

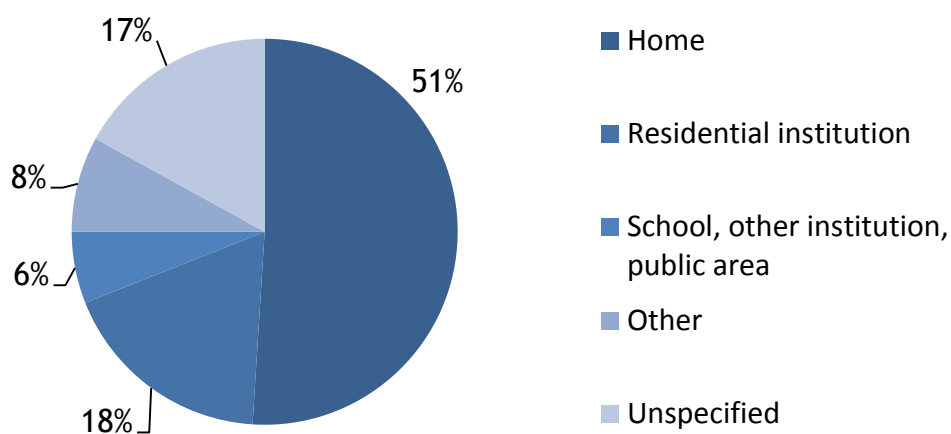
The Burden of Falls among Older Adults

Falls resulting in significant injury are common among older adults (65+) in Canada and are the leading cause for injury-related hospitalization and death. In addition to the personal burden of falls, fall injuries are costly and resource intensive for our economy and healthcare system. This document summarizes the current personal, economic and healthcare system burden of falls among older adults in Canada, Manitoba and Winnipeg, as well as the role of place and income in fall injury.

The World Health Organization defines a fall as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level, with or without injury.¹

Approximately two-thirds of older Canadian adults fall² and with every five-year increase in age, the risk of falling nearly doubles.³ Hospitalization due to falling is common, half of which occur as a result of falling in the home.⁴

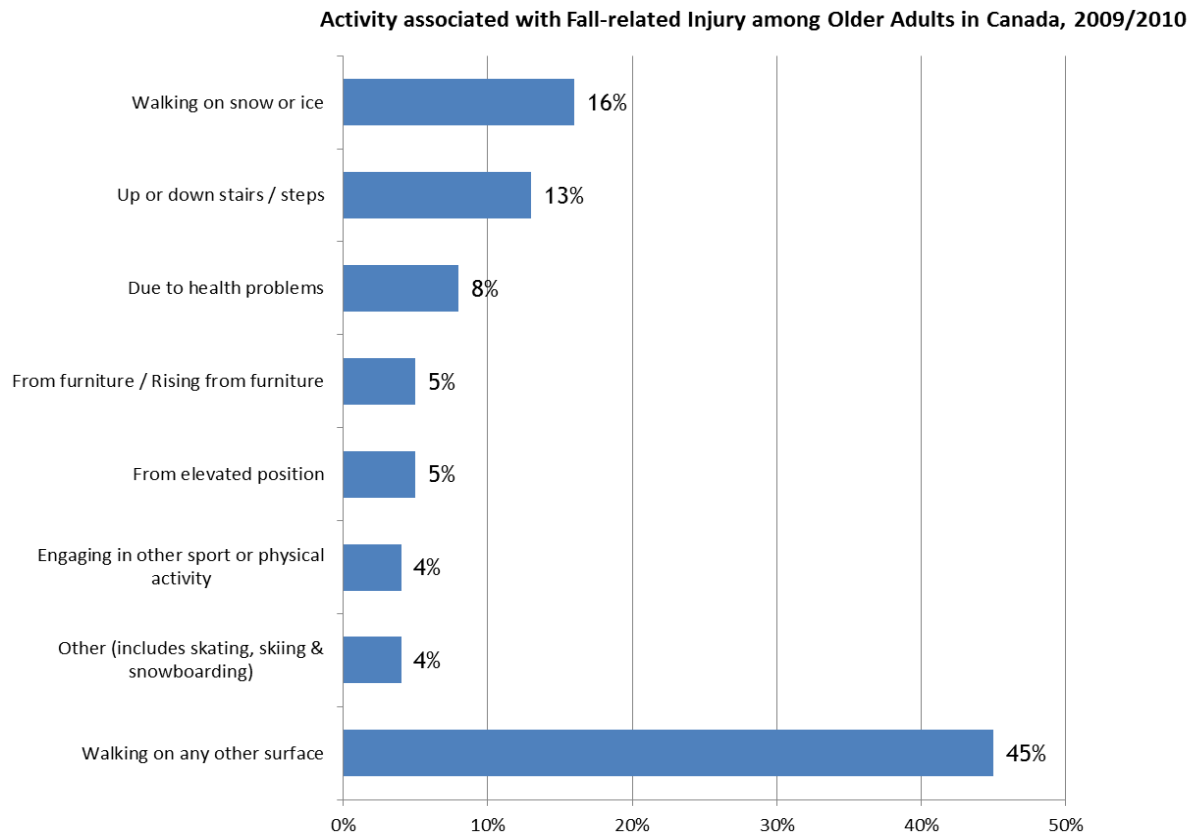
Place of Fall Occurrence among Older Adults in Canada, 2008/09



