



Data in Action

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The relationship of length of stay to hospital readmission for individuals with schizophrenia

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Analysis in Brief
Taking health information further

April 17, 2008

Hospital Length of Stay and Readmission for Individuals Diagnosed With Schizophrenia: Are They Related?

Summary

Pan-Canadian data show relatively high rates of readmission and declining lengths of stay (LOS) among individuals hospitalized for mental illness. In this Analysis in Brief the relationship between hospital readmissions and LOS was examined for individuals aged 15 to 65 years who were diagnosed with schizophrenia in an initial episode of hospitalization. The investigation revealed that shorter initial hospital stays were related to higher rates of readmission. A relationship was also found between initial LOS and the number of days until readmission to hospital for individuals diagnosed with schizophrenia, individuals whose initial hospital stays were longer had longer intervals between hospitalizations. This association was observed for short-, medium- and longer-term readmissions, but in the case of both the likelihood of readmission and time to readmission, the relationship was most pronounced for short-term (or 30-day) readmissions.

Introduction

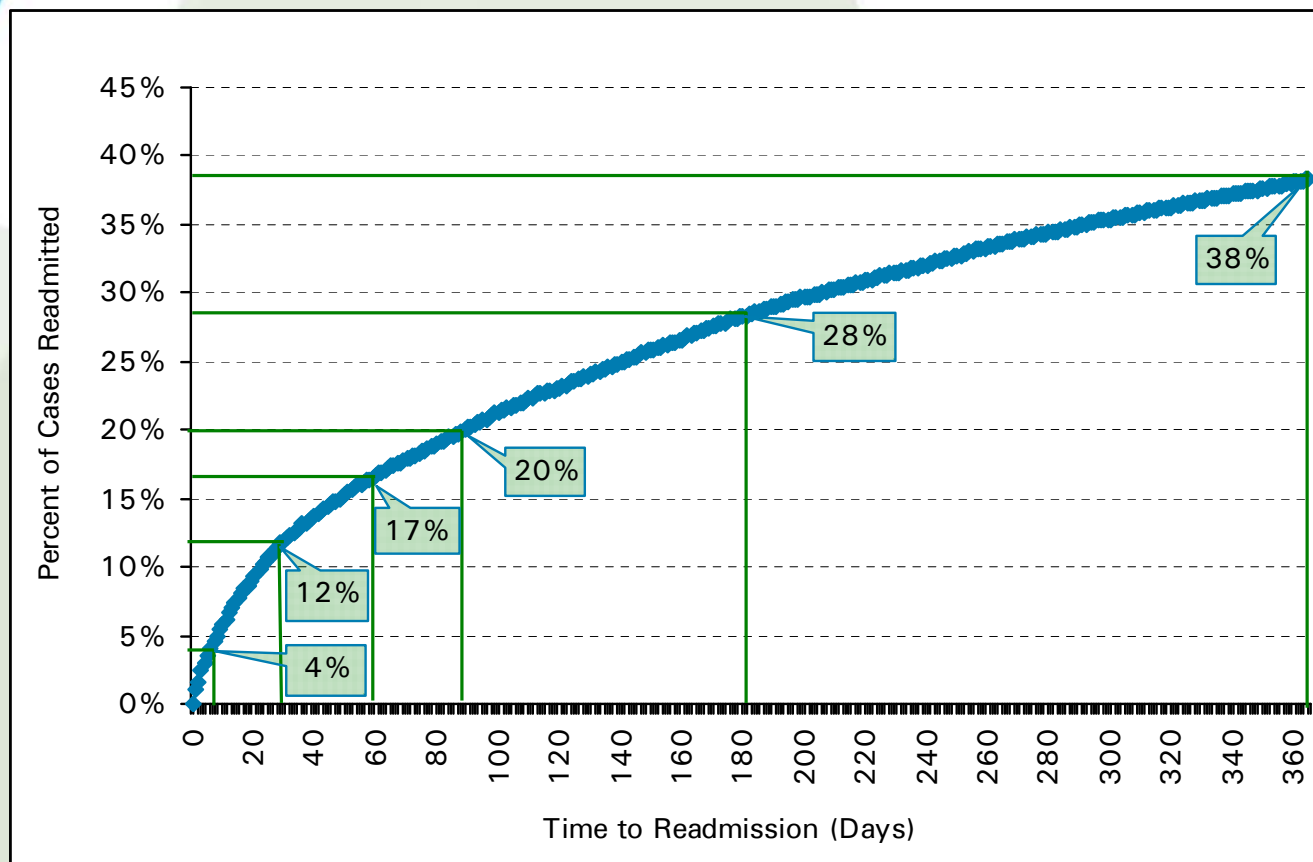
In Canada, as in other countries, the rates of re-hospitalization or readmission for mental illness are very high relative to those for most other diseases.^{1,2} Among mental illnesses, readmission rates for schizophrenia and psychotic disorders are among the highest. The chronic, highly debilitating and refractory nature of these disorders means that stabilization of an individual's condition regularly requires long stays in hospital.

In light of this, the historical trend towards shorter hospital stays for mental illness prompts the question of whether less desirable outcomes, as reflected in unplanned hospital readmissions, can be expected. It might also be expected that as more time passes following a hospital stay, factors such as the availability of outpatient and community services would play a role in determining whether symptoms remain stable or there is a relapse that requires readmission to hospital.

What is it?

