

# FALLS

## INTRODUCTION

Falls are the leading cause of injury-related hospitalization and mortality in the Winnipeg Health Region. Between 2000 and 2010, falls were responsible for 52% of all injury-related hospitalizations and 28% of all injury-related deaths in Winnipeg residents. This section of the report describes trends in falls by time, age, gender, geography, and by income quintile.

## EPIDEMIOLOGICAL HIGHLIGHTS

### a. Temporal Trends

- Age-standardized mortality rates due to falls increased from 9.1 cases/100,000 in 2000 to 16.1 cases/100,000 in 2010 (a statistically significant increase), with the number of deaths more than doubling from 60 to 132 during this time period.
- Despite the increase in deaths, the rate of hospitalization due to falls declined almost 20%, from 376.7 cases/100,000 in 2000 to 305.4 cases/100,000 in 2010. During this time period the number of fall-related hospitalizations decreased from 2445 to 2309.
- The average length of stay for falls decreased dramatically between 2000 and 2010, from 28.9 to 16.6 days. However it is important to note that in 2008 and 2009 Winnipeg Region health facilities began to report the rehabilitation portion of a patient's hospital stay within the National Rehabilitation Reporting System (NRS). Therefore the LOS reported after 2008-2009 reflects only the acute portion of the length of stay.

### b. Age and Gender

- The majority (82%) of all deaths due to falls occurred in the population over 75 years of age, with higher numbers observed in females than in males.
- The highest age-specific death rates due to falls also occurred in the population over 75 years of age, but with higher rates observed in males than in females.
- The highest number and rates of hospitalization for falls occurred in older adults, primarily females.

### c. Place and Income

- Over the study period, the highest rates of hospitalization due to falls occurred in the Downtown and Point Douglas community areas, with the lowest rates observed in the Inkster and Seven Oaks community areas. The highest injury rate due to falls observed in the Downtown community area (600.3/100,000) was 2.37 times higher than the lowest rate observed in Inkster (252.8/100,000), representing an absolute rate difference of 347.5/100,000.

- Rates of hospitalization were generally graded by income quintile, with the hospitalization rate in the lowest income quintile (533.6/100,000) 2.4 times higher than rate in the second highest income quintile area (226.3/100,000), representing an absolute rate difference of 307.3/100,000.

## IMPLICATIONS

- The doubling in mortality due to falls is concerning and warrants further exploration, especially given that falls are a major cause of preventable death in the Winnipeg Health Region.
- Prevention efforts for falls would have the greatest impact if focused on older adults, primarily those older than 65.
- Although the rate of falls are somewhat higher in low-income neighborhoods, prevention efforts need to be focused broadly since a significant number of falls are occurring in all geographic areas.
- Further surveillance and research is required to identify whether there are any spatial or seasonal patterns in falls that could further guide or target prevention efforts.

# FALLS

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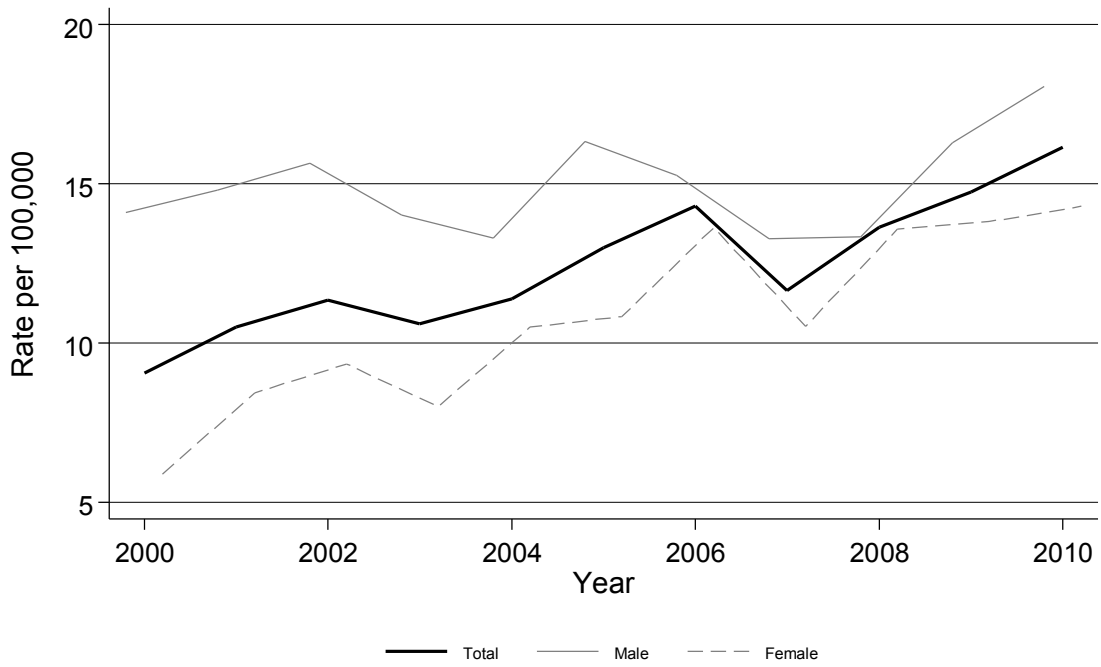
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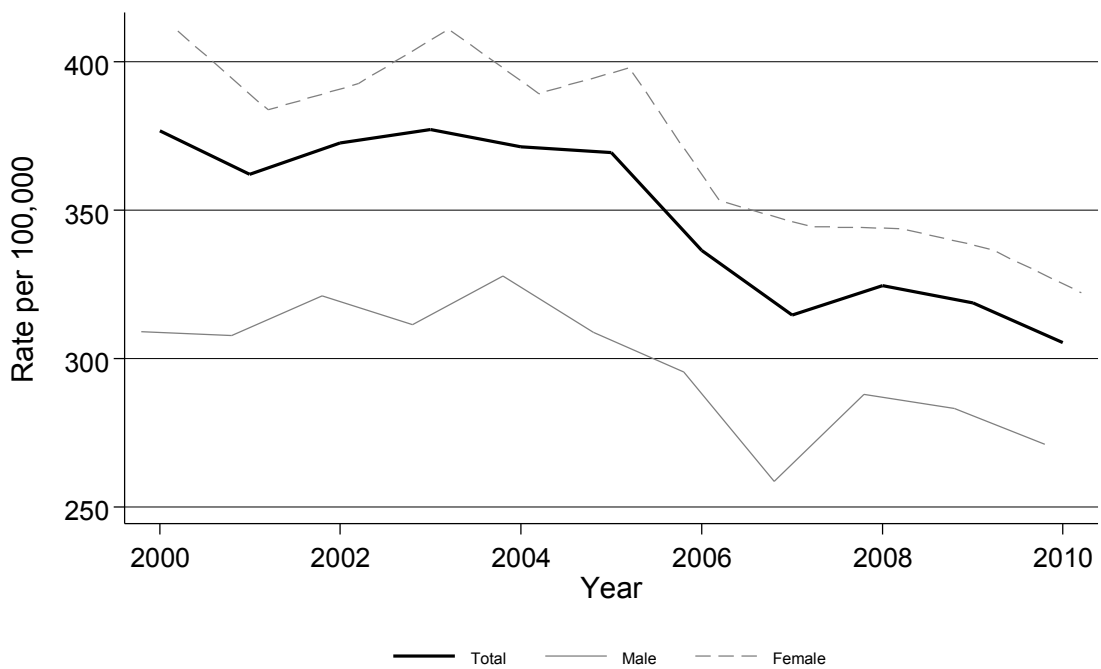
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**FIGURE 1**  
**Fall-Related Deaths by Year, Winnipeg Health Region Residents, 2000-2010**