Graph adapted from Scott, Wagar, & Elliot (2010).⁴

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Among older adults, most falls that result in an injury occur while walking on ground level. Common activities associated with a fall injury include walking on snow or ice (16%) or going up or down steps (13%).³



Graph adapted from Public Health Agency of Canada (2014).

Most fall injuries are broken bones (35%), sprains and strains (30%), or scrapes, bruises or blisters (19%). Many individuals experience injury to the shoulder or upper arm (17%), or the knee or lower leg from falling (15%). Falls are also the leading cause of head injury-related hospitalizations for older adults.^{3,6}

Ninety-five percent of all hip fractures in older Canadian adults are due to falls⁴ and one-third of fall hospitalizations are associated with a hip fracture.⁵ Older adults surviving hip fracture-related hospital stays are more likely to be discharged to continuing care (residential or hospital-based); (49%) compared to older adults hospitalized for a fall without a hip fracture (25%), and 25% will die within a year.⁷

The personal burden of falling goes beyond the acute phase of a significant fall injury, however. A subsequent fear of falling can be the catalyst for a “falling cycle” wherein, anxious of falling again, an older adult restricts his or her

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activities that results in loss of strength and balance. This, in turn, increases their risk for falling. Overall quality of life is impacted as the older adult loses independence⁹ and becomes socially withdrawn and lonely.¹⁰ Furthermore, inability to carry out activities of daily living due to health-related restrictions are associated with feelings of helplessness and negative emotions.¹¹ Combined, an older adult's post-fall journey may include a number of negative consequences, including impacts on their health and emotional wellbeing.

Falls in Canada

Falls are a national concern. In 2016 and 2017, 183,249 older Canadian adults visited the emergency department for a fall, accounting for over a quarter (28%) of fall visits from Canadians of all ages (653,766 visits).¹² Falls were also the leading cause of injury-related hospitalization for older Canadian adults, with a total of 73,190 hospitalizations in 2008 and

Falls among Canadians of all ages accounted for \$6.7 billion, or nearly half (42%) of direct costs of injury in 2010¹¹.

2009, accounting for 85% of injury-related hospitalizations for that age cohort.⁵ The average length of stay for an older Canadian adult hospitalized for a fall in 2010/2011 was approximately three weeks (i.e., 22 days); this is nine days longer than the average length of hospital stay for any other reason.³