- Analysis looking at the relationship between length of acute care hospital stay and subsequent readmission among individuals diagnosed with schizophrenia.
- Data from all Canadian provinces; focuses on readmissions through emergency for mental illness.
- Compares outcomes for short- (1–30 days), medium- (31–60 days) and longer-term (61–90 days) readmissions.

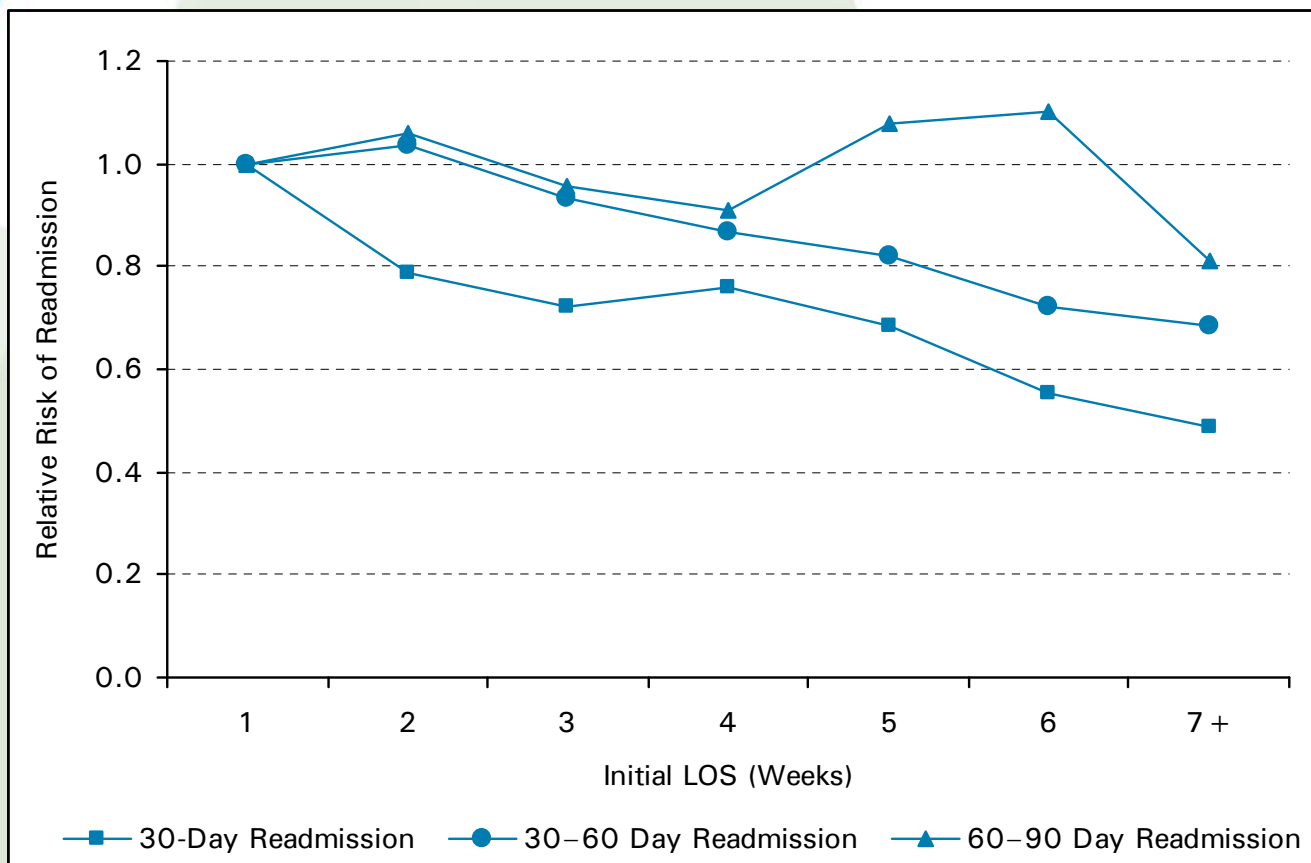
Percent of cases readmitted



Based on 17,651 initial admissions.

Source: Hospital Morbidity Database 2003–2004 and 2004–2005,
Canadian Institute for Health Information.

Longer initial hospital stays are related to lower risk of readmission (particularly in the short term) for individuals with schizophrenia

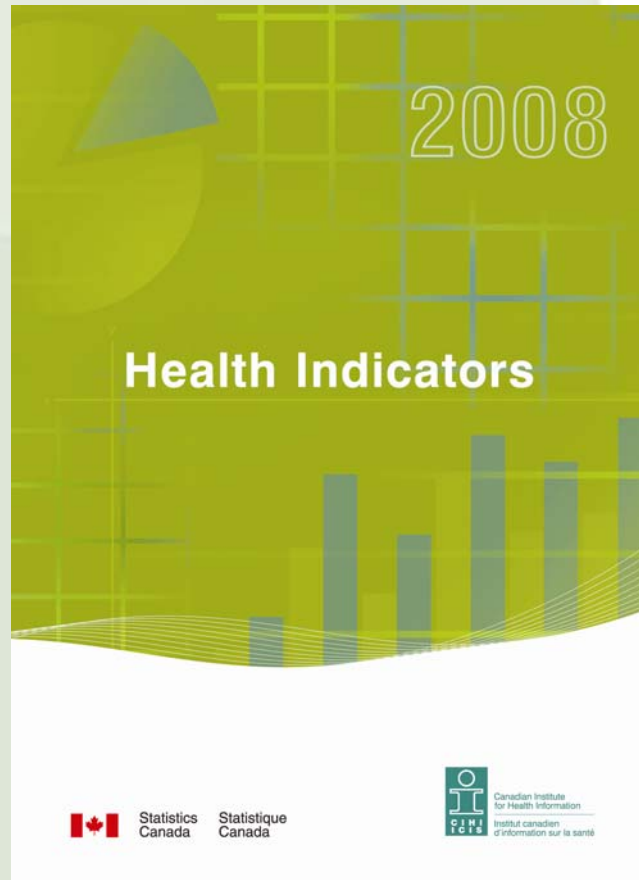


Why this matters

- These are unplanned readmissions and they're disruptive for patients and their families.
- There's a financial cost that goes along with this, so knowing what we do now, this is information that health providers and planners can work with.

