923	Fraser South	†543	(525–561)	536	(519–553)
5931	Richmond	†343	(316–370)	337	(312–363)
5932	Vancouver	†476	(459–493)	413	(397–428)
5933	North Shore	†601	(572–630)	586	(558–615)
5941	South Vancouver Island	†642	(616–668)	570	(546–594)
5942	Central Vancouver Island	†650	(618–681)	612	(581–642)
5943	North Vancouver Island	†809	(755–863)	702	(655–750)
5951	Northwest	†1,228	(1,148–1,309)	1,330	(1,244–1,415)
5952	Northern Interior	†915	(864–966)	866	(817–916)
5953	Northeast	†992	(910–1,073)	751	(682–820)
Yukon		**†1,169**	**(1,030–1,308)**	**1,358**	**(1,213–1,503)**
Northwest Territories		**†1,402**	**(1,264–1,540)**	**1,448**	**(1,318–1,578)**
Nunavut		**†1,062**	**(874–1,249)**	**1,216**	**(1,046–1,386)**
Canada		**562**	**(560–565)**	**..**	**.. ..**
Canada without Quebec data		**579**	**(576–582)**	**541**	**(538–543)**

Injury hospitalization

Age-standardized rate of acute care hospitalization due to injury resulting from the transfer of energy (excludes poisoning and other non-traumatic injuries) per 100,000 population. This indicator contributes to an understanding of the adequacy and effectiveness of injury prevention efforts, including public education, product development and use, community and road design, and prevention and treatment resources.

Note: Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Source: National Trauma Registry, Canadian Institute for Health Information.

Self-Reported Conditions

	Perceived Health (Age 12+) (Excellent or Very Good)				Arthritis or Rheumatism (Age 12+)			
	2003		2007		2003		2007	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
N.L.	66.1	(64.0–68.3)	62.2	(59.5–64.9)	20.5	(19.1–21.9)	20.2	(18.2–22.2)
P.E.I.	64.9	(62.3–67.4)	59.2	(55.6–62.9)	20.2	(18.1–22.3)	17.9	(15.9–19.9)
N.S.	58.1	(55.9–60.4)	57.1	(54.5–59.7)	24.1	(22.7–25.5)	23.0	(21.2–24.8)
N.B.	50.3	(48.4–52.2)	54.7	(52.5–56.9)	20.8	(19.5–22.1)	18.9	(17.3–20.5)
Que.	56.9	(55.9–57.8)	59.2	(58.0–60.5)	13.9	(13.3–14.5)	11.2	(10.5–11.8)
Ont.	57.2	(56.5–58.0)	60.0	(59.0–60.9)	17.5	(17.1–18.0)	16.2	(15.7–16.8)
Man.	60.8	(59.0–62.5)	59.8	(57.4–62.2)	18.3	(17.1–19.5)	15.7	(14.1–17.3)
Sask.	59.2	(57.5–60.8)	56.2	(54.0–58.4)	18.9	(17.8–20.0)	16.9	(15.5–18.2)
Alta.	63.9	(62.7–65.2)	62.5	(60.7–64.3)	16.3	(15.5–17.1)	14.2	(13.1–15.3)
B.C.	60.0	(59.0–61.1)	58.6	(57.2–60.1)	16.2	(15.6–16.9)	15.0	(14.0–15.9)
Y.T.	55.1	(50.1–60.1)	56.5	(51.2–61.7)	16.1	(13.6–18.6)	13.6	(9.8–17.4)
N.W.T.	56.1	(51.6–60.6)	52.1	(46.8–57.4)	12.1	(10.1–14.2)	9.3	(6.8–11.9)
Nun.	57.0	(53.1–60.9)	57.4	(52.3–62.6)	6.3	(4.3–8.3)	7.1	(5.3–8.8)
Canada	**58.4**	**(58.0–58.8)**	**59.6**	**(59.0–60.2)**	**16.8**	**(16.5–17.0)**	**15.0**	**(14.6–15.3)**

	Asthma (Age 12+)				High Blood Pressure (Age 12+)			
	2003		2007		2003		2007	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
N.L.	9.0	(7.8–10.2)	5.2	(4.0–6.4)	16.8	(15.5–18.1)	21.2	(19.1–23.3)
P.E.I.	9.1	(7.3–10.9)	8.9	(7.0–10.7)	15.2	(13.5–16.9)	17.3	(15.1–19.5)
N.S.	9.3	(8.1–10.4)	10.8	(9.2–12.4)	18.1	(16.7–19.5)	19.0	(17.4–20.6)
N.B.	8.8	(7.8–9.8)	8.7	(7.3–10.0)	16.2	(15.0–17.4)	19.4	(17.8–21.0)
Que.	8.6	(8.0–9.1)	8.1	(7.5–8.8)	14.5	(13.8–15.1)	15.8	(15.0–16.7)
Ont.	8.3	(7.9–8.7)	8.1	(7.6–8.6)	14.7	(14.3–15.2)	16.4	(15.8–17.0)
Man.	8.9	(7.6–10.2)	7.2	(6.0–8.5)	14.3	(13.2–15.5)	16.1	(14.3–18.0)
Sask.	8.1	(7.2–8.9)	8.4	(7.3–9.5)	15.0	(14.1–16.0)	17.2	(15.7–18.7)
Alta.	9.1	(8.4–9.8)	8.9	(7.8–10.1)	12.2	(11.5–12.9)	14.0	(12.9–15.2)
B.C.	7.3	(6.8–7.8)	6.7	(6.0–7.5)	13.3	(12.7–13.9)	14.0	(13.1–14.9)
Y.T.	9.1	(6.7–11.5)	8.6	(6.0–11.1)	10.4	(7.1–13.6)	15.2	(11.9–18.5)
N.W.T.	7.9	(5.6–10.1)	5.4▼	(3.1▼–7.7▼)	10.9	(9.0–12.7)	11.1	(7.5–14.7)
Nun.	4.0▼	(2.3▼–5.8▼)	4.0▼	(1.5▼–6.5▼)	6.6▼	(3.1▼–10.0▼)	6.1▼	(4.0▼–8.3▼)
Canada	**8.4**	**(8.2–8.6)**	**8.0**	**(7.7–8.3)**	**14.4**	**(14.1–14.6)**	**15.9**	**(15.6–16.3)**

	Body Mass Index (Age 18+) (30 and Greater)				Diabetes (Age 12+)			
	2003		2007		2003		2007	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
N.L.	20.1	(18.2–21.9)	22.0	(19.6–24.4)	6.4	(5.5–7.4)	8.8	(7.4–10.2)
P.E.I.	20.6	(18.0–23.2)	21.3	(18.1–24.6)	5.1	(4.0–6.2)	5.6	(4.1–7.1)
N.S.	19.8	(18.2–21.4)	20.1	(18.2–22.1)	5.5	(4.8–6.2)	6.8	(5.8–7.8)
N.B.	20.0	(18.4–21.5)	20.0	(18.0–22.1)	5.4	(4.6–6.2)	7.4	(6.2–8.5)
Que.	13.8	(13.0–14.6)	15.3	(14.3–16.3)	4.6	(4.2–5.0)	5.9	(5.3–6.4)
Ont.	14.8	(14.3–15.4)	16.1	(15.4–16.8)	4.6	(4.3–4.9)	6.1	(5.6–6.5)
Man.	18.0	(16.4–19.6)	17.8	(16.0–19.6)	5.3	(4.6–6.0)	5.0	(3.9–6.1)
Sask.	19.7	(18.3–21.1)	20.8	(19.0–22.5)	4.7	(4.1–5.3)	5.7	(4.8–6.6)
Alta.	15.5	(14.5–16.5)	18.3	(16.8–19.8)	3.6	(3.2–4.0)	4.5	(3.7–5.2)
B.C.	11.6	(10.9–12.3)	11.5	(10.4–12.5)	4.6	(4.2–5.0)	5.4	(4.8–6.0)
Y.T.	20.6	(16.5–24.7)	25.2	(20.4–29.9)	3.7	(2.7–4.8)	4.6	(3.0–6.2)
N.W.T.	22.0	(18.5–25.5)	21.9	(17.2–26.5)	3.7▼	(2.4▼–5.1▼)	4.2▼	(2.4▼–6.1▼)
Nun.	20.3	(15.9–24.7)	15.6	(11.3–20.0)	*	* *	*	* *
Canada	**14.9**	**(14.6–15.2)**	**16.0**	**(15.6–16.5)**	**4.6**	**(4.4–4.8)**	**5.8**	**(5.5–6.1)**

The data presented here represent a sample of a wider range of the health status indicators that are available in the *Health Indicators* e-publication.

www.cihi.ca/indicators or www.statcan.ca

Perceived health

Proportion of household population age 12 and older who reported perceiving their own health status as being either excellent or very good. A measure of overall health status, this indicator can reflect aspects of health not captured in other measures, such as incipient disease, disease severity, aspects of positive health status, physiological and psychological reserves, and social and mental function.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Arthritis or rheumatism

Proportion of household population age 12 and older who reported being diagnosed by a health professional as having arthritis or rheumatism. Arthritis or rheumatism includes both rheumatoid arthritis and osteoarthritis but excludes fibromyalgia.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Asthma

Proportion of household population age 12 and older who reported being diagnosed by a health professional as having asthma.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

High blood pressure

Proportion of household population age 12 and older who reported being diagnosed by a health professional as having high blood pressure.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Body mass index

Proportion of household population age 18 and older with a body mass index (BMI) of 30 or greater. According to the World Health Organization and Health Canada guidelines, a BMI of 30 or greater is classified as obesity and is associated with high health risk. BMI is calculated from weight and height collected from respondents by dividing body weight (in kilograms) by height (in metres) squared.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Diabetes

Proportion of household population age 12 and older who reported being diagnosed by a health professional as having diabetes.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Map Code	Health Region	Low Income Rate (2005 Income) %	Unemployment Rate 2007 %	Youth Unemployment Rate 2007 %
Newfoundland and Labrador		**14.7**	**13.6**	**20.2**
1011	Eastern, N.L.	14.9	11.7	18.1
1012	Central, N.L.	14.9	17.2	27.4
1013	Western, N.L.	16.3	19.0	25.8
Prince Edward Island		**11.0**	**10.3**	**13.8**
Nova Scotia		**13.8**	**8.0**	**13.0**
1211	South Shore, N.S.	11.5	8.3	16.1
1212	South West Nova, N.S.	12.9	10.6	18.8
1213	Annapolis Valley, N.S.	13.9	8.3	12.2
1214	Colchester East Hants, N.S.	11.1	6.8	11.7
1218	Cape Breton, N.S.	16.7	13.9	21.2
1219	Capital, N.S.	14.1	5.4	9.6
New Brunswick		**13.5**	**7.5**	**11.7**
1301	Zone 1, N.B. (Moncton area)	12.6	6.7	9.6
1302	Zone 2, N.B. (Saint John area)	14.6	5.5	12.9
1303	Zone 3, N.B. (Fredericton area)	12.4	6.0	10.3
1304	Zone 4, N.B. (Edmundston area)	13.5	9.8	*
1306	Zone 6, N.B. (Bathurst area)	15.3	13.4	20.1
Quebec		**17.2**	**7.2**	**12.5**
2401	Bas-Saint-Laurent	12.6	8.9	10.0
2402	Saguenay–Lac-Saint-Jean	12.6	9.1	15.0
2403	Capitale nationale	16.2	4.9	9.9
2404	Mauricie et Centre-du-Québec	15.6	8.0	13.4
2405	Estrie	14.7	7.0	11.1
2406	Montréal	29.0	8.5	13.2
2407	Outaouais	14.4	6.4	14.7
2408	Abitibi-Témiscamingue	12.1	9.2	12.9
2409	Côte-Nord	9.5	9.2	*
2411	Gaspésie–Îles-de-la-Madeleine	11.8	17.2	*
2412	Chaudière-Appalaches	10.0	6.0	10.7
2413	Laval	16.1	5.2	9.8
2414	Lanaudière	12.1	7.0	16.6
2415	Laurentides	11.7	6.9	13.6
2416	Montérégie	12.5	6.1	11.6
Ontario		**14.7**	**6.4**	**13.0**
3501	Erie St. Clair	12.2	8.3	14.2
3502	South West	11.1	5.5	10.8
3503	Waterloo Wellington	9.8	5.4	11.1
3504	Hamilton Niagara Haldimand Brant	13.8	6.2	11.8
3505	Central West	14.6	7.0	14.7
3506	Mississauga Halton	13.3	5.7	11.6
3507	Toronto Central	24.2	6.7	16.8
3508	Central	17.7	6.3	12.3
3509	Central East	16.1	7.8	14.9
3510	South East	11.9	5.3	12.2
3511	Champlain	13.8	5.5	12.5
3512	North Simcoe Muskoka	9.7	5.7	12.9
3513	North East	12.8	6.7	13.8
3514	North West	10.7	7.4	12.8
Manitoba		**16.7**	**4.4**	**9.0**
4610	Winnipeg	19.9	4.7	9.4
4625	South Eastman	8.6	3.8	8.2
4630	Interlake	9.4	4.2	9.2
4640	Central	12.0	3.3	6.7
4645	Assiniboine	12.1	3.1	*

Map Code	Health Region	Low Income Rate (2005 Income) %	Unemployment Rate 2007 %	Youth Unemployment Rate 2007 %
Saskatchewan		**14.4**	**4.2**	**7.8**
4701	Sun Country	10.1	2.4	*
4702	Five Hills	14.7	5.6	12.5
4704	Regina	13.3	4.8	8.9
4705	Sunrise	15.0	4.4	*
4706	Saskatoon	15.7	3.8	7.1
4709	Prince Albert	17.6	5.5	11.7
4710	Prairie North	14.2	4.1	8.6
Alberta		**12.2**	**3.5**	**7.2**
4821	Chinook	11.9	4.2	*
4822	Palliser	10.2	3.9	*
4823	Calgary	12.8	3.1	6.8
4824	David Thompson	9.3	3.1	6.7
4825	East Central	8.6	3.1	*
4826	Capital	14.2	3.8	7.6
4827	Aspen	8.7	4.1	*
4828	Peace Country	8.5	3.8	*
4829	Northern Lights	7.3	*	*
British Columbia		**17.3**	**4.2**	**7.6**
5911	East Kootenay	12.7	5.4	*
5912	Kootenay Boundary	14.1	5.6	*
5913	Okanagan	13.5	4.3	7.4
5914	Thompson/Cariboo/Shuswap	13.0	4.8	9.6
5921	Fraser East	13.9	4.2	7.4
5922	Fraser North	20.3	3.9	6.3
5923	Fraser South	15.8	3.9	8.9
5931	Richmond	26.1	4.6	*
5932	Vancouver	26.8	4.4	7.0
5933	North Shore	14.5	3.2	*
5941	South Vancouver Island	13.1	3.3	5.2
5942	Central Vancouver Island	13.9	5.0	7.5
5943	North Vancouver Island	15.0	5.5	*
5951	Northwest	13.8	8.3	*
5952	Northern Interior	12.8	5.0	*
5953	Northeast	8.8	*	*
Yukon		**0.0**	**..**	**..**
Northwest Territories		**0.0**	**..**	**..**
Nunavut		**0.0**	**..**	**..**
Canada		**15.3**	**6.0**	**11.2**

Low income rate (income for the year prior to the census)

Proportion of population in economic families and persons age 15 and older not in economic families with incomes below the Statistics Canada low income before tax cut-off (LICO-BT). The cut-offs represent levels of income where people spend 20% more than average of their before-tax income on food, shelter and clothing. LICOs are set based on size of the family and area of residence. This indicator is a widely used measure of socio-economic status. Higher income is associated with better health.
Source: 2006 Census (20% Sample), Statistics Canada.

Unemployment rate

Proportion of the labour force age 15 and older who did not have a job during the reference period. The labour force consists of people who are currently employed and people who are unemployed but were available to work in the reference period and had looked for work in the past four weeks. The reference period refers to a one-week period (from Sunday to Saturday) that usually includes the 15th day of the month. The unemployment rate is a traditional measure of the economy. Unemployed people tend to experience more health problems.
Source: Labour Force Survey, Statistics Canada.

Youth unemployment rate

Number of unemployed persons age 15 to 24 expressed as a percentage of the labour force in this age group.
Source: Labour Force Survey, Statistics Canada.

Self-Reported Personal Resources

	Sense of Community Belonging (Age 12+) (Very Strong/Somewhat Strong)				Life Stress (Age 15+) (Quite a Lot)			
	2003		2007		2003		2007	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
N.L.	77.3	(75.4–79.3)	76.0	(73.7–78.4)	14.7	(13.0–16.4)	12.7	(10.8–14.7)
P.E.I.	70.5	(68.1–73.0)	68.5	(65.3–71.8)	14.8	(12.6–17.1)	14.0	(11.7–16.3)
N.S.	68.4	(66.5–70.3)	68.0	(65.8–70.2)	18.7	(17.3–20.2)	18.9	(16.8–20.9)
N.B.	69.2	(67.3–71.0)	63.5	(60.9–66.0)	24.1	(22.4–25.7)	20.0	(18.0–22.0)
Que.	53.3	(52.3–54.3)	56.1	(54.7–57.5)	28.3	(27.3–29.3)	26.4	(25.3–27.6)
Ont.	62.3	(61.6–63.0)	63.0	(62.0–64.1)	24.3	(23.6–24.9)	22.1	(21.3–22.8)
Man.	66.9	(65.1–68.7)	64.9	(62.4–67.4)	20.1	(18.6–21.6)	19.3	(17.0–21.5)
Sask.	69.9	(68.4–71.4)	67.9	(65.8–70.0)	20.2	(18.9–21.5)	18.6	(16.8–20.3)
Alta.	62.2	(60.9–63.6)	60.7	(58.8–62.6)	22.7	(21.5–24.0)	22.0	(20.5–23.5)
B.C.	64.9	(63.8–66.0)	64.8	(63.3–66.2)	21.3	(20.4–22.2)	21.0	(19.7–22.3)
Y.T.	69.4	(65.2–73.5)	70.7	(63.7–77.7)	18.1	(13.3–22.9)	21.4	(16.9–25.9)
N.W.T.	77.1	(73.6–80.6)	75.6	(68.7–82.6)	20.2	(17.1–23.3)	18.2	(14.3–22.1)
Nun.	78.2	(74.4–82.0)	72.4	(63.4–81.4)	17.9	(12.9–22.9)	14.6	(10.1–19.0)
Canada	**61.6**	**(61.1–62.0)**	**62.0**	**(61.4–62.6)**	**24.0**	**(23.6–24.4)**	**22.4**	**(21.9–22.9)**

Self-Reported Health Behaviours

	Current Smoker (Age 12+) (Daily or Occasional)				Heavy Drinking (Age 12+) (5+ Drinks on One Occasion, 12 or More Times a Year)			
	2003		2007		2003		2007	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
N.L.	24.0	(22.0–26.1)	25.3	(22.9–27.7)	32.2	(30.1–34.4)	32.3	(29.2–35.3)
P.E.I.	23.6	(21.1–26.1)	21.5	(19.0–24.1)	25.2	(22.2–28.3)	27.7	(24.1–31.3)
N.S.	23.5	(21.9–25.1)	24.4	(22.1–26.6)	26.6	(24.3–28.8)	28.6	(26.0–31.2)
N.B.	25.3	(23.6–27.0)	23.3	(21.4–25.2)	27.7	(25.9–29.6)	27.2	(24.6–29.7)
Que.	25.8	(25.0–26.7)	25.1	(23.9–26.3)	19.2	(18.3–20.0)	20.8	(19.6–22.0)
Ont.	22.1	(21.5–22.7)	20.6	(19.9–21.4)	20.5	(19.9–21.2)	21.1	(20.3–22.0)
Man.	22.6	(21.0–24.2)	22.4	(20.0–24.8)	21.9	(20.0–23.8)	25.0	(22.1–27.8)
Sask.	23.8	(22.3–25.3)	25.9	(23.9–27.9)	22.6	(20.9–24.2)	24.2	(22.2–26.3)
Alta.	22.9	(21.7–24.0)	21.9	(20.3–23.5)	22.4	(21.1–23.6)	23.9	(22.1–25.6)
B.C.	18.7	(17.9–19.5)	17.8	(16.7–18.9)	17.5	(16.5–18.5)	18.5	(17.1–19.8)
Y.T.	27.5	(23.6–31.5)	36.0	(29.8–42.1)	29.8	(26.1–33.4)	34.4	(28.6–40.3)
N.W.T.	36.3	(30.8–41.8)	38.0	(30.1–45.9)	39.9	(35.7–44.1)	38.9	(31.8–46.0)
Nun.	64.8	(59.5–70.1)	58.5	(50.1–66.9)	31.0	(24.1–37.9)	30.8	(22.0–39.5)
Canada	**22.9**	**(22.5–23.3)**	**21.9**	**(21.5–22.4)**	**20.7**	**(20.3–21.1)**	**21.8**	**(21.2–22.3)**