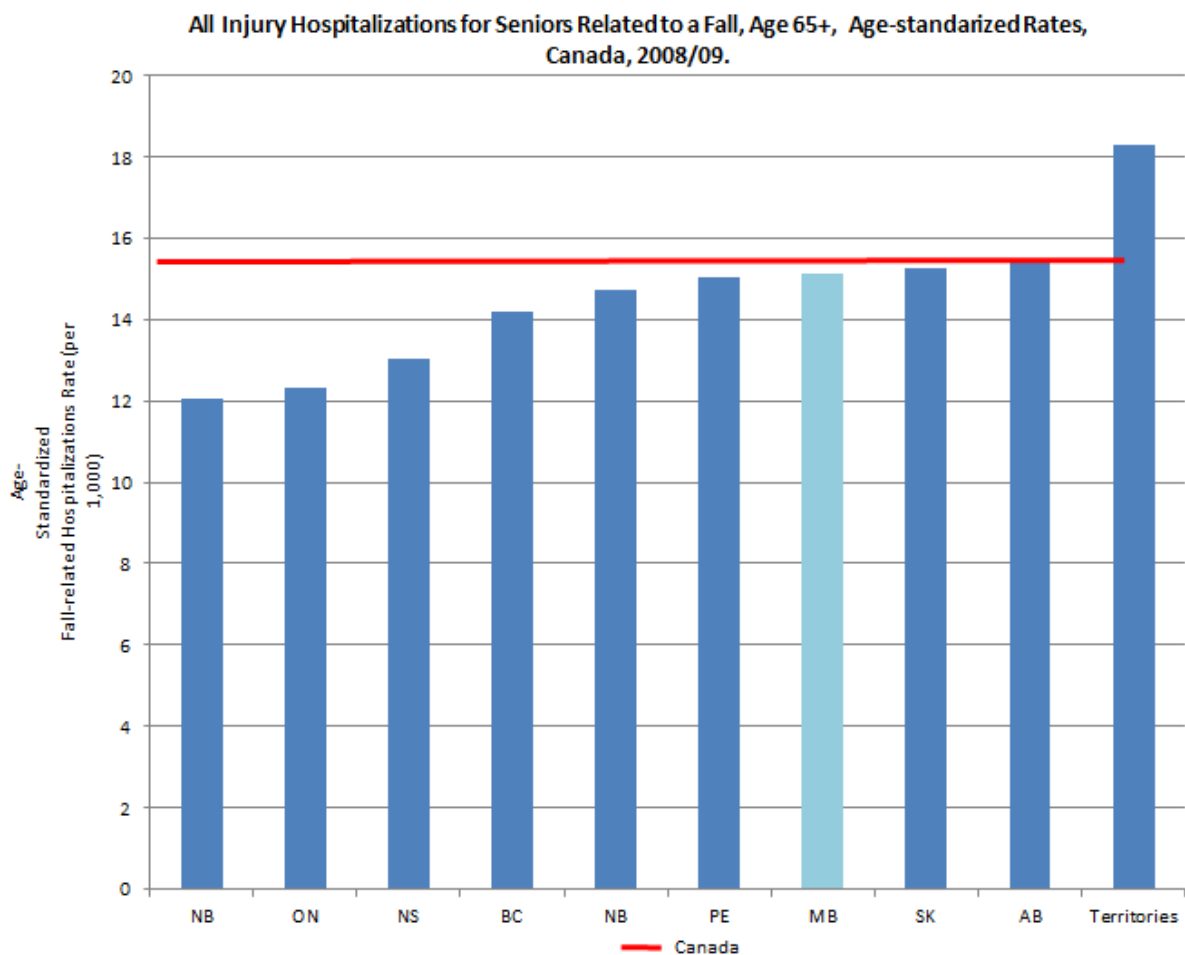
The most common trajectories for older Canadian adults hospitalized for a fall are *from their Home to Home With or Without Support* (40%), *from their Home to Continuing Care* (15%), and *from a Residential Institution to Continuing Care* (10%).⁸

Falls are also a leading cause of death for older Canadians. In-hospital mortality for a fall injury admission (8%)⁸ is common and in 2008 there were 2,691 fall-related deaths for older Canadian adults.³ Fall deaths nearly double in frequency with each five-year increase in age and are more common among males.³

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Falls in Manitoba

Falls are the leading cause of injury-related hospitalizations for older adults in Manitoba, accounting for 87.2% of their injury-related hospitalizations. In fact, of all fall hospitalizations for Manitoba residents, two-thirds (65.8%) were accounted for by older adults. As depicted in the figure below, compared to other Canadian provinces and territories, Manitoba has the fourth highest rate (15.14 per 1,000) of hospitalizations due to falls for older adults.⁴



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From 2000 to 2012, falls were the leading cause of injury-related death for adults 65 years of age and older. There were 1,733 deaths due to falls among older Manitoban adults: This is an average of 133 fall deaths per year.¹³