Health Indicators, 2008

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Ambulatory care sensitive conditions (ACSC)

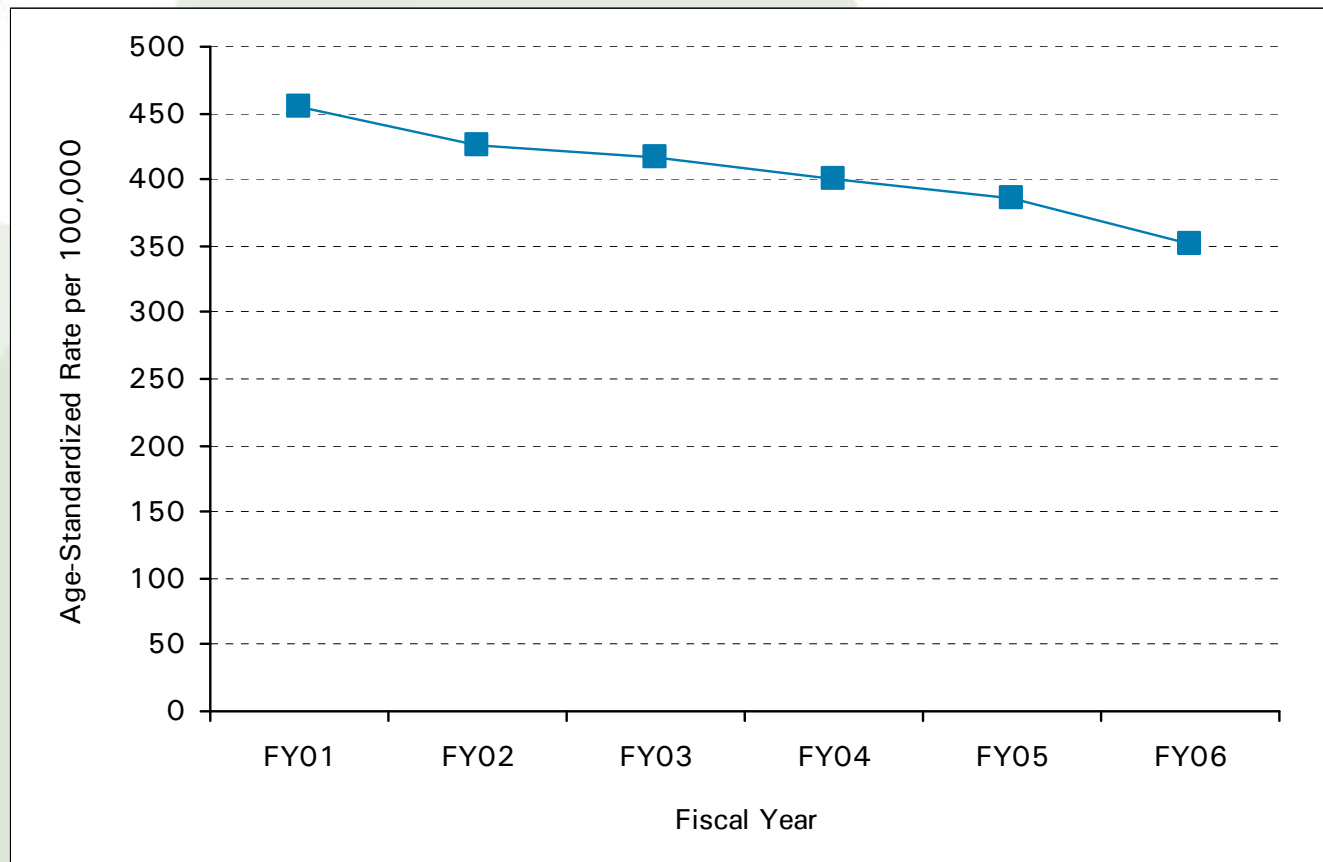
- These are conditions where appropriate primary care in the community might prevent or reduce the need for hospitalization.
- Include: asthma, diabetes and hypertension.