	Fruit and Vegetable Consumption (Age 12+) (5+ per Day)				Leisure-Time Physical Activity (Age 12+) (Active/Moderately Active)			
	2003		2007		2003		2007	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
N.L.	25.0	(23.2–26.7)	27.4	(24.8–29.9)	44.2	(41.9–46.5)	45.7	(42.7–48.8)
P.E.I.	29.3	(26.6–32.0)	37.1	(33.9–40.3)	43.3	(40.5–46.0)	47.3	(43.9–50.7)
N.S.	30.7	(28.8–32.6)	33.0	(30.6–35.5)	47.1	(45.3–49.0)	47.6	(45.1–50.0)
N.B.	31.6	(30.0–33.2)	36.3	(33.9–38.7)	44.3	(42.3–46.3)	42.7	(40.4–45.1)
Que.	42.5	(41.5–43.5)	49.3	(48.0–50.6)	47.0	(46.1–48.0)	45.7	(44.3–47.1)
Ont.	39.8	(39.1–40.6)	39.9	(39.0–40.9)	50.0	(49.3–50.7)	48.8	(47.7–49.8)
Man.	33.7	(31.8–35.5)	34.9	(32.3–37.5)	49.9	(48.2–51.6)	51.8	(49.3–54.3)
Sask.	33.8	(32.4–35.3)	34.4	(32.4–36.4)	49.6	(48.0–51.1)	46.1	(43.9–48.3)
Alta.	36.0	(34.7–37.3)	39.1	(37.3–41.0)	54.0	(52.6–55.4)	53.4	(51.3–55.5)
B.C.	40.1	(39.0–41.1)	40.9	(39.3–42.5)	58.1	(57.0–59.2)	53.7	(52.2–55.2)
Y.T.	42.7	(37.5–47.9)	38.5	(33.5–43.5)	59.6	(54.2–64.9)	55.4	(50.6–60.2)
N.W.T.	32.0	(27.9–36.2)	26.3	(22.1–30.6)	53.0	(49.1–56.8)	49.3	(43.1–55.6)
Nun.	30.1	(25.8–34.4)	22.1	(16.3–27.9)	38.3	(34.4–42.2)	40.5	(35.9–45.0)
Canada	**38.9**	**(38.5–39.4)**	**41.3**	**(40.8–41.9)**	**50.4**	**(49.9–50.8)**	**49.0**	**(48.4–49.6)**

The data presented here represent a sample of a wider range of the non-medical determinants of health that are available in the *Health Indicators* e-publication.

www.cihi.ca/indicators or www.statcan.ca

Sense of community belonging

Proportion of household population age 12 and older reporting their sense of belonging to their local community as very strong or somewhat strong. Research shows a high correlation of sense of community belonging with physical and mental health.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Life stress

Proportion of household population age 15 and older who described their level of life stress as quite a lot.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Current smoker

Proportion of household population age 12 and older who reported being a current smoker on either a daily or occasional basis.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Heavy drinking

Proportion of household population age 12 and older who reported being a current drinker and having five or more drinks on one occasion, 12 or more times a year.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Fruit and vegetable consumption

Proportion of household population age 12 and older who reported consuming fruits and vegetables five or more times per day, on average.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Leisure-time physical activity

Proportion of household population age 12 and older reporting active or moderately active level of physical activity, based on their responses to questions about the frequency, duration and intensity of their participation in leisure-time physical activity over the past three months.
Sources: Canadian Community Health Survey, 2003 and 2007, Statistics Canada.

Map Code	Health Region	Hospitalized Hip Fracture Event 2007–2008 Age-Standardized Rate per 100,000	95% CI	In-Hospital Hip Fracture 2005–2006 to 2007–2008 Risk-Adjusted Rate per 1,000	95% CI
Newfoundland and Labrador		**†601**	**(546–655)**	**0.8**	**(0.5–1.0)**
1011	Eastern, N.L.	†608	(534–681)	0.7	(0.4–1.1)
1012	Central, N.L.	531	(421–642)	*	* *
1013	Western, N.L.	531	(409–654)	*	* *
Prince Edward Island		**†592**	**(495–690)**	**0.8**	**(0.4–1.2)**
Nova Scotia		**517**	**(482–552)**	**0.9**	**(0.7–1.1)**
1211	South Shore, N.S.	527	(403–652)	*	* *
1212	South West Nova, N.S.	512	(390–635)	*	* *
1213	Annapolis Valley, N.S.	557	(442–672)	*	* *
1214	Colchester East Hants, N.S.	521	(396–647)	*	* *
1218	Cape Breton, N.S.	529	(439–620)	1.0	(0.6–1.4)
1219	Capital, N.S.	481	(424–538)	1.0	(0.6–1.3)
New Brunswick		**508**	**(469–547)**	**0.8**	**(0.6–1.0)**
1301	Zone 1, N.B. (Moncton area)	519	(443–595)	0.9	(0.6–1.2)
1302	Zone 2, N.B. (Saint John area)	526	(442–609)	†1.2	(0.9–1.6)
1303	Zone 3, N.B. (Fredericton area)	549	(460–638)	0.9	(0.5–1.3)
1304	Zone 4, N.B. (Edmundston area)	498	(350–647)	*	* *
1306	Zone 6, N.B. (Bathurst area)	†386	(285–486)	*	* *
Quebec		**..**	**.. ..**	**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..	..	.. ..
2403	Capitale nationale	..	.. ..	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..	..	.. ..
2405	Estrie	..	.. ..	..	.. ..
2406	Montréal	..	.. ..	..	.. ..
2407	Outaouais	..	.. ..	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..	..	.. ..
2409	Côte-Nord	..	.. ..	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..	..	.. ..
2412	Chaudière-Appalaches	..	.. ..	..	.. ..
2413	Laval	..	.. ..	..	.. ..
2414	Lanaudière	..	.. ..	..	.. ..
2415	Laurentides	..	.. ..	..	.. ..
2416	Montérégie	..	.. ..	..	.. ..
Ontario		**†476**	**(466–486)**	**†0.6**	**(0.6–0.7)**
3501	Erie St. Clair	†546	(501–590)	0.7	(0.5–1.0)
3502	South West	†543	(507–578)	0.6	(0.5–0.8)
3503	Waterloo Wellington	493	(450–537)	0.7	(0.4–0.9)
3504	Hamilton Niagara Haldimand Brant	465	(438–492)	0.6	(0.5–0.8)
3505	Central West	†358	(318–398)	0.7	(0.4–1.0)
3506	Mississauga Halton	471	(433–508)	†0.5	(0.3–0.7)
3507	Toronto Central	†438	(408–468)	†0.5	(0.4–0.7)
3508	Central	†428	(401–455)	0.6	(0.4–0.8)
3509	Central East	†437	(411–464)	0.7	(0.5–0.8)
3510	South East	531	(484–578)	0.8	(0.6–1.1)
3511	Champlain	489	(457–521)	0.6	(0.5–0.8)
3512	North Simcoe Muskoka	†598	(540–656)	0.6	(0.4–0.9)
3513	North East	493	(449–537)	0.7	(0.5–0.9)
3514	North West	†571	(494–647)	0.6	(0.3–0.9)
Manitoba		**507**	**(476–538)**	**†1.1**	**(0.9–1.2)**
4610	Winnipeg	504	(463–545)	†1.3	(1.1–1.5)
4625	South Eastman	542	(385–699)	*	* *
4630	Interlake	452	(336–567)	*	* *
4640	Central	513	(407–620)	0.6	(0.1–1.0)
4645	Assiniboine	485	(379–592)	0.9	(0.5–1.4)

Map Code	Health Region	Hospitalized Hip Fracture Event 2007–2008 Age-Standardized Rate per 100,000	95% CI	In-Hospital Hip Fracture 2005–2006 to 2007–2008 Risk-Adjusted Rate per 1,000	95% CI
Saskatchewan		**484**	**(452–516)**	**0.7**	**(0.6–0.9)**
4701	Sun Country	481	(358–604)	*	* *
4702	Five Hills	✦648	(502–795)	*	* *
4704	Regina	513	(446–581)	0.6	(0.3–0.9)
4705	Sunrise	✦375	(278–473)	0.6	(0.2–1.1)
4706	Saskatoon	449	(389–509)	0.9	(0.7–1.2)
4709	Prince Albert	521	(399–644)	*	* *
4710	Prairie North	487	(350–623)	*	* *
Alberta		**483**	**(462–504)**	**✦1.0**	**(0.9–1.1)**
4821	Chinook	571	(478–664)	1.2	(0.8–1.6)
4822	Palliser	491	(386–595)	*	* *
4823	Calgary	✦418	(384–452)	1.0	(0.8–1.1)
4824	David Thompson	✦672	(593–751)	✦1.4	(1.1–1.6)
4825	East Central	465	(375–554)	1.2	(0.8–1.6)
4826	Capital	455	(420–491)	0.9	(0.7–1.1)
4827	Aspen	507	(414–600)	1.1	(0.6–1.5)
4828	Peace Country	537	(410–663)	*	* *
4829	Northern Lights	655	(313–997)	*	* *
British Columbia		**479**	**(463–495)**	**0.9**	**(0.8–1.0)**
5911	East Kootenay	480	(365–595)	*	* *
5912	Kootenay Boundary	400	(305–496)	*	* *
5913	Okanagan	499	(451–547)	0.6	(0.4–0.9)
5914	Thompson/Cariboo/Shuswap	525	(451–599)	0.8	(0.4–1.1)
5921	Fraser East	470	(407–533)	1.0	(0.6–1.3)
5922	Fraser North	487	(439–536)	1.1	(0.8–1.3)
5923	Fraser South	529	(483–575)	✦1.1	(0.9–1.4)
5931	Richmond	✦372	(302–442)	*	* *
5932	Vancouver	✦422	(381–464)	0.8	(0.5–1.0)
5933	North Shore	472	(412–533)	0.8	(0.5–1.1)
5941	South Vancouver Island	494	(446–543)	0.9	(0.7–1.2)
5942	Central Vancouver Island	470	(415–525)	1.1	(0.8–1.4)
5943	North Vancouver Island	531	(430–632)	*	* *
5951	Northwest	✦680	(492–867)	*	* *
5952	Northern Interior	534	(417–651)	*	* *
5953	Northeast	532	(336–727)	*	* *
Yukon		**✦926**	**(510–1,343)**	*****	*** ***
Northwest Territories		**637**	**(287–986)**	*****	*** ***
Nunavut		*****	*** ***	*****	*** ***
Canada without Quebec data		**486**	**(479–493)**	**0.8**	

Hospitalized hip fracture event

Age-standardized rate of new hip fractures admitted to an acute care hospital per 100,000 population age 65 and older. New event is defined as a first-ever hospitalization for hip fracture or a subsequent hip fracture occurring more than 28 days after the admission for the previous event in the reference period. Hip fractures represent a significant health burden for seniors and for the health system. As well as causing disability or death, hip fracture may have a major effect on independence and quality of life. This indicator is important for planning and evaluating preventive strategies, allocating health resources and estimating costs.

Note: Rates for Quebec are not available due to the differences in data collection.

Source: Discharge Abstract Database, Canadian Institute for Health Information.

In-hospital hip fracture

The risk-adjusted rate of in-hospital hip fracture among acute care inpatients age 65 and older per 1,000 discharges. Rates are based on three years of pooled data. This indicator represents a potentially preventable complication resulting from an inpatient stay in an acute care facility.

Notes: Rates for Quebec are not available due to the differences in data collection. To reflect the concept of patient safety in hospitals, this indicator is reported by the jurisdiction where hospitalization occurred rather than by the jurisdiction of patient residence.

Source: Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Wait Time for Hip Fracture Surgery, 2007–2008 (Proportion With Surgery Same or Next Day) Risk-Adjusted Rate (%)	95% CI	(Proportion With Surgery Same, Next or the Day After) Risk-Adjusted Rate (%)	95% CI
Newfoundland and Labrador		**62.8**	**(58.3–67.3)**	**85.9**	**(82.5–89.4)**
1011	Eastern, N.L.	˙54.4	(48.5–60.3)	85.0	(80.4–89.5)
1012	Central, N.L.	˙83.9	(73.4–94.3)	90.3	(82.4–98.3)
1013	Western, N.L.	˙79.4	(67.8–91.0)	˙92.8	(83.9–100.0)
Prince Edward Island		**67.1**	**(59.0–75.2)**	**82.1**	**(75.9–88.2)**
Nova Scotia		**62.5**	**(59.2–65.8)**	**˙80.0**	**(77.5–82.6)**
1211	South Shore, N.S.	73.9	(62.5–85.3)	87.0	(78.2–95.8)
1212	South West Nova, N.S.	˙84.1	(72.9–95.3)	91.2	(82.6–99.8)
1213	Annapolis Valley, N.S.	˙80.0	(69.4–90.6)	91.3	(83.1–99.4)
1214	Colchester East Hants, N.S.	˙39.8	(26.9–52.6)	˙69.4	(59.2–79.5)
1218	Cape Breton, N.S.	˙74.6	(66.4–82.9)	89.0	(82.7–95.3)
1219	Capital, N.S.	˙41.3	(35.4–47.2)	˙66.2	(61.7–70.8)
New Brunswick		**˙67.7**	**(63.9–71.5)**	**84.4**	**(81.5–87.3)**
1301	Zone 1, N.B. (Moncton area)	63.6	(56.7–70.6)	84.4	(79.1–89.7)
1302	Zone 2, N.B. (Saint John area)	55.7	(47.8–63.7)	78.7	(72.6–84.8)
1303	Zone 3, N.B. (Fredericton area)	˙77.8	(69.7–85.9)	86.3	(80.1–92.5)
1304	Zone 4, N.B. (Edmundston area)	54.2	(39.3–69.2)	80.7	(69.3–92.1)
1306	Zone 6, N.B. (Bathurst area)	˙79.2	(66.2–92.1)	89.0	(79.2–98.8)
Quebec		**..**	**.. ..**	**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..	..	.. ..
2403	Capitale nationale	..	.. ..	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..	..	.. ..
2405	Estrie	..	.. ..	..	.. ..
2406	Montréal	..	.. ..	..	.. ..
2407	Outaouais	..	.. ..	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..	..	.. ..
2409	Côte-Nord	..	.. ..	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..	..	.. ..
2412	Chaudière-Appalaches	..	.. ..	..	.. ..
2413	Laval	..	.. ..	..	.. ..
2414	Lanaudière	..	.. ..	..	.. ..
2415	Laurentides	..	.. ..	..	.. ..
2416	Montérégie	..	.. ..	..	.. ..
Ontario		**62.9**	**(61.9–63.9)**	**83.1**	**(82.3–83.9)**
3501	Erie St. Clair	59.4	(55.2–63.5)	80.5	(77.3–83.7)
3502	South West	˙49.2	(45.8–52.5)	˙69.2	(66.7–71.8)
3503	Waterloo Wellington	˙82.7	(78.3–87.1)	˙92.6	(89.2–96.0)
3504	Hamilton Niagara Haldimand Brant	˙66.2	(63.3–69.1)	84.7	(82.4–86.9)
3505	Central West	66.9	(61.1–72.8)	82.3	(77.8–86.8)
3506	Mississauga Halton	˙70.6	(66.6–74.7)	86.4	(83.3–89.5)
3507	Toronto Central	˙55.0	(51.6–58.4)	80.9	(78.3–83.5)
3508	Central	˙66.5	(63.3–69.7)	˙86.2	(83.8–88.7)
3509	Central East	˙66.3	(63.2–69.4)	84.2	(81.8–86.5)
3510	South East	65.7	(61.4–70.1)	86.0	(82.6–89.3)
3511	Champlain	˙58.0	(54.7–61.3)	84.4	(81.9–87.0)
3512	North Simcoe Muskoka	˙56.6	(51.6–61.5)	˙74.4	(70.6–78.2)
3513	North East	˙67.6	(63.0–72.1)	˙89.1	(85.6–92.6)
3514	North West	˙50.4	(43.5–57.3)	86.6	(81.2–92.0)
Manitoba		**˙51.8**	**(48.7–54.8)**	**˙74.8**	**(72.4–77.1)**
4610	Winnipeg	˙48.2	(44.2–52.3)	˙73.0	(69.8–76.1)
4625	South Eastman	˙43.4	(28.9–57.9)	72.3	(61.4–83.3)
4630	Interlake	˙46.1	(32.8–59.4)	˙62.1	(51.9–72.4)
4640	Central	57.7	(47.1–68.2)	82.5	(74.4–90.5)
4645	Assiniboine	69.4	(59.3–79.5)	83.1	(75.4–90.9)

Map Code	Health Region	Wait Time for Hip Fracture Surgery, 2007–2008 (Proportion With Surgery Same or Next Day) Risk-Adjusted Rate (%)	95% CI	(Proportion With Surgery Same, Next or the Day After) Risk-Adjusted Rate (%)	95% CI
Saskatchewan		**†48.2**	**(45.1–51.4)**	**†73.8**	**(71.3–76.2)**
4701	Sun Country	64.7	(50.8–78.5)	78.4	(67.9–89.0)
4702	Five Hills	†46.9	(35.8–58.0)	†63.0	(54.4–71.6)
4704	Regina	†70.2	(63.6–76.9)	86.3	(81.2–91.3)
4705	Sunrise	51.1	(38.3–63.9)	†72.4	(62.6–82.1)
4706	Saskatoon	†38.5	(32.3–44.8)	†75.8	(71.1–80.5)
4709	Prince Albert	†37.1	(25.4–48.8)	†66.6	(57.6–75.6)
4710	Prairie North	†25.2	(11.1–39.3)	†57.6	(46.8–68.3)
Alberta		**61.9**	**(59.7–64.1)**	**83.5**	**(81.9–85.2)**
4821	Chinook	†79.3	(71.3–87.4)	†93.6	(87.5–99.8)
4822	Palliser	†83.5	(73.1–93.8)	90.8	(82.9–98.6)
4823	Calgary	†68.4	(64.3–72.5)	†88.6	(85.5–91.8)
4824	David Thompson	†48.2	(42.2–54.1)	†75.7	(71.1–80.2)
4825	East Central	†50.6	(41.1–60.0)	†73.9	(66.6–81.1)
4826	Capital	58.5	(54.6–62.5)	82.1	(79.1–85.2)
4827	Aspen	†48.8	(39.4–58.3)	†74.6	(67.3–81.8)
4828	Peace Country	†75.3	(62.7–88.0)	87.5	(77.7–97.4)
4829	Northern Lights	*	* *	*	* *
British Columbia		**†67.7**	**(66.1–69.4)**	**†89.3**	**(88.1–90.6)**
5911	East Kootenay	74.0	(61.9–86.1)	87.9	(78.6–97.2)
5912	Kootenay Boundary	†83.9	(72.2–95.6)	†92.6	(83.6–100.0)
5913	Okanagan	†70.8	(66.1–75.6)	†89.6	(85.9–93.2)
5914	Thompson/Cariboo/Shuswap	59.5	(52.5–66.5)	84.5	(79.1–90.0)
5921	Fraser East	†73.6	(66.7–80.6)	†93.4	(88.1–98.7)
5922	Fraser North	†55.5	(50.6–60.4)	82.7	(78.9–86.5)
5923	Fraser South	†67.8	(63.3–72.3)	†89.2	(85.7–92.7)
5931	Richmond	†75.7	(66.3–85.0)	†96.2	(89.0–100.0)
5932	Vancouver	58.2	(53.5–62.9)	86.7	(83.2–90.3)
5933	North Shore	61.5	(55.0–68.0)	87.4	(82.4–92.4)
5941	South Vancouver Island	†67.5	(62.9–72.1)	†92.2	(88.7–95.7)
5942	Central Vancouver Island	†87.0	(81.2–92.7)	†97.0	(92.6–100.0)
5943	North Vancouver Island	†88.0	(78.3–97.7)	†96.6	(89.2–100.0)
5951	Northwest	48.7	(34.8–62.6)	75.8	(65.0–86.5)
5952	Northern Interior	†77.0	(66.0–88.0)	90.5	(82.1–98.9)
5953	Northeast	73.1	(55.1–91.0)	82.3	(68.6–96.0)
Yukon		*	* *	**†54.3**	**(35.2–73.4)**
Northwest Territories		*	* *	*	* *
Nunavut		*	* *	*	* *
Canada without Quebec data		**62.5**		**83.3**	

Wait time for hip fracture surgery

Proportion with surgery same or next day: Risk-adjusted proportion of hip fracture patients age 65 and older who underwent hip fracture surgery on the day of admission or the next day.