Almost one-third (30%) of Manitoba's \$1.2 billion spent on injury was incurred due to fall injuries. In 2010, falls were the most expensive cause of injury in Manitoba with a total cost of \$345 million and a per capita cost of \$283. Of all of Manitoba's direct health care costs (\$679 million), over one-third (39%; \$262 million) were accounted for by falls. Of Manitoba's indirect healthcare costs (\$493 million), falls accounted for 17% (\$83.8 million).¹⁴ In 2006, one hip fracture cost the provincial healthcare system \$16,171 for women and \$13,111 for men in direct medical costs.¹⁴ Falls are also the leading cause of injuries resulting in permanent partial and total disability (45%; 44%, respectively) for Manitobans of all ages¹⁵ and cost Manitoban's approximately \$844 million per year.¹⁶

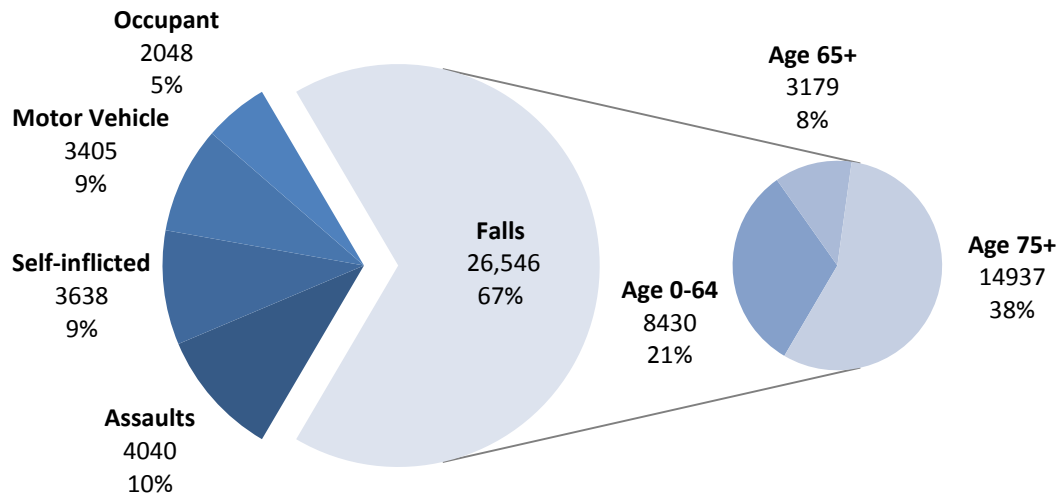
Falls in the Winnipeg Health Region

Among older adults residing in the Winnipeg health region, falls are the leading cause of injury-related hospitalizations (see the figure on page 6). Between 2000 and 2010, falls accounted for half (52%) of all injury-related hospitalization. During this time, two-thirds (68%) of all fall hospitalizations were accounted for by older adults and 86% of all unintentional injury-related hospitalizations for older adults were due to falls. On average, there were 1,647 older adults hospitalized for a fall per year. The average length of hospital stay for a fall was 25.4 days, which is 4.5 days longer than the average length of hospital stay for other unintentional injuries.¹⁷

Falls were also the leading cause of injury-related deaths among older adults, responsible for two-thirds (68%) of unintentional injury deaths in their age group and 90% of fall deaths for Winnipeg residents of all ages. On average, there were 83 fall deaths per year for older adults, most of whom were 75 years of age and older (90%; 829 deaths).¹⁷

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Injury-related hospitalizations: Falls and Resident Age, Winnipeg Health Region, 2000-2010



Winnipeg Regional Health Authority, Winnipeg Health Region Injury Report 2000-2010¹⁷

Non-modifiable Fall Risk Factors

There are a number of non-modifiable factors have been shown to increase an individual's risk of falls. These include:

Age: The majority of hospitalizations and deaths due to falls occur in adults 75 years of age and older. For example, between 2000 and 2010, for every 100,000 adults 85 years of age and older there were 5,318 fall hospitalizations.¹⁷ See the figure on page 8. Fall hospitalizations and deaths can, therefore, be expected to increase given that from 2010 to 2031, the number of seniors in Canada is projected to accelerate as baby boomers reach the age of 65¹⁸ and nearly one-third of older Canadian adults fall at least once a year.²

Sex: Overall, older female adults are more like to be hospitalized due to falling than men, whereas older males are more likely to die from falling than older women. The most striking examples are between the years 2000 and 2010 wherein females 75-84 years of age had a 65% higher chance of being