ACSC hospitalization rate

Definition:

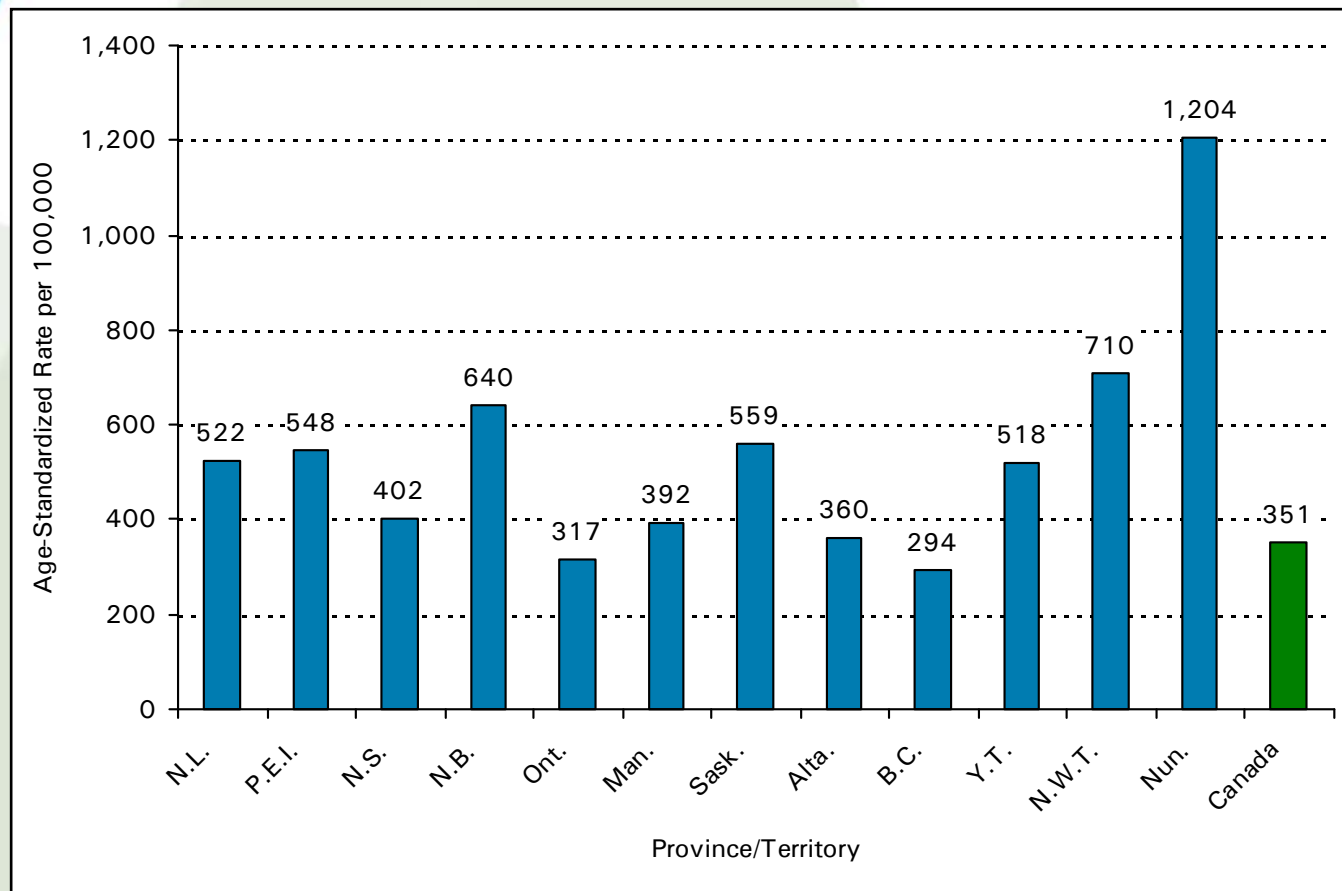
- Age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care prevents or reduces the need for admission to hospital, per 100,000 population under age 75 years.

