Wait Time for Hip Fracture Surgery in Canada

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Illustration by Eric Hart.

Each year thousands of Canadians aged 65 years and older trip, slip or fall in their homes, outdoors or elsewhere. Although many of these accidents do not cause injuries, some people receive injuries serious enough to require hospitalization. For these seniors, hip fractures can result in undesirable outcomes including loss of mobility and independence, financial instability and mortality. On a positive note, research also finds that seniors are less likely to fracture their hip today than in the past (Canadian Institute for Health Information [CIHI] 2007). Additionally, shorter wait times for surgery for hip fracture can improve outcomes, including reduced mortality (Bottle and Aylin 2006; D'Angelo 2005; Leeb et al. 2006; McGuire et al. 2004), fewer post-operative complications and reduced lengths of stay (Orosz et al. 2004; Rogers et al. 1995).

This article highlights key findings from a recent report – *Health Indicators 2007* (CIHI 2007) – that was produced by CIHI in partnership with Statistics Canada. *Health Indicators 2007* provides regional data for over 40 key measures, including hip fracture hospitalization rates and the new wait time indicator for hip fracture surgery, two important health system performance indicators. For the first time, this report also presents interpretative analyses by highlighting select patient and system characteristics that relate to regional variation in these rates.

Admissions for Hip Fractures Are Falling

In 2005–2006, there were approximately 28,200 admissions to Canadian hospitals for hip fractures. The vast majority (25,000 or about 88%) involved patients aged 65 years and older. This represents 502 hip fracture hospitalizations per 100,000 seniors – down from 575 in 2000–2001 – and corresponds to a drop of 13% over this period, after adjustments are made for population growth and aging.

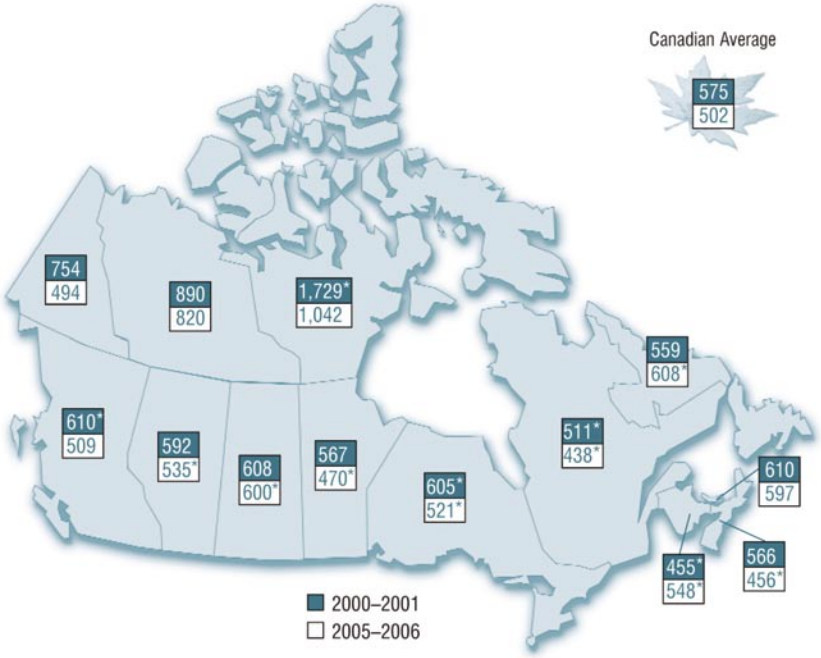
Although the Canadian hospitalization rate for hip fractures decreased over the six-year period, there were significant variations across the country.

Although the Canadian hip fracture hospitalization rate decreased over the six-year period, there were variations across the country. In fact, rates in some regions were more than double those in others. Newfoundland and Labrador, Ontario, Saskatchewan, New Brunswick and Alberta had age-adjusted hospitalization rates that were significantly higher than the Canadian average in 2005–2006. Nova Scotia, Quebec and Manitoba had significantly lower age-adjusted hospitalization rates.

Beyond regional differences in the distribution of demographic characteristics, a number of other factors may explain these variations. For example, differences in patterns of health and illness as well as the prevalence of risk factors for hip fractures (e.g., low body weight, body mass or bone density; comorbid medical conditions; osteoporosis and other related diseases; caffeine use; smoking; season and weather) may act to increase or decrease the risk for hip fractures across various regions.

Figure 1. The Hospitalization Rates for Hip Fractures across Canada

The map shows age-standardized hospitalization rates for hip fracture among Canadians aged 65 years and older in 2000-2001 and 2005-2006 based on where patients lived, not where they were treated. There are fluctuations in those rates within that period. In 2005-2006, rates varied from a low of 438 per 100,000 seniors in Quebec to a high of 1,042 in Nunavut.



* Rates are significantly different than the Canadian average.

Sources: Discharge Abstract Database, CIHI; Hospital Morbidity Database, CIHI; ministére de la Santé et des Services sociaux du Québec.