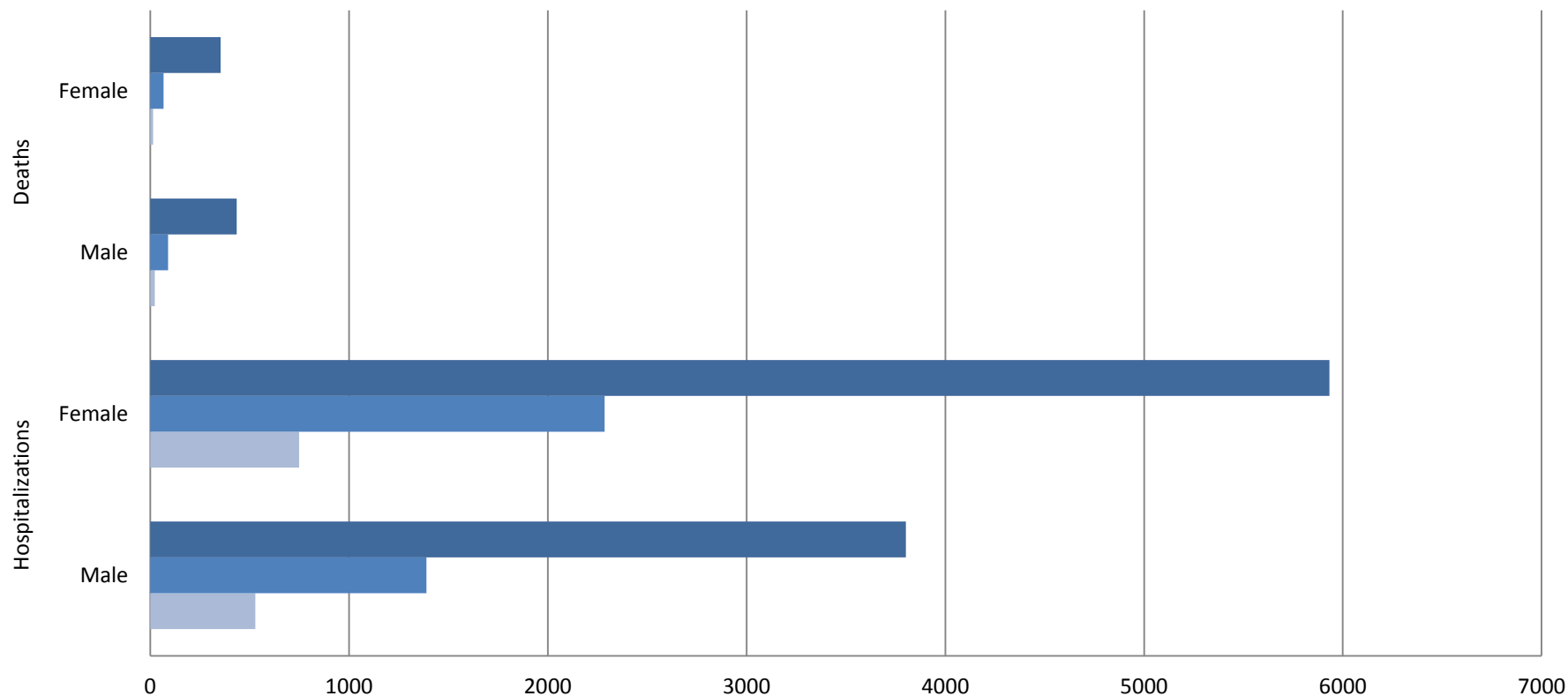
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hospitalized than their male peers, and males 65-74 had a 61% higher chance of dying from a fall than their female peers.¹⁷ See the figure on page 8.

Falls lead to falls: The strongest predictor of falling is a previous fall.⁹ Previous falling is also associated with a higher risk of experiencing another fall that results in injury and is referred to as the “fall cycle”^{9, 10} (see page 2 for more details). Other falls risk factors can be modified or managed. These include decreased balance and strength, impaired mobility, chronic health conditions, cognitive impairment, medication use and impaired vision.⁵

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Age-standardized Rates of Fall-related Hospitalizations and Deaths by Age and Sex, Winnipeg Health Region Residents, 2000-2010