Proportion with surgery same, next day or day after: Risk-adjusted proportion of hip fracture patients age 65 and older who underwent hip fracture surgery on the day of admission, the next day or the day after that.

While some hip fracture patients need medical treatment to stabilize their condition before surgery, research suggests patients typically benefit from timely surgery in terms of reduced morbidity, mortality, pain, length of stay in hospital, as well as improved rehabilitation. This indicator is intended to provide a comparable measure of access to care across the country and to be used as a tool to identify opportunities for improvement, using a national data source where wait times can be measured only in days. However, this indicator is not designed to directly report on the 48-hour benchmark, for which some jurisdictions and hospitals may have more precise information available than the national database. The hip fracture wait time indicator in this report will be different from those measuring the benchmark and should not be directly compared.

Note: Rates for Quebec are not available due to the differences in data collection.

Source: Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Caesarean Section 2003–2004 %	2003–2004 95% CI	2007–2008 %	2007–2008 95% CI
Newfoundland and Labrador		**27.9**	**(26.6–29.2)**	**30.4**	**(29.0–31.7)**
1011	Eastern, N.L.	28.8	(27.1–30.5)	32.4	(30.6–34.2)
1012	Central, N.L.	29.6	(26.4–32.8)	31.1	(27.8–34.4)
1013	Western, N.L.	24.7	(21.4–28.0)	24.3	(20.8–27.7)
Prince Edward Island		**30.3**	**(27.9–32.7)**	**31.7**	**(29.3–34.1)**
Nova Scotia		**27.6**	**(26.6–28.5)**	**26.8**	**(25.9–27.7)**
1211	South Shore, N.S.	26.3	(22.1–30.4)	28.7	(24.4–33.0)
1212	South West Nova, N.S.	24.5	(20.9–28.2)	25.6	(21.7–29.4)
1213	Annapolis Valley, N.S.	22.2	(19.0–25.4)	26.0	(22.7–29.3)
1214	Colchester East Hants, N.S.	29.8	(26.4–33.1)	26.6	(23.6–29.7)
1218	Cape Breton, N.S.	27.7	(25.0–30.4)	26.3	(23.7–28.8)
1219	Capital, N.S.	28.9	(27.5–30.3)	26.7	(25.4–28.0)
New Brunswick		**28.6**	**(27.6–29.7)**	**28.0**	**(27.0–29.0)**
1301	Zone 1, N.B. (Moncton area)	25.3	(23.3–27.4)	29.6	(27.6–31.6)
1302	Zone 2, N.B. (Saint John area)	25.3	(23.2–27.3)	21.9	(20.0–23.8)
1303	Zone 3, N.B. (Fredericton area)	31.4	(29.2–33.6)	29.9	(27.8–32.0)
1304	Zone 4, N.B. (Edmundston area)	30.5	(26.3–34.8)	30.6	(26.2–35.0)
1306	Zone 6, N.B. (Bathurst area)	32.3	(28.5–36.1)	28.7	(24.9–32.4)
Quebec		**21.5**	**(21.2–21.8)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	24.2	(22.1–26.3)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	20.3	(18.7–22.0)	..	.. ..
2403	Capitale nationale	22.0	(20.9–23.1)	..	.. ..
2404	Mauricie et Centre-du-Québec	19.9	(18.7–21.1)	..	.. ..
2405	Estrie	15.8	(14.5–17.2)	..	.. ..
2406	Montréal	22.7	(22.1–23.3)	..	.. ..
2407	Outaouais	22.4	(21.0–23.8)	..	.. ..
2408	Abitibi-Témiscamingue	20.1	(18.0–22.2)	..	.. ..
2409	Côte-Nord	22.2	(19.5–24.8)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	22.5	(19.3–25.6)	..	.. ..
2412	Chaudière-Appalaches	22.8	(21.4–24.1)	..	.. ..
2413	Laval	21.3	(20.0–22.6)	..	.. ..
2414	Lanaudière	20.7	(19.4–22.1)	..	.. ..
2415	Laurentides	21.1	(20.0–22.2)	..	.. ..
2416	Montérégie	21.4	(20.7–22.2)	..	.. ..
Ontario		**26.0**	**(25.8–26.3)**	**28.1**	**(27.8–28.3)**
3501	Erie St. Clair	24.5	(23.5–25.6)	25.9	(24.8–27.0)
3502	South West	22.0	(21.1–22.8)	23.4	(22.6–24.3)
3503	Waterloo Wellington	25.5	(24.5–26.5)	27.1	(26.2–28.1)
3504	Hamilton Niagara Haldimand Brant	24.7	(24.0–25.5)	29.3	(28.5–30.0)
3505	Central West	27.2	(26.3–28.0)	28.8	(28.0–29.6)
3506	Mississauga Halton	23.7	(23.0–24.5)	26.7	(25.9–27.4)
3507	Toronto Central	27.8	(27.1–28.6)	28.6	(27.8–29.4)
3508	Central	26.6	(26.0–27.3)	28.8	(28.1–29.4)
3509	Central East	28.2	(27.5–28.9)	29.4	(28.7–30.1)
3510	South East	26.6	(25.2–27.9)	27.6	(26.3–29.0)
3511	Champlain	26.5	(25.7–27.3)	28.7	(27.9–29.5)
3512	North Simcoe Muskoka	29.7	(28.4–31.1)	31.7	(30.3–33.1)
3513	North East	27.1	(25.8–28.3)	29.0	(27.8–30.2)
3514	North West	22.4	(20.8–24.0)	25.1	(23.4–26.7)
Manitoba		**19.9**	**(19.2–20.6)**	**20.1**	**(19.4–20.7)**
4610	Winnipeg	19.5	(18.6–20.4)	19.8	(18.9–20.7)
4625	South Eastman	18.8	(16.0–21.7)	18.6	(16.1–21.1)
4630	Interlake	19.1	(16.3–21.9)	17.9	(15.3–20.5)
4640	Central	19.5	(17.4–21.7)	21.9	(19.8–24.0)
4645	Assiniboine	23.7	(20.4–27.0)	22.3	(19.3–25.2)

Map Code	Health Region	Caesarean Section 2003–2004 %	2003–2004 95% CI	2007–2008 %	2007–2008 95% CI
Saskatchewan		**20.0**	**(19.3–20.8)**	**21.7**	**(21.0–22.4)**
4701	Sun Country	17.7	(14.7–20.8)	19.5	(16.4–22.5)
4702	Five Hills	24.9	(21.3–28.4)	27.5	(23.8–31.2)
4704	Regina	18.0	(16.6–19.4)	21.2	(19.8–22.6)
4705	Sunrise	25.5	(21.6–29.4)	27.6	(23.6–31.5)
4706	Saskatoon	19.7	(18.4–21.1)	23.2	(21.8–24.5)
4709	Prince Albert	18.2	(16.0–20.4)	18.2	(16.1–20.3)
4710	Prairie North	19.1	(16.8–21.4)	19.0	(16.9–21.1)
Alberta		**24.4**	**(24.0–24.8)**	**27.9**	**(27.5–28.3)**
4821	Chinook	22.3	(20.5–24.0)	25.6	(23.9–27.4)
4822	Palliser	20.3	(18.1–22.6)	24.2	(22.1–26.4)
4823	Calgary	26.3	(25.6–27.0)	29.3	(28.6–29.9)
4824	David Thompson	23.2	(21.9–24.6)	28.8	(27.4–30.1)
4825	East Central	27.2	(24.6–29.7)	27.7	(25.4–30.1)
4826	Capital	23.8	(23.1–24.6)	27.5	(26.8–28.3)
4827	Aspen	23.6	(21.9–25.3)	28.3	(26.6–30.0)
4828	Peace Country	22.4	(20.6–24.3)	23.9	(22.1–25.6)
4829	Northern Lights	22.3	(20.0–24.6)	28.2	(26.0–30.4)
British Columbia		**28.7**	**(28.3–29.2)**	**31.3**	**(30.9–31.8)**
5911	East Kootenay	30.4	(26.9–33.9)	30.5	(27.3–33.7)
5912	Kootenay Boundary	25.0	(21.3–28.7)	27.7	(24.2–31.2)
5913	Okanagan	27.8	(26.0–29.6)	29.5	(27.9–31.2)
5914	Thompson/Cariboo/Shuswap	32.3	(30.0–34.5)	33.8	(31.7–35.8)
5921	Fraser East	26.5	(24.9–28.1)	27.4	(25.8–28.9)
5922	Fraser North	29.1	(27.9–30.3)	32.7	(31.5–33.9)
5923	Fraser South	29.4	(28.4–30.5)	32.3	(31.2–33.4)
5931	Richmond	30.6	(28.2–33.0)	32.1	(29.8–34.3)
5932	Vancouver	26.7	(25.5–27.8)	31.1	(30.0–32.3)
5933	North Shore	30.3	(28.4–32.2)	32.2	(30.3–34.2)
5941	South Vancouver Island	31.9	(30.2–33.7)	37.5	(35.7–39.2)
5942	Central Vancouver Island	28.8	(26.7–30.8)	29.5	(27.6–31.4)
5943	North Vancouver Island	27.3	(24.5–30.1)	27.7	(25.1–30.3)
5951	Northwest	27.2	(24.3–30.1)	27.7	(24.7–30.6)
5952	Northern Interior	27.3	(25.1–29.4)	28.0	(25.9–30.2)
5953	Northeast	26.2	(23.3–29.1)	30.2	(27.5–33.0)
Yukon		**24.3**	**(19.7–28.9)**	**26.8**	**(22.1–31.5)**
Northwest Territories		**24.2**	**(21.1–27.4)**	**19.7**	**(16.7–22.6)**
Nunavut		**9.5**	**(7.1–11.9)**	**6.7**	**(5.0–8.5)**
Canada		**24.8**	**(24.7–25.0)**	**..**	**.. ..**
Canada without Quebec data		**25.7**	**(25.6–25.9)**	**27.7**	**(27.6–27.9)**

Caesarean section

Proportion of women delivering babies in acute care hospitals by Caesarean section. Caesarean section rates provide information on the frequency of surgical birth delivery relative to all modes of birth delivery. Since unnecessary Caesarean section delivery increases maternal morbidity/mortality and is associated with higher costs, Caesarean section rates are often used to monitor clinical practices with an implicit assumption that lower rates indicate more appropriate, as well as more efficient, care.

Note: Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Ambulatory Care Sensitive Conditions 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Newfoundland and Labrador		***653**	**(631–675)**	**516**	**(496–535)**
1011	Eastern, N.L.	*567	(539–595)	484	(458–509)
1012	Central, N.L.	*721	(670–772)	553	(505–600)
1013	Western, N.L.	*631	(578–684)	503	(455–551)
Prince Edward Island		***701**	**(657–746)**	**485**	**(449–522)**
Nova Scotia		***512**	**(498–527)**	**346**	**(334–358)**
1211	South Shore, N.S.	428	(379–477)	265	(226–304)
1212	South West Nova, N.S.	*605	(545–665)	358	(313–403)
1213	Annapolis Valley, N.S.	*509	(462–556)	300	(265–335)
1214	Colchester East Hants, N.S.	*634	(577–692)	426	(376–475)
1218	Cape Breton, N.S.	*700	(656–743)	425	(389–461)
1219	Capital, N.S.	*372	(352–392)	275	(258–292)
New Brunswick		***733**	**(713–752)**	**576**	**(559–593)**
1301	Zone 1, N.B. (Moncton area)	*558	(524–592)	412	(384–441)
1302	Zone 2, N.B. (Saint John area)	*533	(498–567)	487	(455–520)
1303	Zone 3, N.B. (Fredericton area)	*850	(806–894)	638	(600–675)
1304	Zone 4, N.B. (Edmundston area)	*760	(685–834)	673	(606–741)
1306	Zone 6, N.B. (Bathurst area)	*851	(788–915)	673	(617–730)
Quebec		***430**	**(425–435)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	*460	(431–488)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	*629	(599–659)	..	.. ..
2403	Capitale nationale	*346	(332–360)	..	.. ..
2404	Mauricie et Centre-du-Québec	*464	(445–484)	..	.. ..
2405	Estrie	*464	(440–488)	..	.. ..
2406	Montréal	*333	(324–341)	..	.. ..
2407	Outaouais	420	(397–443)	..	.. ..
2408	Abitibi-Témiscamingue	*770	(725–815)	..	.. ..
2409	Côte-Nord	*762	(706–817)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	*883	(827–940)	..	.. ..
2412	Chaudière-Appalaches	409	(390–429)	..	.. ..
2413	Laval	*360	(341–380)	..	.. ..
2414	Lanaudière	*451	(430–472)	..	.. ..
2415	Laurentides	*531	(510–551)	..	.. ..
2416	Montérégie	426	(415–437)	..	.. ..
Ontario		***375**	**(371–378)**	**293**	**(290–296)**
3501	Erie St. Clair	*458	(441–474)	356	(341–371)
3502	South West	*390	(377–403)	299	(288–310)
3503	Waterloo Wellington	*361	(346–376)	264	(251–276)
3504	Hamilton Niagara Haldimand Brant	*447	(436–458)	342	(332–352)
3505	Central West	*316	(302–330)	285	(272–297)
3506	Mississauga Halton	*289	(278–300)	219	(210–228)
3507	Toronto Central	*257	(248–267)	228	(219–237)
3508	Central	*215	(208–223)	192	(185–199)
3509	Central East	*344	(335–354)	278	(270–287)
3510	South East	*451	(433–470)	328	(312–344)
3511	Champlain	*333	(322–343)	253	(244–262)
3512	North Simcoe Muskoka	*523	(501–544)	370	(353–388)
3513	North East	*655	(634–675)	538	(519–557)
3514	North West	*725	(691–759)	590	(558–621)
Manitoba		***439**	**(426–451)**	**365**	**(354–376)**
4610	Winnipeg	*323	(309–337)	264	(251–276)
4625	South Eastman	*366	(314–418)	232	(192–271)
4630	Interlake	*533	(484–582)	448	(403–493)
4640	Central	*566	(518–614)	436	(394–477)
4645	Assiniboine	*544	(490–597)	549	(494–604)

Map Code	Health Region	Ambulatory Care Sensitive Conditions 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**[*]629**	**(613–644)**	**522**	**(507–536)**
4701	Sun Country	[*]891	(811–972)	657	(587–727)
4702	Five Hills	[*]714	(641–788)	589	(520–658)
4704	Regina	[*]672	(638–706)	580	(549–611)
4705	Sunrise	[*]707	(641–774)	662	(595–730)
4706	Saskatoon	405	(381–429)	330	(309–352)
4709	Prince Albert	[*]663	(605–722)	578	(523–633)
4710	Prairie North	[*]794	(724–864)	647	(584–709)
Alberta		**[*]440**	**(432–448)**	**328**	**(322–335)**
4821	Chinook	[*]597	(557–637)	422	(390–454)
4822	Palliser	[*]613	(563–663)	497	(454–540)
4823	Calgary	[*]324	(313–335)	250	(241–259)
4824	David Thompson	[*]672	(641–703)	450	(426–474)
4825	East Central	[*]671	(624–718)	404	(368–440)
4826	Capital	[*]301	(290–312)	254	(245–264)
4827	Aspen	[*]799	(756–842)	573	(538–608)
4828	Peace Country	[*]885	(829–942)	592	(547–636)
4829	Northern Lights	[*]695	(605–784)	626	(541–711)
British Columbia		**[*]324**	**(318–329)**	**281**	**(276–286)**
5911	East Kootenay	[*]585	(532–639)	449	(402–496)
5912	Kootenay Boundary	449	(401–496)	353	(311–395)
5913	Okanagan	408	(386–431)	354	(333–374)
5914	Thompson/Cariboo/Shuswap	427	(400–454)	350	(326–374)
5921	Fraser East	[*]362	(338–386)	344	(322–366)
5922	Fraser North	[*]271	(257–286)	215	(203–228)
5923	Fraser South	[*]265	(252–279)	272	(259–285)
5931	Richmond	[*]183	(162–204)	166	(147–186)
5932	Vancouver	[*]204	(192–217)	208	(196–221)
5933	North Shore	[*]240	(221–259)	222	(204–240)
5941	South Vancouver Island	[*]250	(232–269)	205	(189–220)
5942	Central Vancouver Island	407	(382–432)	307	(286–329)
5943	North Vancouver Island	[*]514	(472–555)	355	(322–389)
5951	Northwest	[*]590	(533–647)	503	(451–554)
5952	Northern Interior	[*]615	(574–656)	547	(509–586)
5953	Northeast	[*]571	(507–635)	539	(479–598)
Yukon		**[*]595**	**(499–692)**	**476**	**(394–557)**
Northwest Territories		**[*]819**	**(706–933)**	**733**	**(635–830)**
Nunavut		**[*]820**	**(653–986)**	**1,298**	**(1,097–1,498)**
Canada		**418**	**(415–420)**	**..**	**.. ..**
Canada without Quebec data		**413**	**(411–416)**	**326**	**(323–328)**

Ambulatory care sensitive conditions

Age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care prevents or reduces the need for hospitalization, per 100,000 population younger than age 75. Hospitalizations for ambulatory care sensitive conditions are considered to be an indirect measure of access to appropriate primary health care. While not all admissions for these conditions are avoidable, appropriate ambulatory care could potentially prevent the onset of this type of illness or condition, control an acute episodic illness or condition or manage a chronic disease or condition.

Notes: Beginning with 2006–2007 rates, the definition of this indicator was revised. Rates for 2003–2004 and 2007–2008 were calculated using the new definition. Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Acute Myocardial Infarction Readmission 2005–2006 to 2007–2008		Asthma Readmission 2005–2006 to 2007–2008	
		Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI
Newfoundland and Labrador		**†6.2**	**(5.4–6.9)**	**2.5**	**(0.4–4.7)**
1011	Eastern, N.L.	5.3	(4.3–6.4)	*	* *
1012	Central, N.L.	†6.7	(5.2–8.1)	*	* *
1013	Western, N.L.	†7.8	(6.0–9.7)	*	* *
Prince Edward Island		**6.4**	**(4.8–8.1)**	*****	*** ***
Nova Scotia		**†6.0**	**(5.3–6.6)**	**4.5**	**(2.7–6.3)**
1211	South Shore, N.S.	5.9	(3.4–8.4)	*	* *
1212	South West Nova, N.S.	6.5	(4.2–8.8)	*	* *
1213	Annapolis Valley, N.S.	5.9	(3.8–8.0)	*	* *
1214	Colchester East Hants, N.S.	6.6	(4.5–8.6)	*	* *
1218	Cape Breton, N.S.	4.9	(3.4–6.5)	*	* *
1219	Capital, N.S.	5.5	(4.4–6.7)	*	* *
New Brunswick		**†6.2**	**(5.4–6.9)**	**†2.7**	**(1.0–4.4)**
1301	Zone 1, N.B. (Moncton area)	5.1	(3.6–6.6)	*	* *
1302	Zone 2, N.B. (Saint John area)	4.6	(3.0–6.3)	*	* *
1303	Zone 3, N.B. (Fredericton area)	5.6	(4.0–7.2)	*	* *
1304	Zone 4, N.B. (Edmundston area)	†9.4	(6.4–12.3)	*	* *
1306	Zone 6, N.B. (Bathurst area)	†8.2	(6.1–10.4)	*	* *
Quebec		**..**	**.. ..**	**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..	..	.. ..
2403	Capitale nationale	..	.. ..	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..	..	.. ..
2405	Estrie	..	.. ..	..	.. ..
2406	Montréal	..	.. ..	..	.. ..
2407	Outaouais	..	.. ..	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..	..	.. ..
2409	Côte-Nord	..	.. ..	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..	..	.. ..
2412	Chaudière-Appalaches	..	.. ..	..	.. ..
2413	Laval	..	.. ..	..	.. ..
2414	Lanaudière	..	.. ..	..	.. ..
2415	Laurentides	..	.. ..	..	.. ..
2416	Montérégie	..	.. ..	..	.. ..
Ontario		**4.9**	**(4.7–5.1)**	**4.6**	**(4.1–5.1)**
3501	Erie St. Clair	†6.6	(5.8–7.3)	3.4	(1.1–5.8)
3502	South West	5.1	(4.4–5.8)	4.1	(2.0–6.2)
3503	Waterloo Wellington	†4.1	(3.2–5.0)	3.5	(1.5–5.6)
3504	Hamilton Niagara Haldimand Brant	†3.9	(3.3–4.5)	3.3	(1.6–5.0)
3505	Central West	4.3	(3.4–5.2)	5.9	(4.3–7.6)
3506	Mississauga Halton	†3.5	(2.7–4.3)	3.2	(1.3–5.2)
3507	Toronto Central	4.6	(3.7–5.4)	6.1	(4.4–7.8)
3508	Central	4.5	(3.8–5.2)	3.8	(2.1–5.5)
3509	Central East	4.6	(4.0–5.2)	5.0	(3.7–6.3)
3510	South East	5.4	(4.5–6.3)	5.4	(3.2–7.6)
3511	Champlain	4.4	(3.7–5.1)	4.9	(3.1–6.8)
3512	North Simcoe Muskoka	6.0	(4.9–7.0)	6.1	(4.0–8.2)
3513	North East	†7.7	(6.9–8.4)	4.2	(2.4–6.1)
3514	North West	6.2	(5.0–7.4)	*	* *
Manitoba		**5.2**	**(4.5–5.8)**	**†6.6**	**(5.1–8.0)**
4610	Winnipeg	4.4	(3.6–5.3)	5.9	(3.7–8.1)
4625	South Eastman	3.0	(1.4–6.5)	*	* *
4630	Interlake	6.2	(4.0–8.5)	*	* *
4640	Central	5.4	(3.3–7.4)	*	* *
4645	Assiniboine	5.3	(2.8–7.7)	*	* *