ACSC trend, Canada

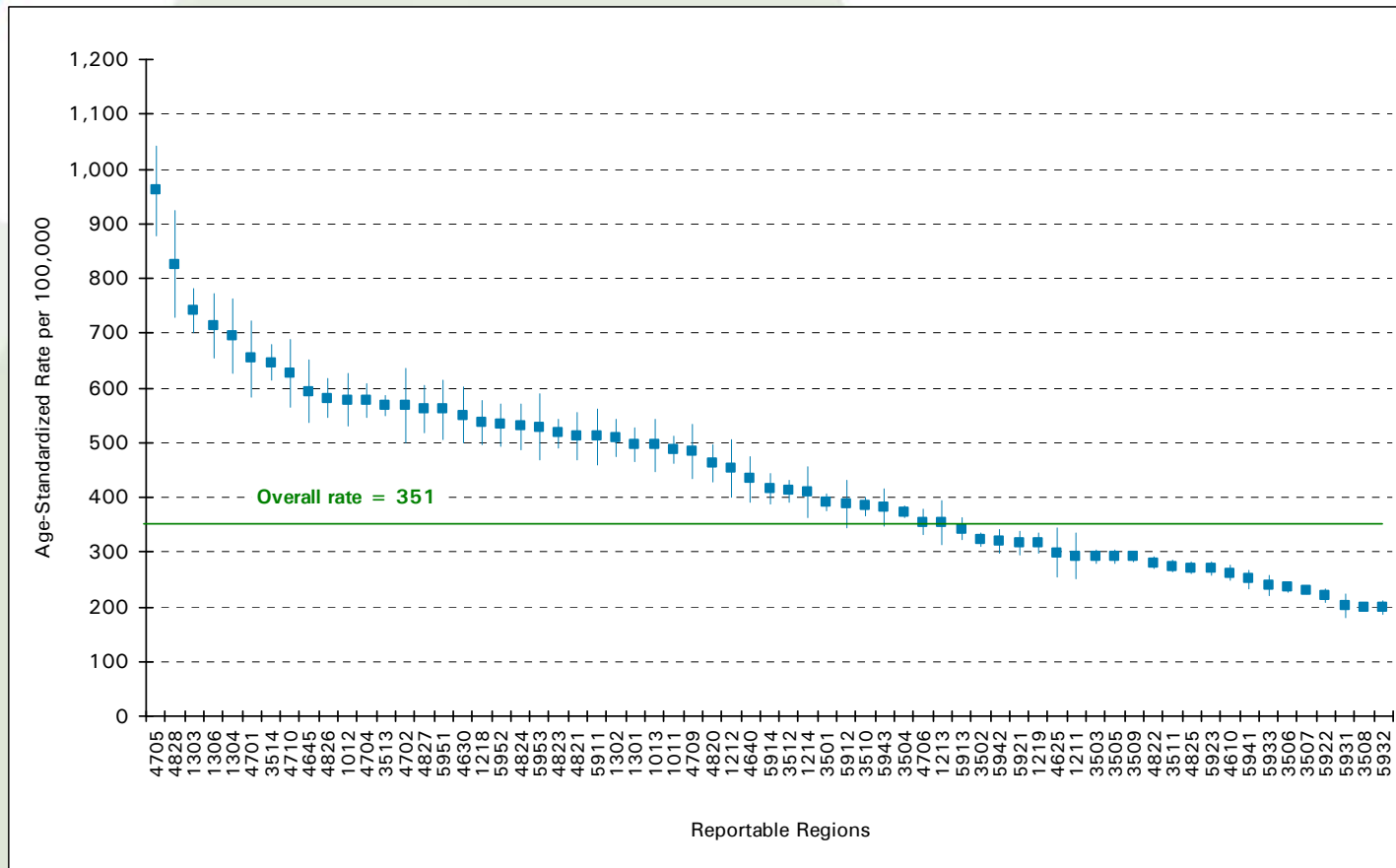


Rate for FY06 does not include Quebec.

ACSC by province and territory, 2006–2007



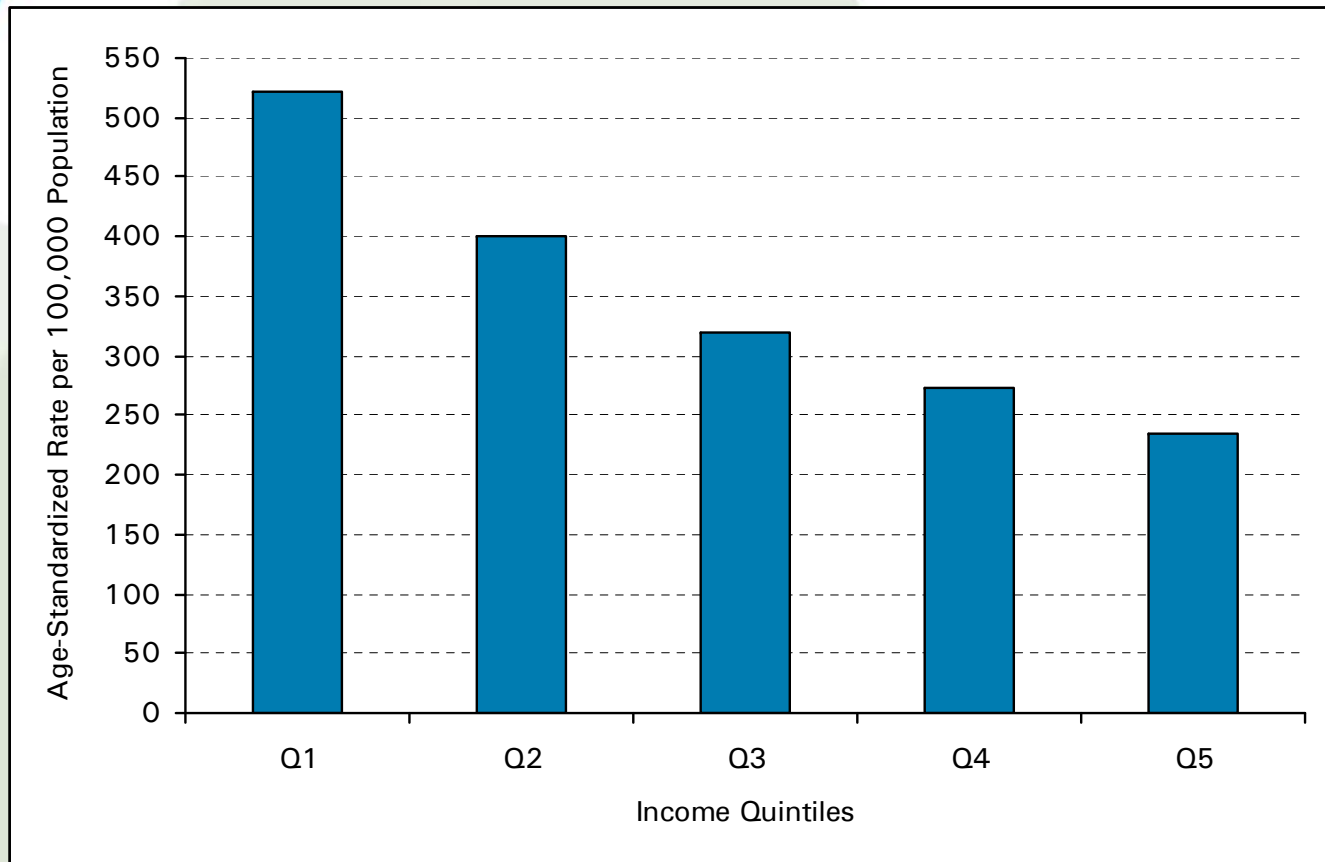
ACSC by regions, 2006–2007



Quebec data for 2006–2007 are not available.