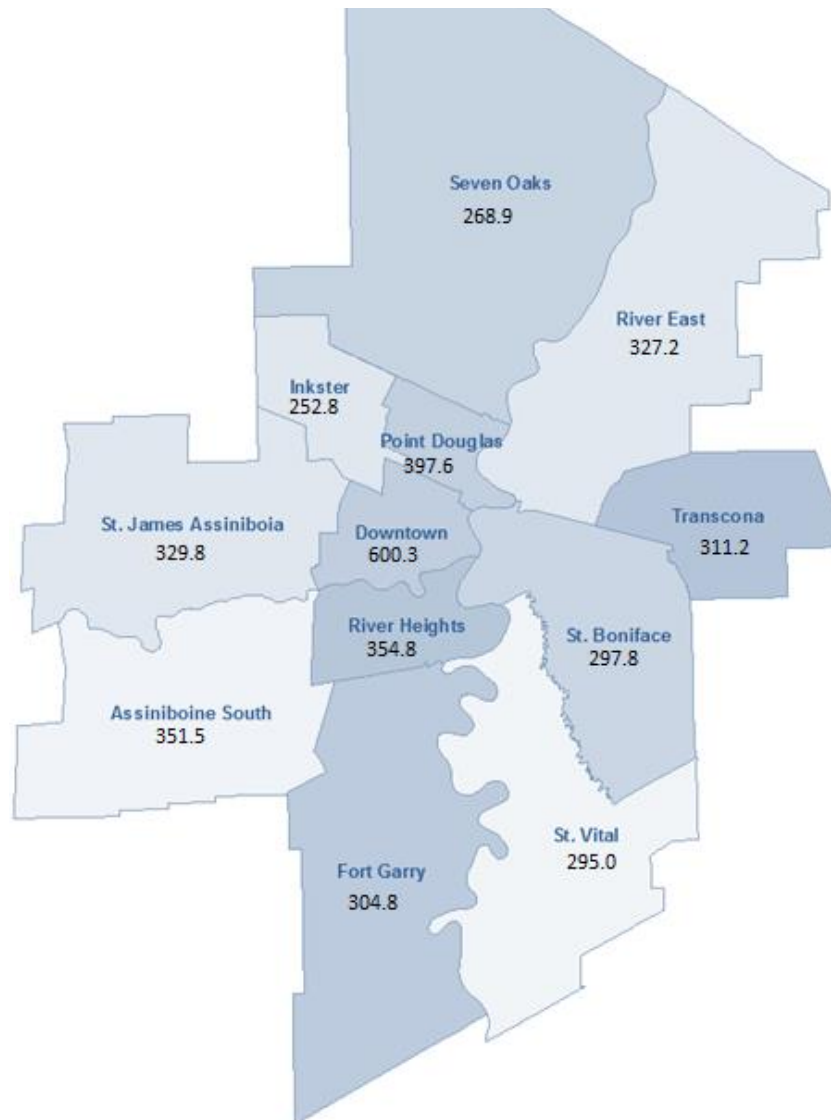
	Hospitalizations		Deaths	
	Male	Female	Male	Female
■ 85+	3802.10	5933.10	434.30	353.60
■ 75-84	1389.70	2286.20	89.00	66.10
■ 65-74	528.50	748.50	21.80	13.50

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Falls: Community Areas and Income in Winnipeg

Between 2000 and 2010, the highest rates of hospitalization due to falls for Winnipeg health region residents of all ages occurred in the Downtown and Point Douglas community areas. The lowest rates were observed in Inkster and Seven Oaks. The highest fall hospitalization rate was observed in Downtown (600.3/ per 100,000 residents) and was 2.4 times higher than the lowest rate, observed in Inkster (252.8/ per 100,000 residents).¹⁷

Age-Standardized Rates of Fall Hospitalizations by Community Area, Winnipeg Health Region, 2000-2010



Age-Standardized Rates are per 100,000

Winnipeg Regional Health Authority, Winnipeg Health Region Injury Report 2000-2010¹⁷