Map Code	Health Region	Acute Myocardial Infarction Readmission 2005–2006 to 2007–2008		Asthma Readmission 2005–2006 to 2007–2008	
		Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI
Saskatchewan		**[+]5.9**	**(5.2–6.6)**	**4.0**	**(2.5–5.5)**
4701	Sun Country	*	* *	*	* *
4702	Five Hills	*	* *	*	* *
4704	Regina	[+]3.3	(1.7–4.8)	6.1	(3.6–8.6)
4705	Sunrise	3.5	(0.8–6.2)	*	* *
4706	Saskatoon	6.0	(4.6–7.4)	*	* *
4709	Prince Albert	[+]8.3	(6.2–10.4)	*	* *
4710	Prairie North	[+]9.3	(6.8–11.7)	*	* *
Alberta		**[+]4.0**	**(3.5–4.4)**	**3.8**	**(2.9–4.7)**
4821	Chinook	5.2	(3.4–7.1)	*	* *
4822	Palliser	5.0	(2.8–7.1)	*	* *
4823	Calgary	[+]3.6	(2.8–4.3)	4.3	(2.6–6.1)
4824	David Thompson	5.3	(3.9–6.6)	3.3	(0.7–5.9)
4825	East Central	4.0	(1.9–6.0)	*	* *
4826	Capital	[+]3.2	(2.4–3.9)	3.3	(1.5–5.1)
4827	Aspen	5.3	(3.6–7.1)	*	* *
4828	Peace Country	7.0	(4.9–9.1)	*	* *
4829	Northern Lights	*	* *	*	* *
British Columbia		**5.3**	**(4.9–5.7)**	**5.1**	**(4.3–6.0)**
5911	East Kootenay	6.4	(4.1–8.7)	*	* *
5912	Kootenay Boundary	[+]9.0	(6.6–11.5)	*	* *
5913	Okanagan	5.9	(4.7–7.0)	*	* *
5914	Thompson/Cariboo/Shuswap	6.2	(4.7–7.6)	*	* *
5921	Fraser East	3.6	(1.9–5.3)	*	* *
5922	Fraser North	4.4	(3.1–5.7)	*	* *
5923	Fraser South	5.4	(4.3–6.4)	3.7	(1.4–6.1)
5931	Richmond	3.7	(1.3–6.1)	*	* *
5932	Vancouver	[+]3.7	(2.5–4.9)	5.1	(2.5–7.7)
5933	North Shore	4.8	(3.2–6.4)	*	* *
5941	South Vancouver Island	[+]3.5	(2.0–4.9)	*	* *
5942	Central Vancouver Island	[+]6.6	(5.3–8.0)	*	* *
5943	North Vancouver Island	6.6	(4.4–8.9)	*	* *
5951	Northwest	6.0	(3.3–8.7)	*	* *
5952	Northern Interior	6.8	(4.9–8.8)	*	* *
5953	Northeast	7.0	(3.8–10.1)	*	* *
Yukon		*	* *	*	* *
Northwest Territories		*	* *	*	* *
Nunavut		*	* *	*	* *
Canada without Quebec data		**5.1**		**4.5**	

Acute myocardial infarction readmission

The risk-adjusted rate of unplanned readmission following discharge for acute myocardial infarction (AMI, or heart attack). Rates are based on three years of pooled data.

Note: Rates for Quebec are not available due to the differences in data collection.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Asthma readmission

The risk-adjusted rate of unplanned readmission following discharge for asthma. Rates are based on three years of pooled data.

Note: Rates for Quebec are not available due to the differences in data collection.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	Prostatectomy Readmission 2005–2006 to 2007–2008		Hysterectomy Readmission 2005–2006 to 2007–2008	
		Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI
Newfoundland and Labrador		**2.1**	**(0.9–3.3)**	**1.4**	**(0.9–1.8)**
1011	Eastern, N.L.	*	* *	1.6	(1.0–2.1)
1012	Central, N.L.	*	* *	*	* *
1013	Western, N.L.	*	* *	*	* *
Prince Edward Island		*****	*** ***	*****	*** ***
Nova Scotia		**2.6**	**(1.9–3.3)**	**1.1**	**(0.8–1.4)**
1211	South Shore, N.S.	*	* *	*	* *
1212	South West Nova, N.S.	*	* *	*	* *
1213	Annapolis Valley, N.S.	*	* *	*	* *
1214	Colchester East Hants, N.S.	*	* *	*	* *
1218	Cape Breton, N.S.	*	* *	*	* *
1219	Capital, N.S.	2.5	(1.4–3.6)	1.7	(1.1–2.2)
New Brunswick		**†3.2**	**(2.5–4.0)**	**1.1**	**(0.7–1.4)**
1301	Zone 1, N.B. (Moncton area)	*	* *	0.7	(0.1–1.4)
1302	Zone 2, N.B. (Saint John area)	*	* *	*	* *
1303	Zone 3, N.B. (Fredericton area)	*	* *	*	* *
1304	Zone 4, N.B. (Edmundston area)	*	* *	*	* *
1306	Zone 6, N.B. (Bathurst area)	*	* *	*	* *
Quebec		**..**	**.. ..**	**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..	..	.. ..
2403	Capitale nationale	..	.. ..	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..	..	.. ..
2405	Estrie	..	.. ..	..	.. ..
2406	Montréal	..	.. ..	..	.. ..
2407	Outaouais	..	.. ..	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..	..	.. ..
2409	Côte-Nord	..	.. ..	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..	..	.. ..
2412	Chaudière-Appalaches	..	.. ..	..	.. ..
2413	Laval	..	.. ..	..	.. ..
2414	Lanaudière	..	.. ..	..	.. ..
2415	Laurentides	..	.. ..	..	.. ..
2416	Montérégie	..	.. ..	..	.. ..
Ontario		**2.6**	**(2.4–2.8)**	**1.1**	**(0.9–1.2)**
3501	Erie St. Clair	2.0	(1.1–2.8)	0.7	(0.3–1.1)
3502	South West	2.4	(1.5–3.3)	†1.6	(1.3–1.9)
3503	Waterloo Wellington	2.0	(1.0–3.1)	1.3	(0.9–1.7)
3504	Hamilton Niagara Haldimand Brant	2.3	(1.7–3.0)	1.1	(0.8–1.4)
3505	Central West	†4.2	(3.1–5.3)	0.7	(0.2–1.2)
3506	Mississauga Halton	3.0	(2.1–3.9)	1.1	(0.6–1.5)
3507	Toronto Central	†3.7	(2.8–4.5)	0.9	(0.3–1.4)
3508	Central	2.5	(1.8–3.1)	0.8	(0.4–1.2)
3509	Central East	2.3	(1.7–2.9)	†0.7	(0.4–1.0)
3510	South East	3.5	(2.4–4.7)	1.1	(0.5–1.6)
3511	Champlain	1.8	(1.0–2.6)	1.5	(1.1–1.8)
3512	North Simcoe Muskoka	1.9	(0.8–2.9)	1.1	(0.6–1.7)
3513	North East	2.1	(1.1–3.1)	0.7	(0.3–1.1)
3514	North West	†4.9	(3.7–6.0)	1.5	(0.8–2.2)
Manitoba		**†1.4**	**(0.5–2.3)**	**†1.9**	**(1.6–2.3)**
4610	Winnipeg	1.2	(0.1–2.4)	†2.3	(1.8–2.8)
4625	South Eastman	*	* *	*	* *
4630	Interlake	*	* *	*	* *
4640	Central	*	* *	*	* *
4645	Assiniboine	*	* *	*	* *

Map Code	Health Region	Prostatectomy Readmission 2005–2006 to 2007–2008		Hysterectomy Readmission 2005–2006 to 2007–2008	
		Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI
Saskatchewan		**2.2**	**(1.3–3.1)**	**‡1.9**	**(1.6–2.3)**
4701	Sun Country	*	* *	*	* *
4702	Five Hills	*	* *	*	* *
4704	Regina	*	* *	1.5	(0.8–2.3)
4705	Sunrise	*	* *	*	* *
4706	Saskatoon	*	* *	‡2.0	(1.3–2.6)
4709	Prince Albert	*	* *	*	* *
4710	Prairie North	*	* *	*	* *
Alberta		**2.0**	**(1.5–2.5)**	**1.2**	**(1.0–1.4)**
4821	Chinook	*	* *	*	* *
4822	Palliser	*	* *	*	* *
4823	Calgary	2.3	(1.5–3.1)	1.4	(1.1–1.8)
4824	David Thompson	1.4	(0.6–3.1)	1.2	(0.6–1.8)
4825	East Central	*	* *	*	* *
4826	Capital	1.6	(0.6–2.6)	0.8	(0.4–1.2)
4827	Aspen	*	* *	*	* *
4828	Peace Country	*	* *	*	* *
4829	Northern Lights	*	* *	*	* *
British Columbia		**2.1**	**(1.8–2.4)**	**1.0**	**(0.8–1.2)**
5911	East Kootenay	*	* *	*	* *
5912	Kootenay Boundary	*	* *	*	* *
5913	Okanagan	2.4	(1.3–3.5)	0.9	(0.3–1.5)
5914	Thompson/Cariboo/Shuswap	*	* *	0.8	(0.2–1.4)
5921	Fraser East	1.2	(0.0–2.4)	0.9	(0.3–1.5)
5922	Fraser North	2.0	(1.3–2.8)	0.8	(0.3–1.4)
5923	Fraser South	3.0	(2.1–3.9)	0.8	(0.3–1.4)
5931	Richmond	*	* *	*	* *
5932	Vancouver	2.7	(1.9–3.5)	1.7	(1.0–2.4)
5933	North Shore	*	* *	*	* *
5941	South Vancouver Island	1.7	(0.6–2.8)	1.3	(0.7–2.0)
5942	Central Vancouver Island	2.0	(0.9–3.1)	0.5	(0.2–1.1)
5943	North Vancouver Island	*	* *	*	* *
5951	Northwest	*	* *	*	* *
5952	Northern Interior	*	* *	*	* *
5953	Northeast	*	* *	*	* *
Yukon		*****	*** ***	*****	*** ***
Northwest Territories		*****	*** ***	*****	*** ***
Nunavut		*****	*** ***	*****	*** ***
Canada without Quebec data		**2.4**		**1.1**	

Prostatectomy readmission

The risk-adjusted rate of unplanned readmission following discharge for prostatectomy. Rates are based on three years of pooled data.
Note: Rates for Quebec are not available due to the differences in data collection.
Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Hysterectomy readmission

The risk-adjusted rate of unplanned readmission following discharge for hysterectomy. Rates are based on three years of pooled data.
Note: Rates for Quebec are not available due to the differences in data collection.
Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	30-Day Acute Myocardial Infarction In-Hospital Mortality 2005–2006 to 2007–2008		30-Day Stroke In-Hospital Mortality 2005–2006 to 2007–2008	
		Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI
Newfoundland and Labrador		***10.9**	**(9.9–11.9)**	***23.2**	**(21.4–25.1)**
1011	Eastern, N.L.	10.5	(9.1–11.9)	*23.1	(20.6–25.6)
1012	Central, N.L.	10.1	(8.2–11.9)	*26.3	(22.5–30.1)
1013	Western, N.L.	*12.8	(10.4–15.3)	20.5	(15.8–25.2)
Prince Edward Island		**11.3**	**(9.3–13.2)**	***13.5**	**(10.0–17.1)**
Nova Scotia		***10.6**	**(9.8–11.4)**	***23.4**	**(22.0–24.9)**
1211	South Shore, N.S.	9.1	(6.1–12.2)	*23.8	(19.1–28.4)
1212	South West Nova, N.S.	10.2	(7.3–13.1)	22.6	(17.8–27.5)
1213	Annapolis Valley, N.S.	7.0	(4.1–9.8)	*30.2	(25.3–35.0)
1214	Colchester East Hants, N.S.	9.3	(6.9–11.8)	*26.8	(22.2–31.5)
1218	Cape Breton, N.S.	*12.7	(10.8–14.6)	20.1	(16.6–23.7)
1219	Capital, N.S.	9.8	(8.4–11.3)	*23.6	(21.0–26.1)
New Brunswick		***10.4**	**(9.5–11.2)**	***15.9**	**(14.5–17.4)**
1301	Zone 1, N.B. (Moncton area)	9.1	(7.3–10.9)	16.9	(14.0–19.8)
1302	Zone 2, N.B. (Saint John area)	10.9	(9.1–12.7)	15.0	(12.0–18.1)
1303	Zone 3, N.B. (Fredericton area)	9.5	(7.6–11.4)	19.9	(16.7–23.0)
1304	Zone 4, N.B. (Edmundston area)	*13.3	(9.8–16.7)	13.7	(8.2–19.3)
1306	Zone 6, N.B. (Bathurst area)	11.6	(9.0–14.2)	*12.6	(8.3–16.9)
Quebec		**..**	**.. ..**	**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..	..	.. ..
2403	Capitale nationale	..	.. ..	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..	..	.. ..
2405	Estrie	..	.. ..	..	.. ..
2406	Montréal	..	.. ..	..	.. ..
2407	Outaouais	..	.. ..	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..	..	.. ..
2409	Côte-Nord	..	.. ..	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..	..	.. ..
2412	Chaudière-Appalaches	..	.. ..	..	.. ..
2413	Laval	..	.. ..	..	.. ..
2414	Lanaudière	..	.. ..	..	.. ..
2415	Laurentides	..	.. ..	..	.. ..
2416	Montérégie	..	.. ..	..	.. ..
Ontario		**9.4**	**(9.2–9.6)**	**17.9**	**(17.5–18.3)**
3501	Erie St. Clair	9.5	(8.6–10.4)	17.7	(16.2–19.2)
3502	South West	9.8	(9.0–10.6)	19.4	(18.0–20.7)
3503	Waterloo Wellington	8.7	(7.6–9.7)	*20.3	(18.6–22.0)
3504	Hamilton Niagara Haldimand Brant	9.4	(8.8–10.0)	18.3	(17.3–19.4)
3505	Central West	*8.3	(7.2–9.3)	*13.3	(11.6–15.1)
3506	Mississauga Halton	8.9	(7.9–9.8)	18.4	(16.9–19.9)
3507	Toronto Central	9.7	(8.9–10.6)	17.4	(16.2–18.7)
3508	Central	*10.7	(10.0–11.5)	17.3	(16.2–18.4)
3509	Central East	9.7	(9.0–10.3)	17.6	(16.5–18.7)
3510	South East	10.2	(9.1–11.2)	*21.3	(19.5–23.1)
3511	Champlain	*7.9	(7.2–8.7)	16.9	(15.7–18.2)
3512	North Simcoe Muskoka	9.5	(8.3–10.7)	18.3	(16.4–20.3)
3513	North East	10.2	(9.3–11.1)	18.6	(17.0–20.3)
3514	North West	*7.8	(6.5–9.1)	*14.1	(11.7–16.5)
Manitoba		***8.6**	**(7.9–9.3)**	**18.2**	**(17.0–19.4)**
4610	Winnipeg	*7.5	(6.7–8.4)	17.8	(16.2–19.3)
4625	South Eastman	11.4	(7.5–15.4)	20.2	(13.2–27.2)
4630	Interlake	9.1	(6.1–12.0)	21.3	(16.7–25.8)
4640	Central	10.3	(7.8–12.8)	18.8	(14.6–23.0)
4645	Assiniboine	9.2	(6.4–12.1)	22.1	(16.9–27.3)

Map Code	Health Region	30-Day Acute Myocardial Infarction In-Hospital Mortality 2005–2006 to 2007–2008		30-Day Stroke In-Hospital Mortality 2005–2006 to 2007–2008	
		Risk-Adjusted Rate (%)	95% CI	Risk-Adjusted Rate (%)	95% CI
Saskatchewan		**9.5**	**(8.7–10.3)**	**†16.4**	**(15.1–17.7)**
4701	Sun Country	10.9	(7.0–14.7)	12.9	(6.4–19.3)
4702	Five Hills	9.7	(6.6–12.8)	16.9	(11.9–21.9)
4704	Regina	9.2	(7.7–10.8)	†14.2	(11.5–16.9)
4705	Sunrise	†14.7	(11.9–17.6)	16.6	(11.7–21.5)
4706	Saskatoon	8.3	(6.7–9.9)	17.1	(14.7–19.5)
4709	Prince Albert	9.7	(6.9–12.5)	19.0	(14.3–23.8)
4710	Prairie North	7.4	(4.5–10.3)	18.7	(13.7–23.8)
Alberta		**†7.8**	**(7.2–8.3)**	**†16.7**	**(15.9–17.6)**
4821	Chinook	7.4	(5.2–9.6)	17.4	(13.9–21.0)
4822	Palliser	7.4	(5.0–9.7)	17.7	(13.3–22.2)
4823	Calgary	†7.3	(6.3–8.2)	†14.9	(13.4–16.5)
4824	David Thompson	9.7	(8.1–11.2)	20.5	(18.0–23.1)
4825	East Central	8.3	(5.8–10.7)	†23.5	(19.3–27.6)
4826	Capital	†7.0	(6.0–7.9)	†15.0	(13.5–16.4)
4827	Aspen	10.9	(8.5–13.2)	18.9	(15.0–22.7)
4828	Peace Country	8.9	(6.4–11.5)	21.2	(16.9–25.5)
4829	Northern Lights	9.6	(2.4–16.8)	23.9	(14.2–33.6)
British Columbia		**†10.0**	**(9.5–10.4)**	**18.1**	**(17.4–18.7)**
5911	East Kootenay	10.1	(7.3–12.8)	19.6	(14.8–24.3)
5912	Kootenay Boundary	10.7	(7.8–13.6)	†23.4	(19.1–27.7)
5913	Okanagan	10.7	(9.4–12.0)	17.8	(15.8–19.7)
5914	Thompson/Cariboo/Shuswap	†11.3	(9.5–13.1)	18.2	(15.4–21.1)
5921	Fraser East	11.1	(9.2–13.0)	19.0	(16.4–21.7)
5922	Fraser North	†11.8	(10.3–13.2)	†16.0	(14.1–17.9)
5923	Fraser South	9.6	(8.5–10.8)	16.4	(14.6–18.1)
5931	Richmond	11.4	(8.8–13.9)	†21.5	(18.2–24.7)
5932	Vancouver	8.3	(7.1–9.6)	17.8	(16.0–19.6)
5933	North Shore	10.5	(8.8–12.2)	17.7	(15.3–20.1)
5941	South Vancouver Island	9.4	(7.8–10.9)	19.2	(17.1–21.4)
5942	Central Vancouver Island	8.3	(6.7–9.9)	18.6	(16.2–21.0)
5943	North Vancouver Island	6.5	(3.5–9.4)	20.4	(16.5–24.4)
5951	Northwest	8.2	(4.5–12.0)	18.5	(12.8–24.2)
5952	Northern Interior	9.4	(6.7–12.2)	18.0	(14.1–21.9)
5953	Northeast	†14.6	(10.1–19.2)	21.9	(15.3–28.4)
Yukon		*	* *	**20.4**	**(11.5–29.4)**
Northwest Territories		*	* *	**15.4**	**(5.5–25.2)**
Nunavut		*	* *	*	* *
Canada without Quebec data		**9.4**		**18.0**	