Overall rate does not include Quebec.

ACSC by income, 2006–2007



Note: Rates do not include Quebec.

Source: 2006–2007 Discharge Abstract Database, Canadian Institute for Health Information.


ACSC hospitalization rate in the lowest income quintile (521 per 100,000 population) was more than twice as high as the rate in the highest income quintile (234 per 100,000 population).

Why this matters

- Hospital stays can be disruptive for patients and costly for the system as a whole.
- Higher rates of admission may signal an opportunity to improve the planning or delivery of primary health care services to better meet the needs of the population.

Hospitalizations, early revisions and infections following joint replacements

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Analysis in Brief
Taking health information further

March 26, 2008

Hospitalizations, Early Revisions and Infections Following Joint Replacement Surgery

Introduction

Hip and knee replacement procedures are a treatment option for patients experiencing severe pain and limited mobility, usually associated with arthritis or another joint disorder.¹ During the surgery, an artificial joint replaces the damaged joint. Since the procedure was first introduced in the late 1950s and popularized in the early 1980s, many studies have found it to be a relatively low-risk procedure, often resulting in considerable improvement in a patient's functional status and quality of life.^{2,3,4}

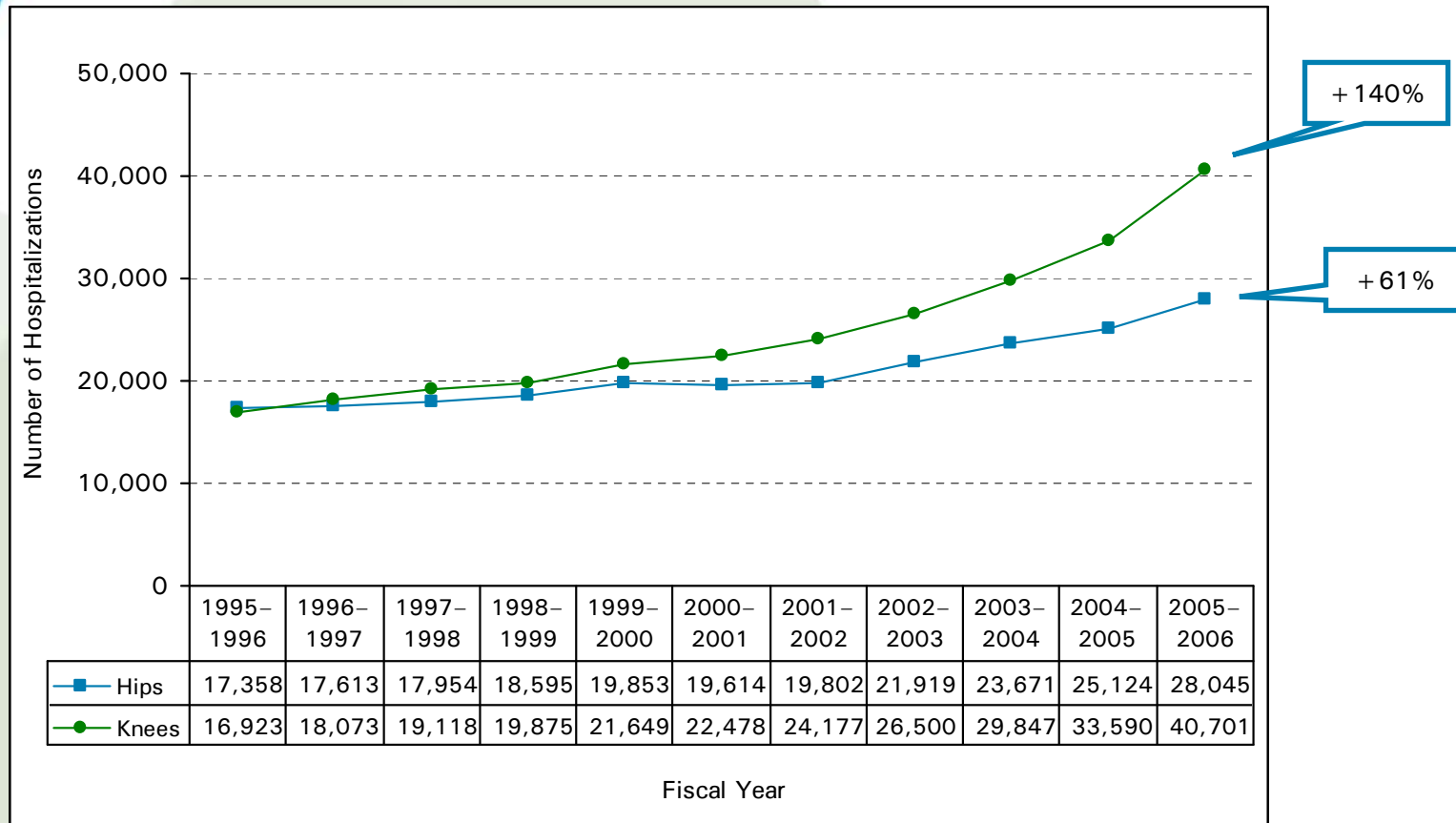
In 2004, Canada's first ministers identified joint replacement as a priority for wait time reduction, along with cancer, heart surgery, sight restoration and diagnostic imaging.⁵ Waits for joint replacement surgery are among the longest across the five priority areas.⁶ One strategy being pursued to improve access and reduce wait times is to increase the number of procedures being done. In 2005–2006, the first fiscal year following the first ministers' agreement, hip and knee replacements grew by 17%.¹