Winnipeg Regional Health Authority
Office régional de la santé de Winnipeg
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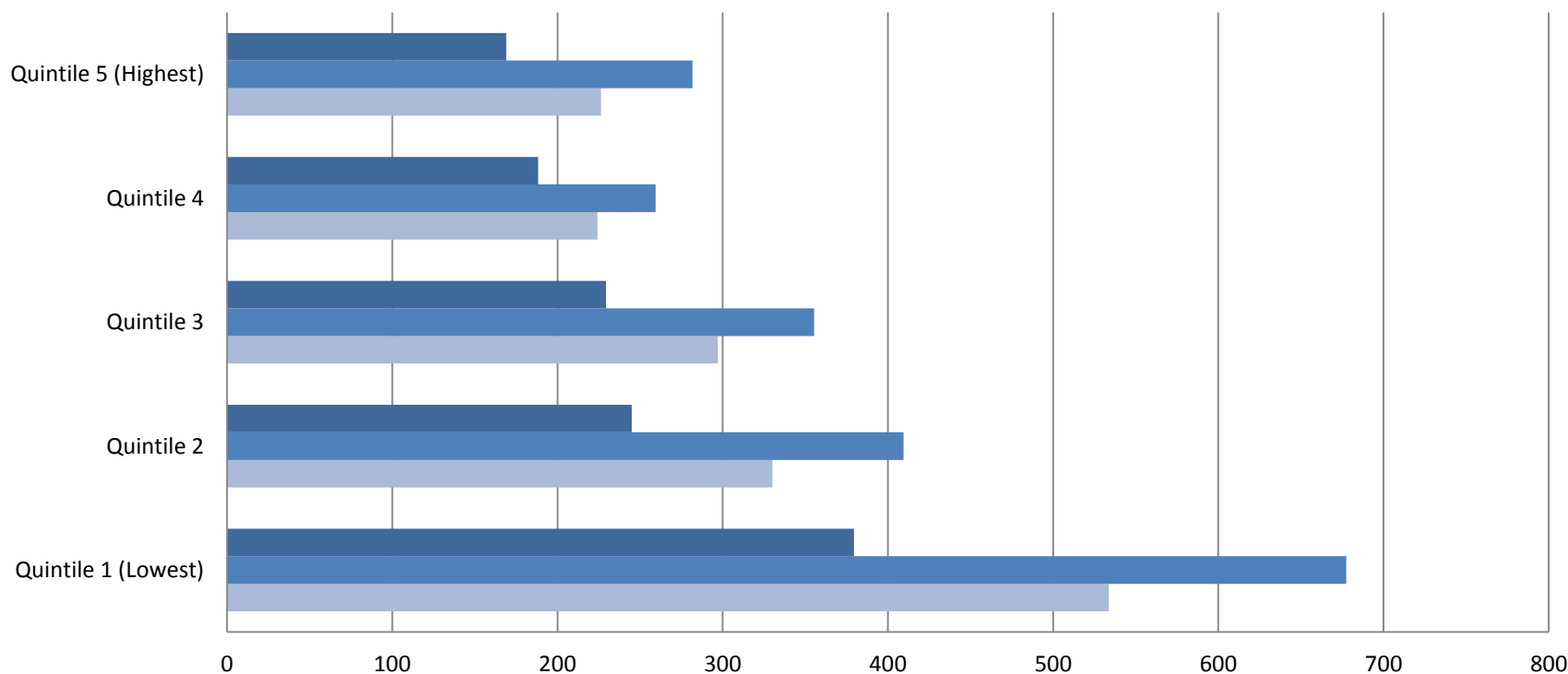
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Income is also associated with fall hospitalizations among Winnipeg health region residents of all ages. Income quintile, a measure of neighborhood socioeconomic status, was assigned to hospital cases by dividing the population into five income groups (from lowest income to highest income) so that approximately 20% of the population was included within each group.

The highest rates of fall hospitalizations for Winnipeg residents of all ages between 2000 and 2010 were observed in the lowest income quintile (533.6/100,000) and was highest for females (677.5/100,000). The total rate, observed in the lowest income quintile, was 2.4 times higher than the lowest rate, observed in income quintile 5 (226.3/100,000).¹⁷

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**Fall-related Hospitalization Rates by Income Quintile and Sex,
Winnipeg Health Region Residents, 2000-2010**



	Quintile 1 (Lowest)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (Highest)
■ Male	379.40	244.90	229.30	188.20	169.00
■ Female	677.50	409.50	355.30	259.30	281.80
■ Total	533.60	330.10	297.00	224.10	226.30

All rates are per 100,000

Winnipeg Regional Health Authority, Winnipeg Region Injury Report, 2000-2010¹⁷

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