30-day acute myocardial infarction in-hospital mortality

The risk-adjusted rate of all-cause in-hospital death occurring within 30 days of first admission to an acute care hospital with a diagnosis of acute myocardial infarction (AMI, or heart attack). Rates are based on three years of pooled data.
Note: Rates for Quebec are not available due to the differences in data collection.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

30-day stroke in-hospital mortality

The risk-adjusted rate of all-cause in-hospital death occurring within 30 days of first admission to an acute care hospital with a diagnosis of stroke. Rates are based on three years of pooled data.
Note: Rates for Quebec are not available due to the differences in data collection.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Hip Replacement 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Newfoundland and Labrador		***77**	**(69–85)**	**81**	**(73–90)**
1011	Eastern, N.L.	89	(77–101)	86	(75–98)
1012	Central, N.L.	*57	(42–72)	71	(53–89)
1013	Western, N.L.	75	(55–94)	86	(66–106)
Prince Edward Island		***116**	**(96–136)**	**118**	**(99–136)**
Nova Scotia		***99**	**(92–106)**	**93**	**(87–99)**
1211	South Shore, N.S.	104	(79–130)	103	(79–127)
1212	South West Nova, N.S.	113	(86–139)	52	(35–70)
1213	Annapolis Valley, N.S.	*124	(99–149)	89	(68–111)
1214	Colchester East Hants, N.S.	95	(71–118)	98	(75–121)
1218	Cape Breton, N.S.	105	(87–123)	95	(78–112)
1219	Capital, N.S.	82	(72–93)	95	(84–105)
New Brunswick		***80**	**(73–87)**	**89**	**(82–96)**
1301	Zone 1, N.B. (Moncton area)	77	(64–91)	83	(70–96)
1302	Zone 2, N.B. (Saint John area)	92	(76–108)	111	(95–128)
1303	Zone 3, N.B. (Fredericton area)	87	(72–103)	98	(82–114)
1304	Zone 4, N.B. (Edmundston area)	*64	(40–87)	48	(29–66)
1306	Zone 6, N.B. (Bathurst area)	*40	(26–55)	75	(57–94)
Quebec		***63**	**(61–65)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	*75	(63–87)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	*51	(42–60)	..	.. ..
2403	Capitale nationale	*63	(57–69)	..	.. ..
2404	Mauricie et Centre-du-Québec	*61	(54–68)	..	.. ..
2405	Estrie	*59	(50–68)	..	.. ..
2406	Montréal	*63	(60–67)	..	.. ..
2407	Outaouais	*63	(53–73)	..	.. ..
2408	Abitibi-Témiscamingue	*67	(53–82)	..	.. ..
2409	Côte-Nord	*60	(42–78)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	*58	(43–73)	..	.. ..
2412	Chaudière-Appalaches	*79	(69–88)	..	.. ..
2413	Laval	*66	(56–75)	..	.. ..
2414	Lanaudière	*63	(54–71)	..	.. ..
2415	Laurentides	*66	(58–75)	..	.. ..
2416	Montérégie	*61	(57–66)	..	.. ..
Ontario		***96**	**(94–98)**	**111**	**(109–113)**
3501	Erie St. Clair	*99	(91–108)	123	(113–132)
3502	South West	*116	(109–124)	138	(130–146)
3503	Waterloo Wellington	*103	(94–112)	124	(115–134)
3504	Hamilton Niagara Haldimand Brant	*111	(105–117)	126	(120–132)
3505	Central West	*64	(57–71)	76	(69–83)
3506	Mississauga Halton	*101	(94–109)	97	(90–104)
3507	Toronto Central	*78	(72–83)	94	(88–100)
3508	Central	85	(79–90)	91	(86–96)
3509	Central East	*95	(89–100)	107	(102–113)
3510	South East	*112	(102–122)	125	(115–135)
3511	Champlain	89	(83–95)	113	(107–120)
3512	North Simcoe Muskoka	*100	(89–110)	126	(115–137)
3513	North East	94	(86–102)	117	(108–126)
3514	North West	*115	(100–130)	128	(112–143)
Manitoba		***97**	**(90–103)**	**120**	**(113–127)**
4610	Winnipeg	92	(84–100)	113	(104–121)
4625	South Eastman	71	(45–98)	155	(118–191)
4630	Interlake	80	(59–101)	121	(96–145)
4640	Central	*124	(100–149)	117	(93–140)
4645	Assiniboine	93	(71–115)	153	(125–181)

Map Code	Health Region	Hip Replacement 2003–2004 Age-Standardized Rate per 100,000	2003–2004 95% CI	2007–2008 Age-Standardized Rate per 100,000	2007–2008 95% CI
Saskatchewan		**†104**	**(97–111)**	**114**	**(107–121)**
4701	Sun Country	95	(68–122)	110	(79–141)
4702	Five Hills	†131	(99–162)	121	(90–152)
4704	Regina	80	(68–92)	101	(88–115)
4705	Sunrise	89	(66–111)	112	(86–138)
4706	Saskatoon	†123	(109–138)	125	(111–140)
4709	Prince Albert	109	(82–135)	139	(111–167)
4710	Prairie North	97	(70–123)	113	(84–142)
Alberta		**†110**	**(105–114)**	**110**	**(106–114)**
4821	Chinook	104	(86–123)	148	(127–169)
4822	Palliser	101	(80–123)	130	(106–154)
4823	Calgary	†108	(100–115)	109	(102–116)
4824	David Thompson	†132	(117–148)	130	(115–144)
4825	East Central	101	(81–120)	114	(94–134)
4826	Capital	†111	(103–118)	95	(88–102)
4827	Aspen	98	(80–115)	110	(93–128)
4828	Peace Country	†137	(111–164)	126	(101–150)
4829	Northern Lights	59	(27–92)	76	(41–111)
British Columbia		**†95**	**(91–98)**	**112**	**(108–115)**
5911	East Kootenay	†133	(107–160)	86	(65–106)
5912	Kootenay Boundary	†133	(108–158)	121	(97–144)
5913	Okanagan	†115	(104–126)	148	(136–160)
5914	Thompson/Cariboo/Shuswap	†108	(93–122)	129	(114–144)
5921	Fraser East	101	(87–114)	105	(92–118)
5922	Fraser North	†76	(67–84)	88	(79–97)
5923	Fraser South	89	(81–98)	102	(93–110)
5931	Richmond	†64	(51–77)	61	(49–73)
5932	Vancouver	†56	(50–63)	68	(61–75)
5933	North Shore	†102	(89–115)	142	(128–157)
5941	South Vancouver Island	†109	(98–120)	131	(119–143)
5942	Central Vancouver Island	†117	(103–130)	142	(129–156)
5943	North Vancouver Island	95	(76–115)	151	(129–173)
5951	Northwest	81	(55–106)	146	(115–178)
5952	Northern Interior	†150	(125–175)	119	(98–140)
5953	Northeast	113	(77–148)	151	(113–190)
Yukon		**97**	**(51–143)**	**118**	**(66–169)**
Northwest Territories		**132**	**(73–192)**	**136**	**(80–191)**
Nunavut		*	* *	*	* *
Canada		**89**	**(88–90)**	..	.. ..
Canada without Quebec data		**97**	**(96–98)**	**109**	**(108–111)**

Hip replacement

Age-standardized rate of unilateral or bilateral hip replacement surgery performed on inpatients in acute care hospitals per 100,000 population age 20 and older. Hip replacement surgery has the potential to improve functional status, reduce pain as well as contribute to other gains in health-related quality of life. Wide inter-regional variation in hip replacement rates may be attributable to numerous factors, including the availability of services, provider practice patterns and patient preferences.

Note: Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Knee Replacement 2003–2004 Age-Standardized Rate per 100,000	2003–2004 95% CI	2007–2008 Age-Standardized Rate per 100,000	2007–2008 95% CI
Newfoundland and Labrador		***86**	**(77–95)**	**116**	**(107–126)**
1011	Eastern, N.L.	*78	(66–89)	119	(105–132)
1012	Central, N.L.	103	(83–124)	104	(84–124)
1013	Western, N.L.	*87	(66–108)	120	(97–143)
Prince Edward Island		***137**	**(116–159)**	**149**	**(128–170)**
Nova Scotia		***136**	**(128–144)**	**135**	**(127–143)**
1211	South Shore, N.S.	*172	(140–203)	167	(137–197)
1212	South West Nova, N.S.	*81	(58–103)	88	(65–111)
1213	Annapolis Valley, N.S.	127	(102–152)	125	(101–149)
1214	Colchester East Hants, N.S.	134	(106–162)	177	(146–208)
1218	Cape Breton, N.S.	*167	(145–189)	156	(135–177)
1219	Capital, N.S.	*134	(121–148)	131	(118–143)
New Brunswick		***128**	**(119–137)**	**146**	**(137–155)**
1301	Zone 1, N.B. (Moncton area)	126	(109–143)	166	(147–185)
1302	Zone 2, N.B. (Saint John area)	*171	(150–192)	172	(152–193)
1303	Zone 3, N.B. (Fredericton area)	*150	(130–171)	157	(136–177)
1304	Zone 4, N.B. (Edmundston area)	*44	(25–62)	83	(58–108)
1306	Zone 6, N.B. (Bathurst area)	*65	(46–83)	82	(62–102)
Quebec		***80**	**(78–83)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	*96	(82–110)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	*135	(121–150)	..	.. ..
2403	Capitale nationale	*79	(72–86)	..	.. ..
2404	Mauricie et Centre-du-Québec	*94	(85–102)	..	.. ..
2405	Estrie	*65	(55–74)	..	.. ..
2406	Montréal	*68	(64–72)	..	.. ..
2407	Outaouais	101	(88–114)	..	.. ..
2408	Abitibi-Témiscamingue	*93	(75–110)	..	.. ..
2409	Côte-Nord	*89	(67–111)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	110	(90–131)	..	.. ..
2412	Chaudière-Appalaches	*94	(83–104)	..	.. ..
2413	Laval	*73	(64–82)	..	.. ..
2414	Lanaudière	*73	(64–83)	..	.. ..
2415	Laurentides	*71	(62–79)	..	.. ..
2416	Montérégie	*78	(73–83)	..	.. ..
Ontario		***129**	**(127–131)**	**196**	**(193–198)**
3501	Erie St. Clair	*134	(124–144)	255	(242–268)
3502	South West	*152	(144–161)	241	(230–251)
3503	Waterloo Wellington	*134	(124–144)	190	(179–202)
3504	Hamilton Niagara Haldimand Brant	*144	(137–151)	223	(215–232)
3505	Central West	*127	(116–137)	188	(176–200)
3506	Mississauga Halton	*123	(114–131)	165	(156–174)
3507	Toronto Central	*80	(74–86)	142	(134–149)
3508	Central	110	(104–116)	160	(153–167)
3509	Central East	*131	(124–137)	209	(201–217)
3510	South East	*161	(149–172)	224	(211–237)
3511	Champlain	*125	(118–132)	199	(190–207)
3512	North Simcoe Muskoka	*148	(135–160)	179	(166–192)
3513	North East	*136	(127–146)	201	(189–212)
3514	North West	*164	(146–181)	204	(185–224)
Manitoba		***134**	**(126–141)**	**195**	**(187–204)**
4610	Winnipeg	*128	(119–138)	197	(185–209)
4625	South Eastman	141	(104–179)	149	(113–186)
4630	Interlake	132	(105–159)	202	(170–233)
4640	Central	117	(93–140)	171	(143–199)
4645	Assiniboine	*150	(122–179)	185	(153–216)

Map Code	Health Region	Knee Replacement 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**†150**	**(141–158)**	**176**	**(167–185)**
4701	Sun Country	142	(109–175)	169	(134–204)
4702	Five Hills	120	(91–150)	202	(162–242)
4704	Regina	129	(113–145)	141	(125–158)
4705	Sunrise	†167	(135–199)	202	(166–237)
4706	Saskatoon	†174	(156–191)	193	(175–211)
4709	Prince Albert	†155	(124–185)	197	(164–231)
4710	Prairie North	131	(100–163)	164	(128–199)
Alberta		**†131**	**(126–136)**	**174**	**(168–179)**
4821	Chinook	†193	(168–218)	286	(256–315)
4822	Palliser	†145	(119–171)	171	(144–199)
4823	Calgary	113	(105–121)	172	(163–181)
4824	David Thompson	†174	(156–192)	211	(192–230)
4825	East Central	†148	(124–172)	177	(152–202)
4826	Capital	†127	(119–136)	146	(138–155)
4827	Aspen	124	(105–144)	172	(150–194)
4828	Peace Country	†145	(117–172)	209	(178–241)
4829	Northern Lights	†46	(16–75)	105	(64–147)
British Columbia		**†100**	**(97–104)**	**157**	**(154–161)**
5911	East Kootenay	123	(98–149)	180	(150–209)
5912	Kootenay Boundary	†145	(119–171)	177	(148–205)
5913	Okanagan	†138	(126–151)	214	(200–228)
5914	Thompson/Cariboo/Shuswap	†136	(120–152)	180	(162–197)
5921	Fraser East	†140	(124–157)	177	(160–194)
5922	Fraser North	†73	(64–81)	113	(103–123)
5923	Fraser South	†98	(89–107)	164	(154–175)
5931	Richmond	†63	(50–77)	120	(103–137)
5932	Vancouver	†46	(39–52)	83	(75–91)
5933	North Shore	106	(93–119)	152	(137–166)
5941	South Vancouver Island	†81	(72–91)	150	(137–162)
5942	Central Vancouver Island	108	(95–121)	213	(196–229)
5943	North Vancouver Island	†151	(127–176)	227	(201–254)
5951	Northwest	†76	(52–101)	220	(182–259)
5952	Northern Interior	†182	(155–210)	184	(159–210)
5953	Northeast	154	(112–195)	124	(90–159)
Yukon		**89**	**(44–133)**	**126**	**(76–177)**
Northwest Territories		**†184**	**(115–253)**	**140**	**(85–194)**
Nunavut		**156**	**(41–272)**	**394**	**(232–557)**
Canada		**114**	**(112–115)**	**..**	**.. ..**
Canada without Quebec data		**125**	**(123–126)**	**179**	**(177–181)**

Knee replacement

Age-standardized rate of unilateral or bilateral knee replacement surgery performed on patients in acute care hospitals or same-day surgery facilities per 100,000 population age 20 and older. Knee replacement surgery has the potential to improve functional status, reduce pain as well as contribute to other gains in health-related quality of life. Wide inter-regional variation in knee replacement rates may be attributable to numerous factors, including the availability of services, provider practice patterns and patient preferences.

Note: Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	Hysterectomy 2007–2008 Age-Standardized Rate per 100,000	95% CI
Newfoundland and Labrador		**439**	**(410–468)**
1011	Eastern, N.L.	400	(365–436)
1012	Central, N.L.	572	(493–652)
1013	Western, N.L.	442	(366–518)
Prince Edward Island		**595**	**(526–665)**
Nova Scotia		**441**	**(419–463)**
1211	South Shore, N.S.	317	(239–394)
1212	South West Nova, N.S.	569	(471–666)
1213	Annapolis Valley, N.S.	572	(481–664)
1214	Colchester East Hants, N.S.	654	(555–753)
1218	Cape Breton, N.S.	526	(458–594)
1219	Capital, N.S.	297	(271–324)
New Brunswick		**438**	**(413–462)**
1301	Zone 1, N.B. (Moncton area)	504	(453–555)
1302	Zone 2, N.B. (Saint John area)	349	(305–393)
1303	Zone 3, N.B. (Fredericton area)	369	(323–416)
1304	Zone 4, N.B. (Edmundston area)	363	(275–451)
1306	Zone 6, N.B. (Bathurst area)	447	(371–524)
Quebec		**..**	**.. ..**
2401	Bas-Saint-Laurent	..	.. ..
2402	Saguenay–Lac-Saint-Jean	..	.. ..
2403	Capitale nationale	..	.. ..
2404	Mauricie et Centre-du-Québec	..	.. ..
2405	Estrie	..	.. ..
2406	Montréal	..	.. ..
2407	Outaouais	..	.. ..
2408	Abitibi-Témiscamingue	..	.. ..
2409	Côte-Nord	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	..	.. ..
2412	Chaudière-Appalaches	..	.. ..
2413	Laval	..	.. ..
2414	Lanaudière	..	.. ..
2415	Laurentides	..	.. ..
2416	Montérégie	..	.. ..
Ontario		**329**	**(324–334)**
3501	Erie St. Clair	426	(400–452)
3502	South West	418	(396–440)
3503	Waterloo Wellington	409	(385–433)
3504	Hamilton Niagara Haldimand Brant	390	(374–407)
3505	Central West	254	(236–271)
3506	Mississauga Halton	228	(214–242)
3507	Toronto Central	183	(172–195)
3508	Central	237	(226–249)
3509	Central East	334	(319–348)
3510	South East	356	(328–384)
3511	Champlain	374	(356–391)
3512	North Simcoe Muskoka	444	(412–476)
3513	North East	571	(537–605)
3514	North West	413	(368–457)
Manitoba		**376**	**(358–394)**
4610	Winnipeg	347	(325–370)
4625	South Eastman	490	(396–584)
4630	Interlake	395	(319–470)
4640	Central	470	(398–541)
4645	Assiniboine	454	(369–539)

Map Code	Health Region	Hysterectomy 2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**442**	**(420–464)**
4701	Sun Country	512	(404–620)
4702	Five Hills	442	(351–533)
4704	Regina	365	(327–404)
4705	Sunrise	451	(353–549)
4706	Saskatoon	427	(388–467)
4709	Prince Albert	422	(342–502)
4710	Prairie North	725	(610–840)
Alberta		**391**	**(381–402)**
4821	Chinook	624	(556–691)
4822	Palliser	595	(515–676)
4823	Calgary	316	(300–332)
4824	David Thompson	475	(435–516)
4825	East Central	513	(443–583)
4826	Capital	381	(363–400)
4827	Aspen	459	(406–513)
4828	Peace Country	346	(293–399)
4829	Northern Lights	525	(437–614)
British Columbia		**317**	**(308–325)**
5911	East Kootenay	369	(299–439)
5912	Kootenay Boundary	294	(230–358)
5913	Okanagan	382	(348–415)
5914	Thompson/Cariboo/Shuswap	664	(604–724)
5921	Fraser East	516	(471–560)
5922	Fraser North	245	(226–265)
5923	Fraser South	254	(235–273)
5931	Richmond	185	(155–214)
5932	Vancouver	161	(146–177)
5933	North Shore	208	(183–234)
5941	South Vancouver Island	312	(284–341)
5942	Central Vancouver Island	503	(457–549)
5943	North Vancouver Island	462	(396–528)
5951	Northwest	397	(324–471)
5952	Northern Interior	577	(512–643)
5953	Northeast	507	(416–598)
Yukon		**343**	**(234–452)**
Northwest Territories		**404**	**(297–511)**
Nunavut		**172**	**(85–260)**
Canada		**..**	**.. ..**
Canada without Quebec data		**352**	**(349–356)**

Hysterectomy

Age-standardized rate of hysterectomy provided to patients in acute care hospitals or same-day surgery facilities per 100,000 women age 20 and older. As with other types of surgical procedures, variations in hysterectomy rates can be attributed to numerous factors, including differences in population demographics and health status, physician practice patterns and availability of services.