In addition to its prominence as a wait time priority area, joint replacement surgery has received considerable attention in policy, management and clinical circles for several reasons:

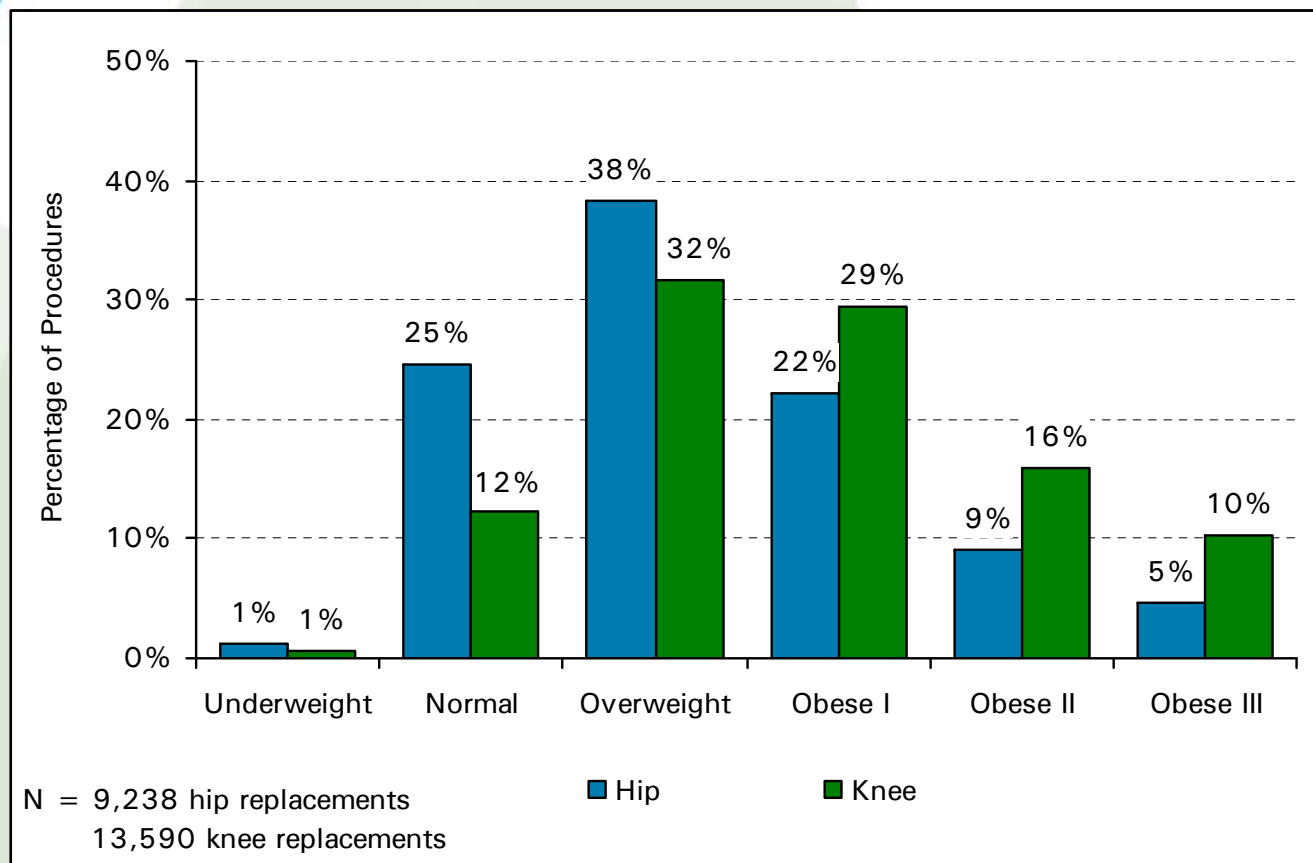
- **Frequently performed surgery.** Hip and knee replacements are among the most common elective surgeries performed in the country.
- **Resource-intensive procedure.** Joint replacements are major surgery, typically involving hospital stays of six to eight days.¹ Average hospital costs for the procedure are more than \$9,000 for unilateral hip replacements and more than \$8,000 for unilateral knee replacements.⁷
- **Growing and changing utilization.** Recent data from the Canadian Institute for Health Information (CIHI) show that the number of joint replacement procedures performed in Canada has doubled over the past 10 years.¹ Some of this growth may be associated with people living longer and an increasing prevalence of arthritis as the population ages.⁸ Another factor is changing indications for surgery. For example, while total knee replacement rates have increased for all age groups, rates grew much more quickly than the average for those aged 45 to 54, suggesting a shift in the types of patients receiving surgery.¹ Yet another factor influencing growth may be the designation of joint replacement as a wait time priority area.