Defining Wait Times for Hip Fracture Surgery

Wait time for hip fracture surgery is measured here as the number of days between admission to an acute care hospital and surgery for patients aged 65 years and older. (It is important to note, however, that wait time for hip surgery is affected by many factors, including changes in the burden of disease, indications for surgery and the availability of specialists and other hospital resources. These factors not only affect a patient's wait time before surgery, but can also influence the overall length of stay in hospital.) Hip fractures that occurred in hospital are not included. (Although the vast majority of hip fractures occur in the community, a significant number happen in hospitals, nursing homes and long-term care settings. The current analyses are based on the regional rates for hip fracture hospitalizations per 100,000 population. Rates for in-hospital hip fracture can be found on pages 52 and 53 in *Health Indicators 2007* [CIHI 2007].) Specifically, the current analyses use a same day/next day and same day/next day/day after wait time indicator since analyses are based on national data. As such, this indicator is not intended to be a proxy for the 48-hour benchmark outlined by the 2005 First Minister's agreement, for which some jurisdictions and hospitals may have more precise information than is available in the national database. Additionally, provincial, territorial and regional rates are based on where patients live, not on where they are treated. Data from Quebec were not included due to differences in data collection. The wait time percentages reported are adjusted for age, sex and selected pre-admission comorbidities (i.e., heart failure, hypertension, chronic obstructive pulmonary disease, diabetes with complication and cardiac dysrhythmia).

Regional Differences in Wait Times for Hip Fracture Surgery

Hospitals outside of Quebec performed about 17,000 procedures on seniors to repair hip fractures in 2005–2006. Almost two-thirds (65%) of these patients received their surgery on the day of admission to hospital or the next day. About 85% of patients received their surgery on the day of admission, the next day or the day after. However, some waited longer–8% spent four or more days in hospital before their surgery (Figure 2).

However, the rate at which seniors admitted with hip fracture receive surgery on the day they were admitted to hospital or the next day varies across the country. Prince Edward Island and British Columbia (at approximately 78% and 71% respectively) had risk-adjusted rates that were significantly higher than the Canadian average in 2005–2006. Manitoba and Saskatchewan (at approximately 53% and 56% respectively) had significantly lower rates than average.

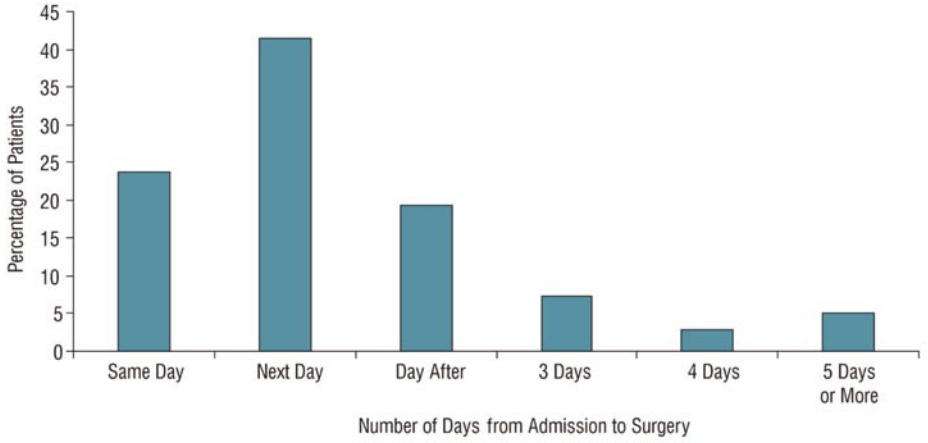
Behind the Rates: Who Waits Longer for Hip Fracture Surgery?

Certain patient and system characteristics influence wait time. Our analyses showed, for example, that sex and the presence of comorbid illnesses are each related to how long a patient waits for hip fracture surgery once admitted to hospital. Specifically, men were less likely than women to undergo surgery on the day of or day after admission (63% versus 66%). Individuals with pre-admission comorbidities were also likely to have their surgery delayed.

About 8% of patients in our analyses were transferred to a facility other than the one to which they were initially admitted.

Figure 2: Wait Time for Hip Fracture Surgery

The graph shows the number of days between admission with a hip fracture and surgery. Data include Canadians aged 65 years and older admitted to hospitals outside of Quebec in 2005–2006. About two-thirds (65%) of hip fracture surgeries were performed on the day of admission or the next day.



Sources: Discharge Abstract Database, CIHI.

Patients who were transferred at least once were less likely to have surgery on the day of or day after admission (31% did so) than patients not transferred (68%). In addition, patients cared for in small hospitals were more likely to receive their hip fracture surgery on the day of or day after admission (74%) compared with patients admitted to medium and large hospitals (67%) or teaching hospitals (57%). Surgical volume also played a role. Patients admitted to lower-volume facilities (i.e., where fewer than 137 hip fracture procedures were performed in 2005–2006) were more likely to receive their surgery on the day of or day after admission compared with patients in higher-volume facilities (i.e., where 137 or more hip surgeries were performed).

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Unlike admissions for elective surgery, most hospital admissions for hip fracture are not planned. Our analyses also found that both the time and day of admission were related to how long a patient waited to receive surgery to repair a hip fracture. Patients admitted between midnight and noon (27% of all hip fracture admissions to hospitals) were more likely to receive surgery on the day of admission or next day than those admitted in the afternoon or evening (77% versus 61%). Conversely, patients admitted on a weekday (73% of all admissions for hip fracture) were less likely to receive their surgery on the day of admission compared with those admitted on a weekend (63% versus 70%).

Conclusions

Across the country, initiatives have been put in place to reduce wait time for hip fracture surgery and certain other priority surgical areas. CIHI's new wait time indicator for hip fracture surgery is one of these initiatives. Our analyses show that most patients admitted to Canadian hospitals with a hip fracture receive their surgery either on the day of admission or the next day. However, regional variations in the time seniors wait for surgery after fracturing a hip suggest that there may be opportunities to reduce wait time. While acknowledging that some factors are more amenable to change than others, this wait time indicator can serve as a useful barometer for measuring improvements in health system performance over time. HQ

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