Notes: Beginning with 2006–2007 data, hysterectomy rates include both total and subtotal hysterectomies, similar to the reporting prior to 2001–2002 data. Identification of subtotal hysterectomies was not possible for data from 2001–2002 to 2005–2006. Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	Percutaneous Coronary Intervention 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Newfoundland and Labrador		**†138**	**(127–149)**	**142**	**(132–153)**
1011	Eastern, N.L.	153	(138–169)	165	(150–181)
1012	Central, N.L.	†118	(96–140)	131	(109–153)
1013	Western, N.L.	†102	(80–124)	83	(63–102)
Prince Edward Island		**†118**	**(99–138)**	**139**	**(118–159)**
Nova Scotia		**†141**	**(133–150)**	**163**	**(155–172)**
1211	South Shore, N.S.	143	(114–172)	156	(127–186)
1212	South West Nova, N.S.	†137	(107–167)	162	(130–194)
1213	Annapolis Valley, N.S.	†108	(85–131)	143	(117–169)
1214	Colchester East Hants, N.S.	147	(117–176)	181	(149–213)
1218	Cape Breton, N.S.	184	(160–208)	177	(154–200)
1219	Capital, N.S.	†143	(130–157)	164	(151–178)
New Brunswick		**174**	**(164–184)**	**198**	**(188–208)**
1301	Zone 1, N.B. (Moncton area)	†145	(127–163)	179	(160–199)
1302	Zone 2, N.B. (Saint John area)	†246	(221–272)	229	(206–252)
1303	Zone 3, N.B. (Fredericton area)	150	(130–170)	210	(186–233)
1304	Zone 4, N.B. (Edmundston area)	*	* *	*	* *
1306	Zone 6, N.B. (Bathurst area)	153	(125–181)	189	(159–219)
Quebec		**†199**	**(196–203)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	†189	(169–208)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	†203	(186–220)	..	.. ..
2403	Capitale nationale	†221	(209–233)	..	.. ..
2404	Mauricie et Centre-du-Québec	†209	(196–222)	..	.. ..
2405	Estrie	†273	(253–293)	..	.. ..
2406	Montréal	†187	(180–193)	..	.. ..
2407	Outaouais	†109	(97–122)	..	.. ..
2408	Abitibi-Témiscamingue	168	(145–191)	..	.. ..
2409	Côte-Nord	†248	(213–283)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	†291	(257–325)	..	.. ..
2412	Chaudière-Appalaches	†209	(194–224)	..	.. ..
2413	Laval	179	(165–194)	..	.. ..
2414	Lanaudière	†253	(236–270)	..	.. ..
2415	Laurentides	177	(164–190)	..	.. ..
2416	Montérégie	†200	(192–208)	..	.. ..
Ontario		**†145**	**(142–147)**	**157**	**(155–159)**
3501	Erie St. Clair	†96	(88–104)	115	(107–124)
3502	South West	†101	(94–108)	108	(101–115)
3503	Waterloo Wellington	†114	(105–124)	105	(96–113)
3504	Hamilton Niagara Haldimand Brant	†150	(143–157)	171	(164–178)
3505	Central West	†133	(123–143)	172	(161–183)
3506	Mississauga Halton	159	(150–169)	149	(141–157)
3507	Toronto Central	†110	(103–116)	134	(127–141)
3508	Central	†139	(133–146)	140	(134–147)
3509	Central East	†150	(143–157)	170	(163–177)
3510	South East	†224	(210–238)	217	(204–230)
3511	Champlain	171	(163–179)	191	(182–199)
3512	North Simcoe Muskoka	†147	(135–160)	175	(162–188)
3513	North East	†186	(175–198)	211	(199–223)
3514	North West	154	(137–171)	166	(148–183)
Manitoba		**†127**	**(119–134)**	**131**	**(124–138)**
4610	Winnipeg	†135	(126–145)	131	(121–140)
4625	South Eastman	†110	(77–142)	158	(121–194)
4630	Interlake	†114	(89–139)	122	(97–147)
4640	Central	†104	(81–127)	141	(115–167)
4645	Assiniboine	†69	(49–90)	141	(113–170)

Map Code	Health Region	Percutaneous Coronary Intervention 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**159**	**(150–167)**	**195**	**(186–205)**
4701	Sun Country	⁺114	(85–144)	166	(130–202)
4702	Five Hills	⁺125	(94–155)	174	(138–210)
4704	Regina	152	(134–169)	195	(176–214)
4705	Sunrise	⁺130	(100–160)	121	(92–151)
4706	Saskatoon	⁺203	(185–222)	214	(196–233)
4709	Prince Albert	150	(120–179)	252	(213–290)
4710	Prairie North	159	(124–195)	220	(179–260)
Alberta		**⁺198**	**(192–204)**	**166**	**(161–171)**
4821	Chinook	159	(136–182)	158	(136–180)
4822	Palliser	150	(123–177)	187	(158–216)
4823	Calgary	172	(162–181)	154	(146–163)
4824	David Thompson	173	(155–191)	164	(148–181)
4825	East Central	184	(157–211)	153	(129–176)
4826	Capital	⁺208	(198–219)	170	(161–179)
4827	Aspen	⁺258	(230–286)	191	(168–213)
4828	Peace Country	⁺365	(323–408)	199	(170–229)
4829	Northern Lights	⁺232	(177–286)	187	(134–239)
British Columbia		**170**	**(165–174)**	**168**	**(164–172)**
5911	East Kootenay	167	(138–197)	148	(121–175)
5912	Kootenay Boundary	⁺135	(109–161)	126	(103–149)
5913	Okanagan	⁺138	(125–151)	128	(116–139)
5914	Thompson/Cariboo/Shuswap	⁺128	(112–144)	130	(115–145)
5921	Fraser East	⁺201	(182–221)	229	(210–249)
5922	Fraser North	⁺193	(179–206)	196	(184–209)
5923	Fraser South	⁺185	(173–197)	225	(212–237)
5931	Richmond	⁺121	(103–139)	129	(111–146)
5932	Vancouver	⁺130	(119–140)	120	(111–130)
5933	North Shore	⁺147	(132–163)	138	(124–152)
5941	South Vancouver Island	⁺195	(180–211)	171	(158–185)
5942	Central Vancouver Island	⁺233	(214–252)	188	(173–204)
5943	North Vancouver Island	⁺216	(187–244)	168	(145–191)
5951	Northwest	180	(144–216)	174	(140–207)
5952	Northern Interior	162	(138–187)	194	(169–220)
5953	Northeast	204	(158–250)	178	(138–217)
Yukon		**209**	**(143–275)**	**151**	**(101–202)**
Northwest Territories		**⁺253**	**(179–326)**	**193**	**(130–255)**
Nunavut		**⁺98**	**(30–165)**	**109**	**(48–171)**
Canada		**167**	**(165–168)**	**..**	**.. ..**
Canada without Quebec data		**156**	**(154–158)**	**162**	**(160–163)**

Percutaneous coronary intervention

Age-standardized rate of percutaneous coronary intervention (PCI) performed on patients in acute care hospitals, same-day surgery facilities or catheterization laboratories per 100,000 population age 20 and older. In many cases, PCI serves as a non-surgical alternative to coronary artery bypass graft (CABG) surgery and is undertaken for the purpose of opening obstructed coronary arteries. The choice of revascularization mode (that is, PCI or CABG) depends on numerous factors, including severity of coronary artery disease, physician preferences, availability of services, referral patterns as well as differences in population health and socio-economic status.

Notes: Quebec data for 2007–2008 were unavailable for inclusion in this publication. Cardiac procedures for residents of Zone 4, New Brunswick, are performed mostly in Quebec; rates are suppressed due to differences in data collection and unavailability of data from Quebec.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	Coronary Artery Bypass Graft Surgery 2003–2004 Age-Standardized Rate per 100,000	2003–2004 95% CI	2007–2008 Age-Standardized Rate per 100,000	2007–2008 95% CI
Newfoundland and Labrador		**†142**	**(131–153)**	**105**	**(96–114)**
1011	Eastern, N.L.	†153	(138–169)	98	(86–110)
1012	Central, N.L.	†139	(115–162)	129	(107–151)
1013	Western, N.L.	96	(74–118)	100	(79–121)
Prince Edward Island		**87**	**(70–104)**	**73**	**(59–88)**
Nova Scotia		**†120**	**(113–128)**	**73**	**(68–79)**
1211	South Shore, N.S.	115	(89–142)	73	(53–93)
1212	South West Nova, N.S.	105	(79–131)	67	(47–88)
1213	Annapolis Valley, N.S.	100	(78–122)	54	(38–69)
1214	Colchester East Hants, N.S.	†126	(98–154)	81	(60–102)
1218	Cape Breton, N.S.	†133	(113–153)	96	(79–112)
1219	Capital, N.S.	†133	(120–147)	73	(64–83)
New Brunswick		**90**	**(83–98)**	**76**	**(69–82)**
1301	Zone 1, N.B. (Moncton area)	†78	(65–91)	84	(71–98)
1302	Zone 2, N.B. (Saint John area)	95	(79–110)	79	(65–93)
1303	Zone 3, N.B. (Fredericton area)	94	(77–110)	73	(59–87)
1304	Zone 4, N.B. (Edmundston area)	*	* *	*	* *
1306	Zone 6, N.B. (Bathurst area)	†71	(52–90)	66	(48–83)
Quebec		**†97**	**(94–99)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	93	(79–106)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	82	(71–94)	..	.. ..
2403	Capitale nationale	†106	(98–114)	..	.. ..
2404	Mauricie et Centre-du-Québec	96	(87–105)	..	.. ..
2405	Estrie	88	(77–99)	..	.. ..
2406	Montréal	†87	(82–91)	..	.. ..
2407	Outaouais	†73	(62–83)	..	.. ..
2408	Abitibi-Témiscamingue	94	(77–111)	..	.. ..
2409	Côte-Nord	100	(78–122)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	†130	(108–152)	..	.. ..
2412	Chaudière-Appalaches	99	(89–110)	..	.. ..
2413	Laval	91	(81–102)	..	.. ..
2414	Lanaudière	101	(90–112)	..	.. ..
2415	Laurentides	†112	(101–122)	..	.. ..
2416	Montérégie	†111	(105–118)	..	.. ..
Ontario		**†90**	**(89–92)**	**78**	**(77–80)**
3501	Erie St. Clair	94	(86–102)	92	(84–100)
3502	South West	†84	(78–90)	76	(70–81)
3503	Waterloo Wellington	†84	(76–92)	76	(69–83)
3504	Hamilton Niagara Haldimand Brant	†104	(98–109)	95	(90–101)
3505	Central West	†109	(100–119)	88	(80–96)
3506	Mississauga Halton	†106	(99–114)	72	(66–78)
3507	Toronto Central	†60	(55–65)	49	(45–54)
3508	Central	†86	(80–91)	68	(64–73)
3509	Central East	93	(87–98)	79	(74–84)
3510	South East	94	(85–103)	104	(95–114)
3511	Champlain	†73	(68–79)	71	(66–77)
3512	North Simcoe Muskoka	90	(80–100)	96	(86–105)
3513	North East	89	(81–97)	66	(60–73)
3514	North West	†133	(117–149)	123	(108–139)
Manitoba		**†103**	**(97–110)**	**85**	**(79–91)**
4610	Winnipeg	99	(90–107)	81	(73–88)
4625	South Eastman	97	(66–128)	85	(58–113)
4630	Interlake	97	(74–120)	84	(63–104)
4640	Central	95	(73–117)	93	(72–115)
4645	Assiniboine	84	(62–106)	75	(55–95)

Map Code	Health Region	Coronary Artery Bypass Graft Surgery 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**✦112**	**(105–119)**	**93**	**(87–100)**
4701	Sun Country	110	(81–139)	89	(62–116)
4702	Five Hills	115	(86–145)	96	(69–123)
4704	Regina	✦131	(115–147)	108	(94–122)
4705	Sunrise	110	(83–136)	69	(48–91)
4706	Saskatoon	100	(86–113)	86	(74–98)
4709	Prince Albert	116	(90–143)	123	(95–150)
4710	Prairie North	103	(75–132)	90	(63–116)
Alberta		**✦83**	**(79–87)**	**58**	**(55–61)**
4821	Chinook	✦62	(48–76)	39	(28–50)
4822	Palliser	✦55	(38–71)	51	(36–66)
4823	Calgary	✦77	(70–83)	50	(46–55)
4824	David Thompson	86	(73–98)	54	(44–63)
4825	East Central	93	(75–112)	63	(48–77)
4826	Capital	91	(84–98)	65	(59–70)
4827	Aspen	99	(82–117)	80	(65–95)
4828	Peace Country	89	(67–110)	68	(50–86)
4829	Northern Lights	✦59	(27–90)	59	(29–88)
British Columbia		**✦76**	**(73–79)**	**65**	**(63–68)**
5911	East Kootenay	✦65	(47–84)	50	(34–66)
5912	Kootenay Boundary	✦67	(49–85)	55	(39–71)
5913	Okanagan	✦65	(56–74)	60	(52–68)
5914	Thompson/Cariboo/Shuswap	✦74	(62–86)	72	(61–83)
5921	Fraser East	87	(74–100)	75	(64–86)
5922	Fraser North	✦75	(67–84)	67	(59–75)
5923	Fraser South	93	(85–102)	75	(68–83)
5931	Richmond	✦61	(48–74)	64	(51–76)
5932	Vancouver	✦59	(52–66)	48	(42–54)
5933	North Shore	✦67	(57–78)	73	(63–83)
5941	South Vancouver Island	✦68	(59–77)	66	(57–74)
5942	Central Vancouver Island	92	(80–104)	71	(61–80)
5943	North Vancouver Island	100	(80–120)	55	(41–68)
5951	Northwest	121	(91–152)	82	(58–105)
5952	Northern Interior	94	(75–114)	85	(68–102)
5953	Northeast	122	(86–158)	72	(46–98)
Yukon		**120**	**(62–177)**	**62**	**(26–99)**
Northwest Territories		**94**	**(45–144)**	**88**	**(43–132)**
Nunavut		**0**	**(0–0)**	**54**	**(19–152)**
Canada		**92**	**(91–94)**	**..**	**.. ..**
Canada without Quebec data		**90**	**(89–92)**	**75**	**(74–76)**

Coronary artery bypass graft surgery

Age-standardized rate of coronary artery bypass graft (CABG) surgery performed on inpatients in acute care hospitals per 100,000 population age 20 and older. As with other types of surgical procedures, variations in CABG surgery rates can be attributed to numerous factors, including differences in population demographics and health status, physician practice patterns and availability of services. In cases amenable to treatment with less invasive procedures, percutaneous coronary intervention (PCI), an alternative treatment to improve blood flow to the heart muscle, may be used. Variations in the extent to which PCI is utilized may result in variations in bypass surgery.
Notes: Quebec data for 2007–2008 were unavailable for inclusion in this publication. Cardiac procedures for residents of Zone 4, New Brunswick, are performed mostly in Quebec; rates are suppressed due to differences in data collection and unavailability of data from Quebec.
Sources: Hospital Morbidity Database and Discharge Abstract Database, Canadian Institute for Health Information.

Map Code	Health Region	Cardiac Revascularization 2003–2004 Age-Standardized Rate per 100,000	2003–2004 95% CI	2007–2008 Age-Standardized Rate per 100,000	2007–2008 95% CI
Newfoundland and Labrador		**†279**	**(263–294)**	**247**	**(233–261)**
1011	Eastern, N.L.	†305	(283–327)	263	(244–283)
1012	Central, N.L.	257	(225–289)	259	(228–290)
1013	Western, N.L.	†197	(166–228)	182	(153–210)
Prince Edward Island		**†205**	**(179–231)**	**212**	**(187–237)**
Nova Scotia		**261**	**(250–272)**	**236**	**(226–246)**
1211	South Shore, N.S.	255	(216–294)	226	(191–262)
1212	South West Nova, N.S.	242	(202–282)	229	(192–267)
1213	Annapolis Valley, N.S.	†207	(175–239)	196	(165–226)
1214	Colchester East Hants, N.S.	273	(232–313)	260	(222–298)
1218	Cape Breton, N.S.	†316	(285–347)	273	(244–301)
1219	Capital, N.S.	275	(256–294)	236	(220–253)
New Brunswick		**264**	**(252–277)**	**273**	**(261–285)**
1301	Zone 1, N.B. (Moncton area)	†223	(200–245)	260	(237–284)
1302	Zone 2, N.B. (Saint John area)	†340	(310–370)	306	(279–333)
1303	Zone 3, N.B. (Fredericton area)	243	(218–269)	283	(256–310)
1304	Zone 4, N.B. (Edmundston area)	*	* *	*	* *
1306	Zone 6, N.B. (Bathurst area)	224	(190–258)	254	(220–289)
Quebec		**†294**	**(290–299)**	**..**	**.. ..**
2401	Bas-Saint-Laurent	280	(256–303)	..	.. ..
2402	Saguenay–Lac-Saint-Jean	†284	(263–304)	..	.. ..
2403	Capitale nationale	†325	(310–339)	..	.. ..
2404	Mauricie et Centre-du-Québec	†304	(288–320)	..	.. ..
2405	Estrie	†358	(335–380)	..	.. ..
2406	Montréal	†271	(263–279)	..	.. ..
2407	Outaouais	†182	(165–198)	..	.. ..
2408	Abitibi-Témiscamingue	261	(232–289)	..	.. ..
2409	Côte-Nord	†348	(307–389)	..	.. ..
2411	Gaspésie–Îles-de-la-Madeleine	†419	(379–459)	..	.. ..
2412	Chaudière-Appalaches	†307	(289–325)	..	.. ..
2413	Laval	268	(250–286)	..	.. ..
2414	Lanaudière	†353	(333–373)	..	.. ..
2415	Laurentides	†287	(271–303)	..	.. ..
2416	Montérégie	†309	(299–320)	..	.. ..
Ontario		**†234**	**(231–237)**	**234**	**(231–237)**
3501	Erie St. Clair	†190	(178–201)	206	(194–218)
3502	South West	†185	(175–194)	182	(173–191)
3503	Waterloo Wellington	†198	(186–210)	180	(168–191)
3504	Hamilton Niagara Haldimand Brant	252	(243–261)	265	(256–274)
3505	Central West	†241	(227–256)	258	(245–271)
3506	Mississauga Halton	264	(252–276)	221	(211–231)
3507	Toronto Central	†169	(161–178)	182	(174–191)
3508	Central	†225	(216–234)	208	(200–216)
3509	Central East	†242	(233–251)	248	(240–257)
3510	South East	†317	(301–333)	319	(303–334)
3511	Champlain	†243	(233–253)	260	(250–269)
3512	North Simcoe Muskoka	†237	(221–253)	270	(254–286)
3513	North East	†274	(260–288)	276	(262–290)
3514	North West	†287	(263–310)	288	(265–312)
Manitoba		**†229**	**(220–239)**	**215**	**(206–224)**
4610	Winnipeg	†234	(221–247)	210	(198–222)
4625	South Eastman	†203	(159–248)	239	(194–284)
4630	Interlake	†209	(175–243)	204	(172–236)
4640	Central	†199	(168–231)	233	(200–267)
4645	Assiniboine	†153	(124–183)	216	(181–251)

Map Code	Health Region	Cardiac Revascularization 2003–2004 Age-Standardized Rate per 100,000	95% CI	2007–2008 Age-Standardized Rate per 100,000	95% CI
Saskatchewan		**†269**	**(258–281)**	**286**	**(275–298)**
4701	Sun Country	224	(183–265)	250	(206–295)
4702	Five Hills	240	(198–282)	267	(222–312)
4704	Regina	281	(258–305)	299	(275–323)
4705	Sunrise	236	(197–275)	191	(154–227)
4706	Saskatoon	†302	(279–325)	299	(277–321)
4709	Prince Albert	264	(224–304)	373	(326–420)
4710	Prairie North	260	(215–305)	309	(261–358)
Alberta		**†280**	**(273–287)**	**224**	**(218–230)**
4821	Chinook	†220	(193–247)	197	(173–221)
4822	Palliser	†205	(173–236)	235	(202–267)
4823	Calgary	†246	(234–257)	203	(194–213)
4824	David Thompson	258	(237–280)	217	(199–236)
4825	East Central	277	(244–310)	214	(186–242)
4826	Capital	†299	(286–311)	234	(223–244)
4827	Aspen	†358	(325–390)	270	(243–297)
4828	Peace Country	†454	(407–501)	268	(233–302)
4829	Northern Lights	290	(227–353)	245	(185–306)
British Columbia		**†245**	**(240–250)**	**232**	**(227–237)**
5911	East Kootenay	232	(197–266)	196	(165–227)
5912	Kootenay Boundary	†202	(171–234)	181	(153–209)
5913	Okanagan	†203	(187–218)	188	(174–201)
5914	Thompson/Cariboo/Shuswap	†203	(183–222)	201	(183–220)
5921	Fraser East	†288	(265–311)	304	(282–326)
5922	Fraser North	267	(251–283)	261	(246–276)
5923	Fraser South	†277	(263–292)	298	(284–313)
5931	Richmond	†181	(158–203)	190	(169–212)
5932	Vancouver	†188	(176–201)	167	(155–178)
5933	North Shore	†214	(196–233)	210	(192–227)
5941	South Vancouver Island	261	(243–278)	235	(219–251)
5942	Central Vancouver Island	†323	(300–345)	258	(240–276)
5943	North Vancouver Island	†316	(281–350)	221	(195–248)
5951	Northwest	301	(254–348)	250	(209–290)
5952	Northern Interior	255	(224–286)	278	(247–309)
5953	Northeast	†323	(265–381)	250	(202–297)
Yukon		**328**	**(241–416)**	**214**	**(151–276)**
Northwest Territories		**†347**	**(259–435)**	**280**	**(204–357)**
Nunavut		**†98**	**(30–165)**	**163**	**(80–246)**
Canada		**258**	**(256–260)**	**..**	**.. ..**
Canada without Quebec data		**246**	**(243–248)**	**235**	**(233–237)**

Cardiac revascularization

Age-standardized rate of coronary artery bypass graft (CABG) surgery performed on inpatients in acute care hospitals or percutaneous coronary intervention (PCI) performed on patients in acute care hospitals, same-day surgery facilities or catheterization laboratories per 100,000 population age 20 and older. The choice of revascularization mode (that is, PCI or CABG) depends on numerous factors, including severity of coronary artery disease, physician preferences, availability of services, referral patterns as well as differences in population health and socio-economic status. The combined cardiac revascularization rate represents total activity of cardiac revascularization in a jurisdiction.