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Joint replacements on the increase

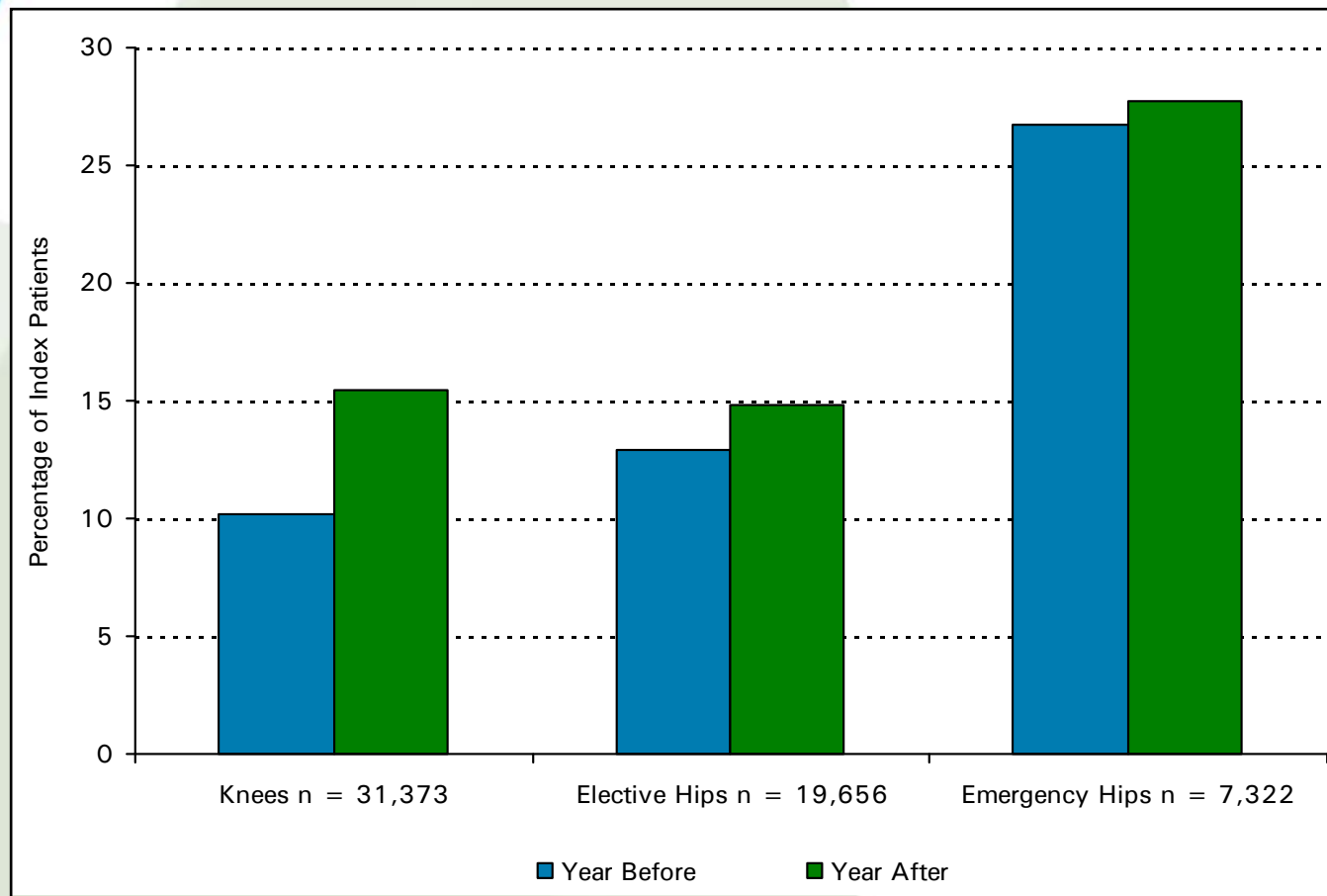


Significant association between body mass and hip replacements; even stronger for knee



Patient Sub-Group	Patients Hospitalized in Year Before Surgery	Patients Hospitalized in Year After Surgery	Percent Change
Type of surgery			
Knee replacement	3,192	4,853	+ 52%
Hip replacement	2,531	2,917	+ 15%
Age group			
Under 50	323	371	+ 15%
50-79	4,278	5,917	+ 38%
80+	1,122	1,482	+ 32%

15% of patients hospitalized within a year of surgery



Index patients had a primary joint replacement in an acute facility in 2005–2006, excluding Quebec. Hospitalizations exclude those for other primary joint replacements.

Estimated cost of “extra” hospitalizations is \$45 million (elective patients only)

- 10,000 more weighted cases for elective patients in year after surgery @ \$4500/weighted cases (2005–2006)
- Some small groups of patients have high costs
- 1.2% of elective patients had a revision within one year
- 535 elective patients who have revision in a separate episode of care— \$7 million

Other findings

- Patients hospitalized for infections spent on average twice as long in hospital compared to those admitted for other reasons following surgery.
- Men were more likely to be hospitalized with an infection.
- Patients with diabetes had a higher rate of infection.

Why this matters

- This tells us that while joint replacement surgery can certainly improve the quality of a patient's life, it is not always without complications.
- Investigating the reasons for these extra hospitalizations can offer opportunities to improve quality, reduce costs and improve both hospital and surgeon availability for other patients who need care.

Other recent CIHI reports . . .

- Health Human Resources
- *Improving the Health of Canadians: Mental Health, Delinquency and Criminal Activity*
- *Hormone Replacement Therapy: An Analysis Focusing on Drug Claims by Female Seniors, 2000 to 2007*

Upcoming reports

- *Health Care in Canada, 2008*
- Primary Health Care in Canada Chartbook
- *Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada*

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