Notes: Quebec data for 2007–2008 were unavailable for inclusion in this publication. Cardiac procedures for residents of Zone 4, New Brunswick, are performed mostly in Quebec; rates are suppressed due to differences in data collection and unavailability of data from Quebec.

Sources: Hospital Morbidity Database, Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	Inflow/Outflow Ratio, 2007–2008					
		Overall	Hip Replacement	Knee Replacement	Hysterectomy	Percutaneous Coronary Intervention	Bypass Surgery
Newfoundland and Labrador		..	..	..	..	..	..
1011	Eastern, N.L.	1.13	1.11	1.08	1.09	1.51	1.92
1012	Central, N.L.	0.85	0.85	0.94	0.86	0.00	0.00
1013	Western, N.L.	0.93	0.94	0.94	1.03	0.00	0.00
Prince Edward Island		**0.92**	**0.93**	**0.97**	**0.96**	**0.00**	**0.00**
Nova Scotia		..	..	..	..	..	..
1211	South Shore, N.S.	0.65	0.00	0.00	0.81	0.00	0.00
1212	South West Nova, N.S.	0.72	0.00	0.00	0.71	0.00	0.00
1213	Annapolis Valley, N.S.	1.01	2.33	2.33	1.27	0.00	0.00
1214	Colchester East Hants, N.S.	0.54	0.00	0.00	0.89	0.00	0.00
1218	Cape Breton, N.S.	0.92	1.03	1.09	0.75	0.00	0.00
1219	Capital, N.S.	1.45	1.34	1.28	1.29	2.90	3.16
New Brunswick		..	..	..	..	..	..
1301	Zone 1, N.B. (Moncton area)	1.10	1.32	1.18	1.20	0.00	0.00
1302	Zone 2, N.B. (Saint John area)	1.16	0.99	1.01	0.96	3.85	4.33
1303	Zone 3, N.B. (Fredericton area)	0.92	1.05	1.10	0.92	0.00	0.00
1304	Zone 4, N.B. (Edmundston area)	0.94	1.04	0.73	0.90	0.00	0.00
1306	Zone 6, N.B. (Bathurst area)	0.95	0.98	0.91	0.94	0.00	0.00
Quebec		..	..	..	..	..	..
2401	Bas-Saint-Laurent	..	..	..	..	..	..
2402	Saguenay–Lac-Saint-Jean	..	..	..	..	..	..
2403	Capitale nationale	..	..	..	..	..	..
2404	Mauricie et Centre-du-Québec	..	..	..	..	..	..
2405	Estrie	..	..	..	..	..	..
2406	Montréal	..	..	..	..	..	..
2407	Outaouais	..	..	..	..	..	..
2408	Abitibi-Témiscamingue	..	..	..	..	..	..
2409	Côte-Nord	..	..	..	..	..	..
2411	Gaspésie–Îles-de-la-Madeleine	..	..	..	..	..	..
2412	Chaudière-Appalaches	..	..	..	..	..	..
2413	Laval	..	..	..	..	..	..
2414	Lanaudière	..	..	..	..	..	..
2415	Laurentides	..	..	..	..	..	..
2416	Montérégie	..	..	..	..	..	..
Ontario		..	..	..	..	..	..
3501	Erie St. Clair	0.89	0.89	0.92	0.87	0.26	0.00
3502	South West	1.08	0.95	0.93	1.11	1.23	1.53
3503	Waterloo Wellington	0.91	1.00	1.03	0.90	1.46	1.47
3504	Hamilton Niagara Haldimand Brant	1.00	0.99	0.97	1.04	0.96	1.00
3505	Central West	0.72	0.71	0.72	0.59	0.00	0.00
3506	Mississauga Halton	0.96	0.84	0.93	0.83	1.26	1.37
3507	Toronto Central	1.84	2.32	2.23	2.43	3.33	5.20
3508	Central	0.93	0.88	1.00	0.90	0.88	0.82
3509	Central East	0.84	0.78	0.88	0.80	0.47	0.00
3510	South East	0.96	1.07	1.05	0.99	1.01	1.00
3511	Champlain	1.10	1.00	0.98	1.11	1.19	1.39
3512	North Simcoe Muskoka	0.89	0.74	0.73	0.96	0.00	0.00
3513	North East	0.95	0.63	0.69	0.92	0.97	0.88
3514	North West	0.91	0.90	0.94	0.85	0.00	0.00
Manitoba		..	..	..	..	..	..
4610	Winnipeg	1.40	1.72	1.57	1.52	1.86	1.99
4625	South Eastman	0.61	0.00	0.00	0.36	0.00	0.00
4630	Interlake	0.54	0.00	0.00	0.16	0.00	0.00
4640	Central	0.75	1.20	0.64	0.15	0.00	0.00
4645	Assiniboine	0.60	0.00	0.00	0.10	0.00	0.00

Map Code	Health Region	Inflow/Outflow Ratio, 2007–2008					
		Overall	Hip Replacement	Knee Replacement	Hysterectomy	Percutaneous Coronary Intervention	Bypass Surgery
Saskatchewan		..	..	..	..	..	..
4701	Sun Country	0.61	0.00	0.00	0.20	0.00	0.00
4702	Five Hills	0.84	0.47	0.31	0.84	0.00	0.00
4704	Regina	1.15	1.40	1.42	1.16	1.73	1.99
4705	Sunrise	0.96	0.00	0.00	1.54	0.00	0.00
4706	Saskatoon	1.37	2.01	2.15	1.57	1.90	1.69
4709	Prince Albert	0.76	0.45	0.44	0.49	0.00	0.00
4710	Prairie North	1.02	0.00	0.00	1.26	0.00	0.00
Alberta		..	..	..	..	..	..
4821	Chinook	0.93	0.84	1.07	1.12	0.00	0.00
4822	Palliser	0.92	0.92	1.04	0.69	0.00	0.00
4823	Calgary	1.08	1.16	1.07	1.05	1.52	1.51
4824	David Thompson	0.88	0.65	0.70	0.76	0.00	0.00
4825	East Central	0.64	0.72	0.56	0.46	0.00	0.00
4826	Capital	1.25	1.31	1.33	1.24	1.76	1.79
4827	Aspen	0.72	0.35	0.53	0.44	0.00	0.00
4828	Peace Country	0.89	0.88	0.77	0.88	0.00	0.00
4829	Northern Lights	0.88	0.00	0.00	0.92	0.00	0.00
British Columbia		..	..	..	..	..	..
5911	East Kootenay	0.84	0.68	0.74	0.79	0.00	0.00
5912	Kootenay Boundary	0.85	0.66	0.87	0.78	0.00	0.00
5913	Okanagan	1.03	0.92	1.00	1.09	0.00	0.00
5914	Thompson/Cariboo/Shuswap	0.92	0.51	0.50	0.98	0.00	0.00
5921	Fraser East	0.86	0.77	0.85	0.92	0.00	0.00
5922	Fraser North	1.03	0.71	0.96	0.87	2.27	1.94
5923	Fraser South	0.79	0.52	0.59	0.68	0.00	0.00
5931	Richmond	0.91	2.23	2.12	0.90	0.00	0.00
5932	Vancouver	1.69	3.66	2.99	2.26	5.11	5.79
5933	North Shore	0.87	0.74	0.94	0.79	0.00	0.00
5941	South Vancouver Island	1.16	0.88	0.90	1.08	2.35	2.57
5942	Central Vancouver Island	0.85	0.73	0.76	0.89	0.00	0.00
5943	North Vancouver Island	0.85	1.03	0.96	0.95	0.00	0.00
5951	Northwest	0.87	0.41	0.66	0.99	0.00	0.00
5952	Northern Interior	0.88	0.71	0.79	0.68	0.00	0.00
5953	Northeast	0.88	0.89	1.19	0.91	0.00	0.00
Yukon		**0.84**	**0.00**	**0.43**	**0.98**	**0.00**	**0.00**
Northwest Territories		**0.97**	**1.00**	**0.93**	**0.92**	**0.00**	**0.00**
Nunavut		**0.43**	**0.00**	**0.00**	**0.20**	**0.00**	**0.00**
Canada		..	..	..	..	..	..

Inflow/outflow ratio

A ratio of the number of discharges from relevant facilities (acute care/same-day surgery) within a given region divided by the number of discharges generated by residents of that region. An overall ratio is calculated for discharges associated with any diagnosis or procedure for acute care discharges only, and separately for hip replacement, knee replacement, hysterectomy, percutaneous coronary intervention and coronary artery bypass graft surgery procedures from all relevant facilities. A ratio of less than one indicates that health care utilization by residents of a region exceeded care provided within that region, suggesting an outflow effect. A ratio greater than one indicates that care provided by a region exceeded the utilization by its residents, suggesting an inflow effect. A ratio of one indicates that care provided by a region is equivalent to the utilization by its residents, suggesting that inflow and outflow activity, if it exists at all, is balanced. A ratio of zero is an indication that none of the institutions in the region provided the service and residents received care outside of their region.

Note: Quebec data for 2007–2008 were unavailable for inclusion in this publication.

Sources: Discharge Abstract Database and National Ambulatory Care Reporting System, Canadian Institute for Health Information; Alberta Ambulatory Care Database, Alberta Health and Wellness.

Map Code	Health Region	General/Family Physicians 2007		Specialist Physicians 2007	
		Rate per 100,000	95% CI	Rate per 100,000	95% CI
Newfoundland and Labrador		**107**	**(98–116)**	**100**	**(91–108)**
1011	Eastern, N.L.	114	(101–126)	129	(116–142)
1012	Central, N.L.	90	(71–109)	58	(43–74)
1013	Western, N.L.	106	(83–128)	70	(51–88)
Prince Edward Island		**99**	**(82–115)**	**58**	**(46–71)**
Nova Scotia		**116**	**(109–123)**	**113**	**(106–120)**
1211	South Shore, N.S.	117	(90–144)	59	(39–78)
1212	South West Nova, N.S.	86	(63–109)	36	(21–51)
1213	Annapolis Valley, N.S.	97	(76–118)	76	(58–95)
1214	Colchester East Hants, N.S.	99	(76–122)	39	(24–53)
1218	Cape Breton, N.S.	102	(84–120)	80	(64–95)
1219	Capital, N.S.	137	(126–148)	179	(166–192)
New Brunswick		**99**	**(92–106)**	**86**	**(80–93)**
1301	Zone 1, N.B. (Moncton area)	108	(94–123)	106	(91–120)
1302	Zone 2, N.B. (Saint John area)	98	(84–113)	103	(88–118)
1303	Zone 3, N.B. (Fredericton area)	91	(77–105)	64	(52–76)
1304	Zone 4, N.B. (Edmundston area)	99	(71–126)	81	(56–106)
1306	Zone 6, N.B. (Bathurst area)	98	(76–119)	73	(54–91)
Quebec		**111**	**(109–114)**	**106**	**(104–109)**
2401	Bas-Saint-Laurent	132	(117–148)	91	(78–104)
2402	Saguenay–Lac-Saint-Jean	109	(97–122)	77	(67–88)
2403	Capitale nationale	151	(141–160)	171	(161–181)
2404	Mauricie et Centre-du-Québec	93	(85–102)	71	(64–79)
2405	Estrie	135	(122–148)	122	(110–135)
2406	Montréal	126	(121–131)	198	(192–205)
2407	Outaouais	95	(85–106)	51	(43–58)
2408	Abitibi-Témiscamingue	134	(115–152)	70	(56–83)
2409	Côte-Nord	136	(113–159)	57	(42–73)
2411	Gaspésie–Îles-de-la-Madeleine	174	(147–200)	69	(52–86)
2412	Chaudière-Appalaches	100	(91–110)	64	(56–72)
2413	Laval	87	(77–96)	68	(59–76)
2414	Lanaudière	84	(75–93)	50	(44–57)
2415	Laurentides	91	(83–99)	45	(39–50)
2416	Montérégie	93	(88–98)	60	(56–64)
Ontario		**85**	**(83–87)**	**92**	**(90–93)**
3501	Erie St. Clair	61	(55–68)	52	(46–57)
3502	South West	82	(76–88)	102	(96–109)
3503	Waterloo Wellington	77	(71–83)	57	(52–63)
3504	Hamilton Niagara Haldimand Brant	76	(71–80)	91	(86–96)
3505	Central West	57	(52–63)	40	(36–44)
3506	Mississauga Halton	69	(65–74)	55	(51–60)
3507	Toronto Central	142	(136–149)	277	(267–286)
3508	Central	81	(76–85)	66	(62–70)
3509	Central East	66	(62–70)	54	(50–58)
3510	South East	98	(89–107)	101	(92–110)
3511	Champlain	110	(104–116)	126	(120–133)
3512	North Simcoe Muskoka	84	(76–93)	52	(45–59)
3513	North East	89	(81–96)	60	(54–67)
3514	North West	105	(92–118)	59	(49–68)
Manitoba		**92**	**(87–98)**	**86**	**(81–91)**
4610	Winnipeg	98	(90–105)	141	(132–150)
4625	South Eastman	62	(43–81)	*	* *
4630	Interlake	72	(54–91)	14	(6–22)
4640	Central	88	(70–106)	14	(7–22)
4645	Assiniboine	77	(56–97)	*	* *

Map Code	Health Region	General/Family Physicians 2007		Specialist Physicians 2007	
		Rate per 100,000	95% CI	Rate per 100,000	95% CI
Saskatchewan		**93**	**(87–99)**	**72**	**(67–78)**
4701	Sun Country	64	(42–85)	*	* *
4702	Five Hills	82	(57–106)	32	(17–48)
4704	Regina	104	(91–117)	85	(73–97)
4705	Sunrise	53	(34–72)	22	(9–34)
4706	Saskatoon	113	(101–125)	144	(130–157)
4709	Prince Albert	117	(92–141)	43	(28–58)
4710	Prairie North	79	(58–100)	23	(12–35)
Alberta		**108**	**(105–112)**	**90**	**(87–93)**
4821	Chinook	101	(86–117)	54	(43–65)
4822	Palliser	86	(69–104)	43	(31–55)
4823	Calgary	116	(110–122)	113	(107–118)
4824	David Thompson	91	(80–101)	33	(27–39)
4825	East Central	85	(68–101)	11	(5–17)
4826	Capital	119	(112–125)	128	(121–134)
4827	Aspen	92	(78–105)	5	(2–9)
4828	Peace Country	78	(64–93)	27	(18–35)
4829	Northern Lights	71	(52–90)	15	(7–24)
British Columbia		**109**	**(106–112)**	**91**	**(88–94)**
5911	East Kootenay	139	(113–165)	30	(18–43)
5912	Kootenay Boundary	144	(117–170)	55	(39–71)
5913	Okanagan	104	(93–114)	85	(75–95)
5914	Thompson/Cariboo/Shuswap	96	(83–109)	53	(43–62)
5921	Fraser East	81	(70–92)	40	(33–48)
5922	Fraser North	83	(75–90)	72	(65–79)
5923	Fraser South	73	(67–80)	47	(41–52)
5931	Richmond	83	(70–96)	61	(49–72)
5932	Vancouver	156	(146–165)	257	(244–269)
5933	North Shore	118	(105–131)	61	(52–70)
5941	South Vancouver Island	146	(134–159)	121	(110–132)
5942	Central Vancouver Island	108	(95–120)	60	(51–70)
5943	North Vancouver Island	128	(108–148)	60	(46–73)
5951	Northwest	131	(106–157)	25	(14–36)
5952	Northern Interior	121	(103–138)	52	(41–64)
5953	Northeast	91	(68–113)	9	(2–16)
Yukon		**207**	**(156–257)**	**26**	**(8–44)**
Northwest Territories		**84**	**(57–112)**	**30**	**(14–47)**
Nunavut		**26**	**(8–44)**	*	* *
Canada		**99**	**(98–100)**	**94**	**(93–95)**

Physicians

Number of physicians per 100,000 population. Counts include all active physicians as of December 31 of the reference year. Physicians in clinical and non-clinical practice are included. Residents and unlicensed physicians who have requested that their information not be published are excluded. Generally, specialist physicians include certificants of the Royal College of Physicians and Surgeons of Canada (RCPSC) and/or the Collège des médecins du Québec (CMQ) with the exception of Saskatchewan, Newfoundland and Labrador, Nova Scotia, New Brunswick and Yukon, where specialists also include physicians who are licensed as specialists but who are not certified by the RCPSC or the CMQ (that is, non-certified specialists). For all other jurisdictions non-certified specialists are counted as general practitioners. With the exception of the criteria just noted, all other physicians are counted as family practitioners, including certificants of the College of Family Physicians of Canada. For further methodological information please see *Supply, Distribution and Migration of Canadian Physicians and Certified and Non-Certified Specialists: Understanding the Numbers* (www.cihi.ca). Physician-to-population rates are useful indicators and are published by a variety of agencies to support health human resource planning. However, due to differences in data collection, processing and reporting methodology, CIHI results may differ from provincial and territorial data. Readers are cautioned to avoid inferences regarding the adequacy of provider resources based on supply ratios alone.
Source: Scott's Medical Database, Canadian Institute for Health Information.

Selected Health Professionals,† 2007

	Nurses		Pharmacists	Dentists	Dental Hygienists	Dietitians	Occupational Therapists	Physio-therapists	Chiropractors	Optometrists	Psychologists
	RNs	LPNs									
N.L.	1,097	511	117	33	21	29	28	38	10	10	..
P.E.I.	1,032	448	111	46	50	40	28	36	6	13	19
N.S.	945	338	107	54	57	51	35	64	11	10	49
N.B.	1,028	364	89	38	44	44	36	58	8	14	43
Que.	840	226	90	54	61	31	49	47	15	16	104
Ont.	707	203	76	63	75	22	32	47	29	12	24
Man.	907	224	101	50	51	34	39	56	21	10	17
Sask.	861	237	113	38	38	27	21	52	17	12	44
Alta.	787	171	98	55	58	26	41	53	26	13	66
B.C.	681	131	78	66	57	22	34	54	23	11	24
Y.T.	1,030	189	70	112	61	23	26	96	22	16	..
N.W.T.	1,421	207		106	45		21	..	..	0	193
Nun.		..	55	167	6		6	..	..	..	58
Canada	**778**	**210**	**86**	**58**	**63**	**27**	**37**	**50**	**22**	**13**	**49**

† Rates per 100,000 population

Total Health Expenditure

	Current Dollars ($' 000,000)				% GDP		% Public Sector	
	Actual 1997	Actual 2006	Forecast 2007	Forecast 2008	1997	2006	1997	2006
N.L.	1,305	2,335	2,501	2,728	12.4	9.1	78.2	76.5
P.E.I.	340	614	665	721	12.2	14.3	67.6	71.0
N.S.	2,364	4,493	4,805	5,102	11.6	14.0	70.6	70.8
N.B.	1,857	3,576	3,778	3,963	11.0	14.1	70.3	70.8
Que.	18,017	31,762	33,900	36,021	9.6	11.2	72.4	71.5
Ont.	30,795	59,986	63,910	67,679	8.6	10.8	66.5	67.1
Man.	3,101	5,874	6,195	6,626	10.4	13.1	72.6	75.2
Sask.	2,656	4,739	5,092	5,365	9.1	10.3	74.4	76.0
Alta.	7,082	17,024	18,604	20,133	6.6	7.1	69.8	71.5
B.C.	10,832	19,963	21,151	22,554	9.5	11.1	73.3	69.8
Y.T.	103	218	234	244	9.3	14.0	83.2	81.9
N.W.T.	307	359	392	417	11.4	8.7	91.4	83.7
Nun.	..	336	351	356	..	28.4	..	94.8
Canada	**78,759**	**151,279**	**161,576**	**171,909**	**8.9**	**10.5**	**70.1**	**69.9**

Total Health Expenditure by Use of Funds (Percentage Distribution of $' 000,000)

	1997					2006				
	Institutional Services	Professional Services	Drugs	Public Health	Capital and Other Health	Institutional Services	Professional Services	Drugs	Public Health	Capital and Other Health
N.L.	56.1	18.7	14.3	4.0	6.9	52.9	18.9	16.4	3.9	7.9
P.E.I.	50.4	20.1	15.7	3.8	10.0	44.4	19.6	16.9	4.8	14.3
N.S.	52.0	21.7	15.4	2.6	8.3	45.3	22.1	17.9	3.1	11.6
N.B.	49.1	21.3	15.9	3.3	10.4	43.7	20.1	17.1	3.2	15.9
Que.	46.9	23.9	15.1	3.5	10.6	42.0	20.9	19.9	4.0	13.2
Ont.	38.6	29.2	15.9	4.4	11.9	36.8	25.3	17.3	6.7	13.9
Man.	46.4	22.6	12.4	5.3	13.3	43.0	21.2	14.1	6.2	15.5
Sask.	39.9	23.1	13.5	6.7	16.8	40.5	22.3	14.3	9.0	13.9
Alta.	40.4	26.3	13.6	6.5	13.2	36.3	24.4	13.7	9.2	16.4
B.C.	41.6	29.3	11.5	4.6	13.0	34.8	27.8	14.3	5.8	17.3
Y.T.	36.9	20.9	10.4	16.0	15.8	39.6	16.5	10.2	15.3	18.4
N.W.T.	45.2	13.0	6.6	9.8	25.4	50.7	17.2	6.1	7.0	19.0
Nun.	..	..	..	..	..	41.5	13.6	5.5	9.0	30.4
Canada	**42.4**	**26.6**	**14.6**	**4.5**	**11.9**	**38.7**	**23.9**	**16.7**	**6.1**	**14.6**

Health professionals

Number of health professionals (selected health professions) per 100,000 population.
Registered nurses (RNs), **licensed practical nurses** (LPNs), **pharmacists** (with the exception of Quebec, Manitoba and Nunavut), **physiotherapists** (with the exception of Nova Scotia, Manitoba and Nunavut) and **occupational therapists** (with the exception of Quebec): rates reflect health professionals registered with active-practising status who are employed in these health professions. For other health professionals, data reflect personnel regardless of employment status and include the number of active registered **dentists**; registered **dental hygienists**; registered **dietitians**; registered **chiropractors**; active registered **optometrists**; and active registered **psychologists**.
Notes: Data on occupational therapists for Quebec may include different membership categories for registrants due to differences in data collection. Data on RNs for the territories and physiotherapists for the Yukon include secondary registrations. Personnel-per-population rates are revised annually using the most recent Statistics Canada population estimates and therefore may differ slightly from previously published figures. Rates may differ from data published by provincial/territorial regulatory authorities due to the CIHI collection, processing and reporting methodology. Please consult Canada's *Health Care Providers, 1997 to 2006: A Reference Guide* and the *HPDB Technical Report* for more detailed methodological notes, data quality issues and profession-specific information.
Sources: Health Personnel Database, Canadian Institute for Health Information; population estimates from Quarterly Demographic Estimates, Statistics Canada, catalogue no. 91-002-X.

Total health expenditure

Total health expenditure includes any type of expenditure for which the primary objective is to improve or prevent the deterioration of health status. Presented in current dollars and as a proportion of gross domestic product (GDP). This definition allows economic activities to be measured according to primary purpose and secondary effects. Activities that are undertaken with the direct purpose of providing or maintaining health are included. Other activities are not included, even though they may impact health. For example, funds aligning with housing and income support policies which have social welfare goals as their primary purpose are not considered to be health expenditures, yet they are recognized as powerful factors in determining population health.
Source: National Health Expenditure Database, Canadian Institute for Health Information.

Proportion of public sector

Public-sector health expenditure presented as a proportion of total health expenditure. Public sector includes health care spending by governments and government agencies.
Source: National Health Expenditure Database, Canadian Institute for Health Information.

Total health expenditure by use of funds

Percentage distribution of total health expenditure by health-spending category. **Institutional services** includes hospitals and residential care types of facilities that are approved, funded or operated by provincial/territorial governments. **Professional services** includes expenditures on primary professional fees paid to physicians in private service as well as for the services of privately practising dentists, denturists, chiropractors and other health professionals. This category does not include the remuneration of health professionals on the payrolls of hospitals or public-sector health agencies and generally represents amounts that flow through provincial medical care plans. **Drugs** includes expenditures on prescribed drugs and non-prescribed products purchased in retail stores. This category does not include drugs dispensed in hospitals and other institutions. **Public health** is that provided by governments and governmental agencies and includes expenditures for items such as food and drug safety, health inspections, health promotion, community mental health programs, public health nursing, measures to prevent the spread of communicable diseases and other related activities. **Capital and other health** includes expenditure on construction, machinery, equipment and some software for hospitals, clinics, first-aid stations and residential care facilities (capital); cost of providing health insurance programs by the government and private health insurance companies and all costs for the infrastructure to operate health departments (administration expenditures); and, at the aggregate level, expenditures on home care, medical transportation (ambulances), hearing aids, other appliances and prostheses, health research and miscellaneous health care (other health).
Source: National Health Expenditure Database, Canadian Institute for Health Information.

General Notes

- The methodology used for these indicators was designed to maximize inter-regional, interprovincial and interterritorial comparability given the characteristics of available national data sets. For this reason, there may be differences between definitions, data sources and extraction procedures used in some local, regional or provincial/territorial reports when compared to those described here. In addition, discrepancies may exist due to ongoing updates to the databases. Data presented here include the latest updates available at the time of publication.
- Health regions are defined by provincial governments as areas of responsibility for regional health boards (that is, legislated), or as regions of interest to health care authorities. In order to determine what health region a patient belongs to, postal codes are first mapped to census geography using Statistics Canada's Postal Code Conversion File (Vintage March 2008) and then to a health region using another Statistics Canada product, "Health Regions: Boundaries and Correspondence With Census Geography." Boundaries are those that were in effect as of December 2007.
- Data for regions with a population of at least 50,000 are reported. This threshold ensures stability in rates and reduces the risk of suppression stemming from privacy and confidentiality issues.
- Records with invalid, missing or partial postal codes cannot be mapped to a health region and therefore are not included in the regional rates. However, they are included in the provincial rates when possible. Non-Canadian residents are excluded from Canada rates; they are identified by mini–postal codes relating to one of the U.S. states or by a postal code value indicating out-of-country residents.
- With the exception of in-hospital hip fracture rates, indicator data are reported based on the region of the patient's residence, not region of hospitalization. In-hospital hip fracture rate is a measure of patient safety in a hospital. Therefore, this indicator is reported based on the jurisdiction where hospitalization occurred, not the jurisdiction of patient residence.
- Unless otherwise specified, hospitalizations include discharges and deaths for inpatients in acute care hospitals for the reference period. Same-day surgery (outpatient) cases are included in several indicators. Patients admitted to non–acute care hospitals (for example, chronic care, psychiatric or rehabilitation facilities) are not included in the totals.
- For procedure-derived indicators (for example, hip and knee replacement, percutaneous coronary intervention and coronary artery bypass graft surgery), rates are based on the total number of discharges rather than the total number of interventions. For example, a bilateral knee replacement provided at the same admission is counted as one event. Procedure-derived indicators include discharges from acute care hospitals as well as same-day surgery facilities, where applicable.

- Quebec data for 2006–2007 and 2007–2008 were unavailable for inclusion in this publication. In addition, residents from other provinces and territories hospitalized in Quebec in these years could not be included in the rates of their home provinces or territories. Also, Canada rates for most indicators were not calculated for 2007–2008. Updated rates and their statistical significance will be posted in the *Health Indicators* e-publication as soon as data become available.
- Standardized rates are adjusted by age (collapsed to five-year groupings) using a direct method of standardization based on the July 1, 1991, Canadian population.
- Alberta is in transition to a new health care structure; the data for Alberta in this publication reflect the previous regional boundaries. The new structure will be reflected in future publications.
- The 2003–2004 rates are presented alongside the 2007–2008 rates for selected indicators in this publication. Wherever feasible and applicable, the 2003–2004 rates were re-calculated using the 2007–2008 definition.
- ICD-10-CA and the Canadian Classification of Health Interventions (CCI) systems of coding diagnoses and procedures came into effect in 2001; by April 1, 2004, they were adopted by all provinces and territories with the exception of Quebec. Indicator cases were extracted based on the classification systems that were in use by jurisdictions for each reference year.
- Hospitalization data for 2006–2007 for Peace Country Health Region in Alberta were incomplete (missing three months of data), and several indicators—including 30-day AMI in-hospital mortality, 30-day stroke in-hospital mortality, AMI readmission, asthma readmission, hysterectomy readmission, prostatectomy readmission and in-hospital hip fracture, which are based on three-year pooled data (2005–2006 to 2007–2008)—should be interpreted with caution, though the effect on these rates should be minimal.
- Due to the differences in data submission, the same Manitoba resident treated in and outside of the province could not be identified as the same individual. This may affect a small number of cases for indicators that require tracking patients beyond one hospitalization.
- See the *Health Indicators* e-publication (www.cihi.ca/indicators or www.statcan.ca) for diagnosis and procedure codes used to extract the indicator data and detailed definitions and technical notes. Indicator rates for years prior to those appearing in this publication are also available in the e-publication.

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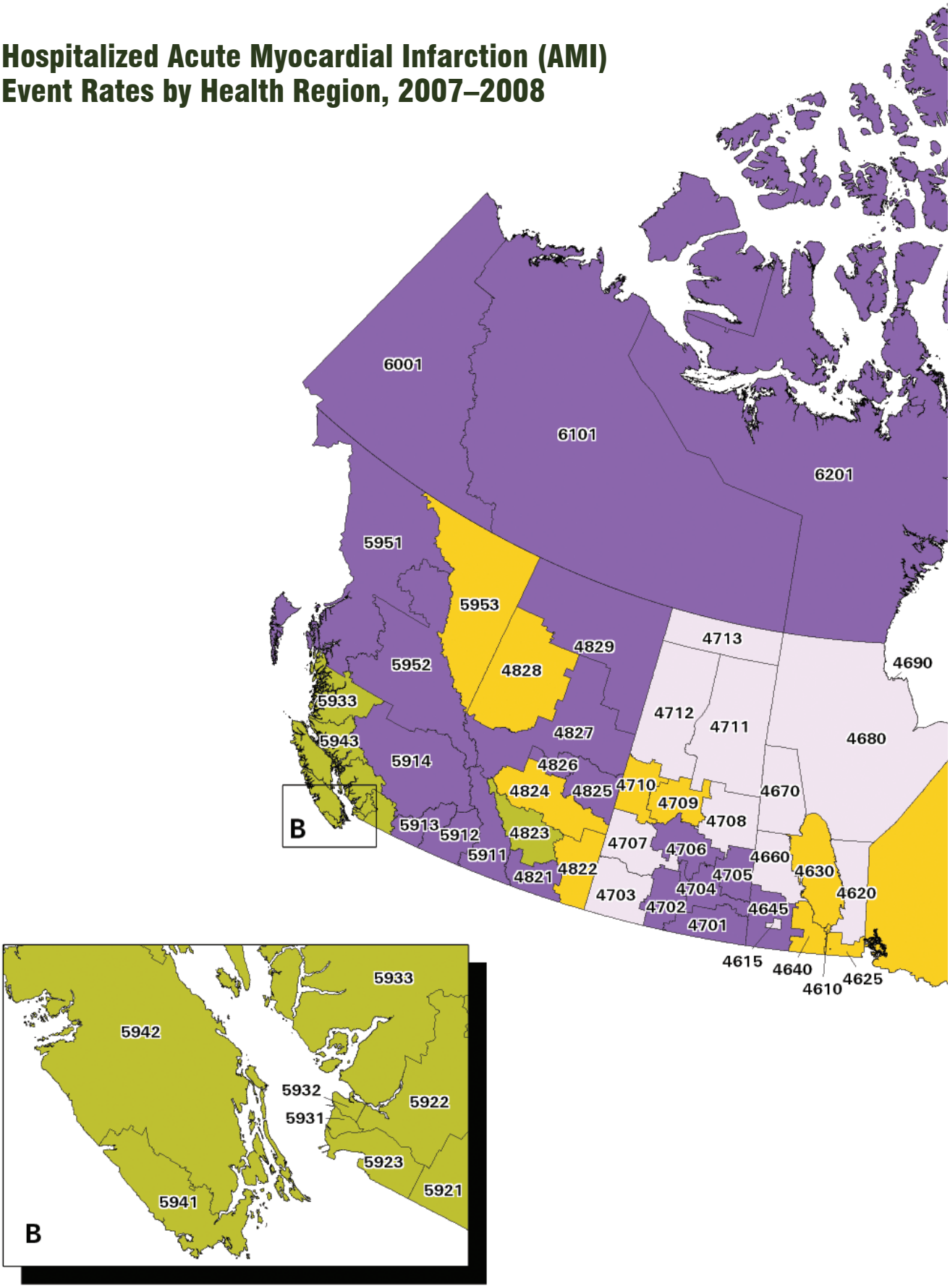
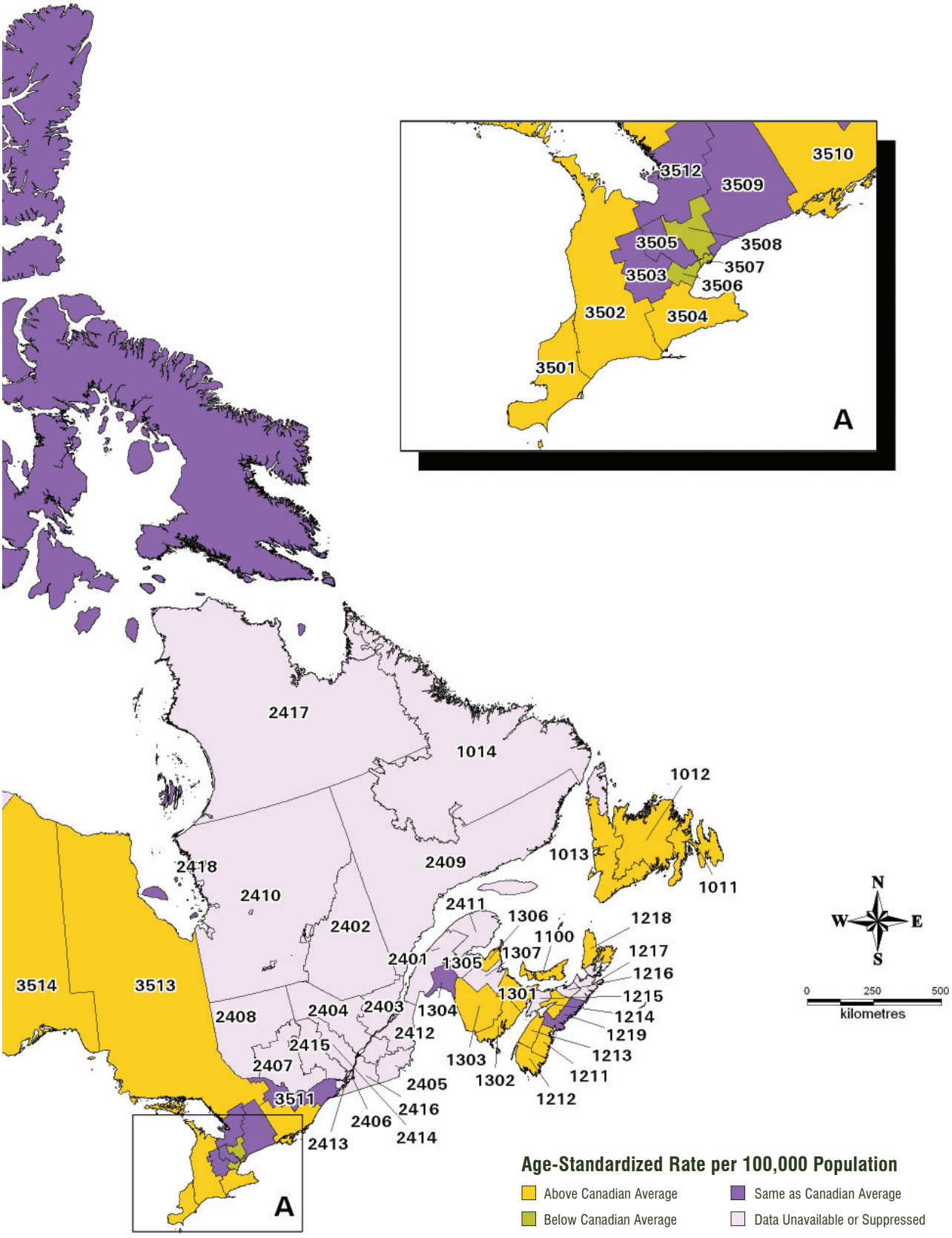
Hospitalized Acute Myocardial Infarction (AMI) Event Rates by Health Region, 2007–2008





Note
For Prince Edward Island (1100), Yukon (6001), the Northwest Territories (6101) and Nunavut (6201), the data on the map represent the entire province or territory.

Source
Discharge Abstract Database, Canadian Institute for Health Information.

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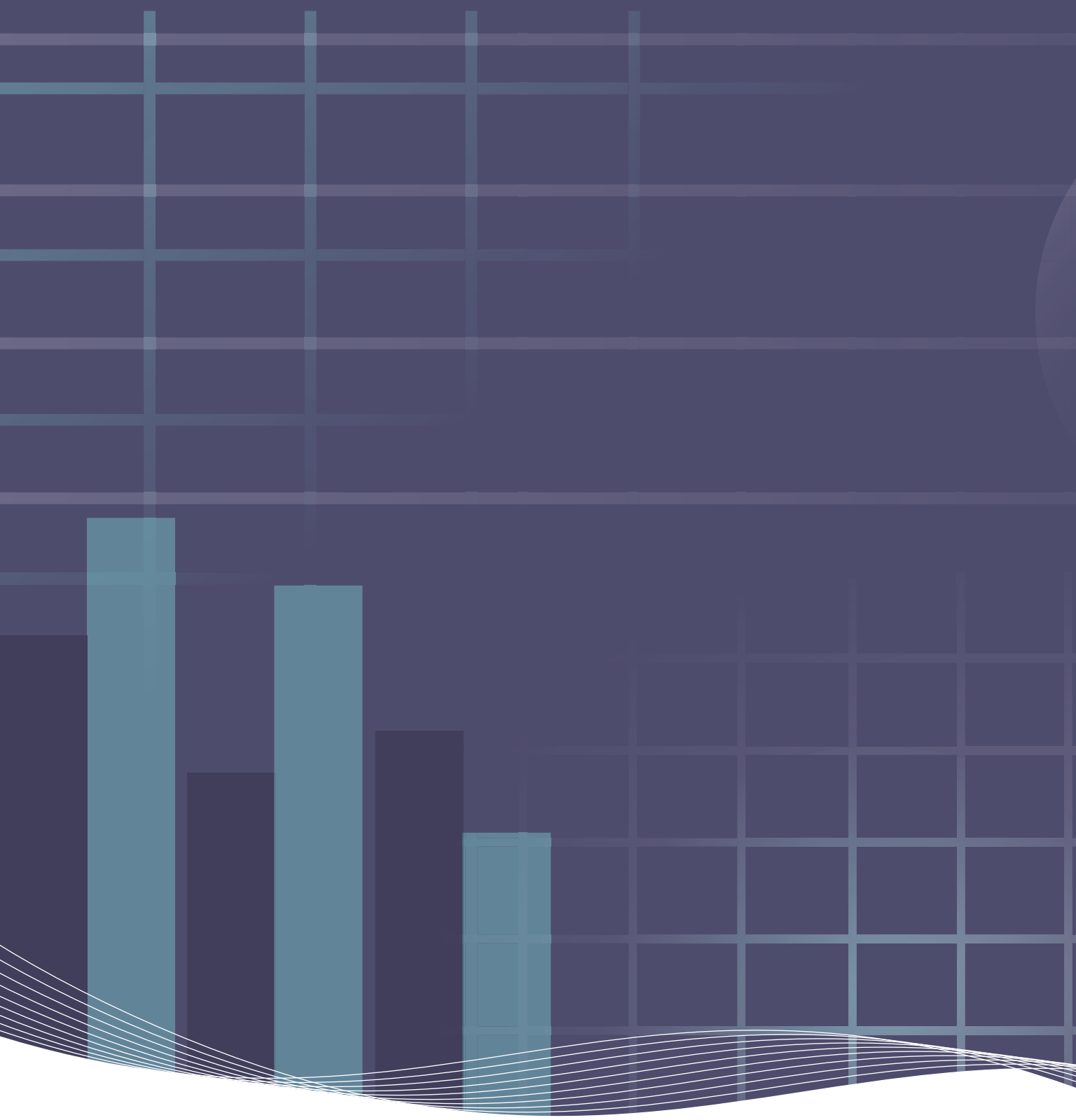

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