Rates are directly age-standardized to the 2006 Canadian Census population

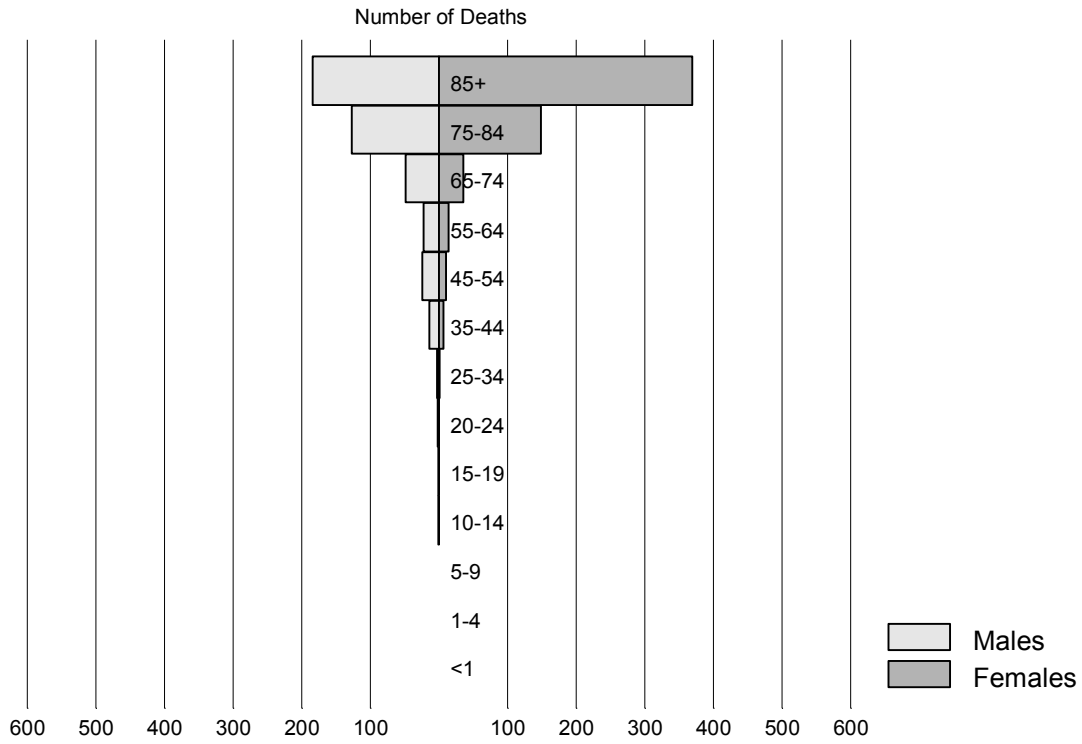
**FIGURE 2**  
**Fall-Related Hospitalizations by Year, Winnipeg Health Region Residents, 2000-2010**



Rates are directly age-standardized to the 2006 Canadian Census population

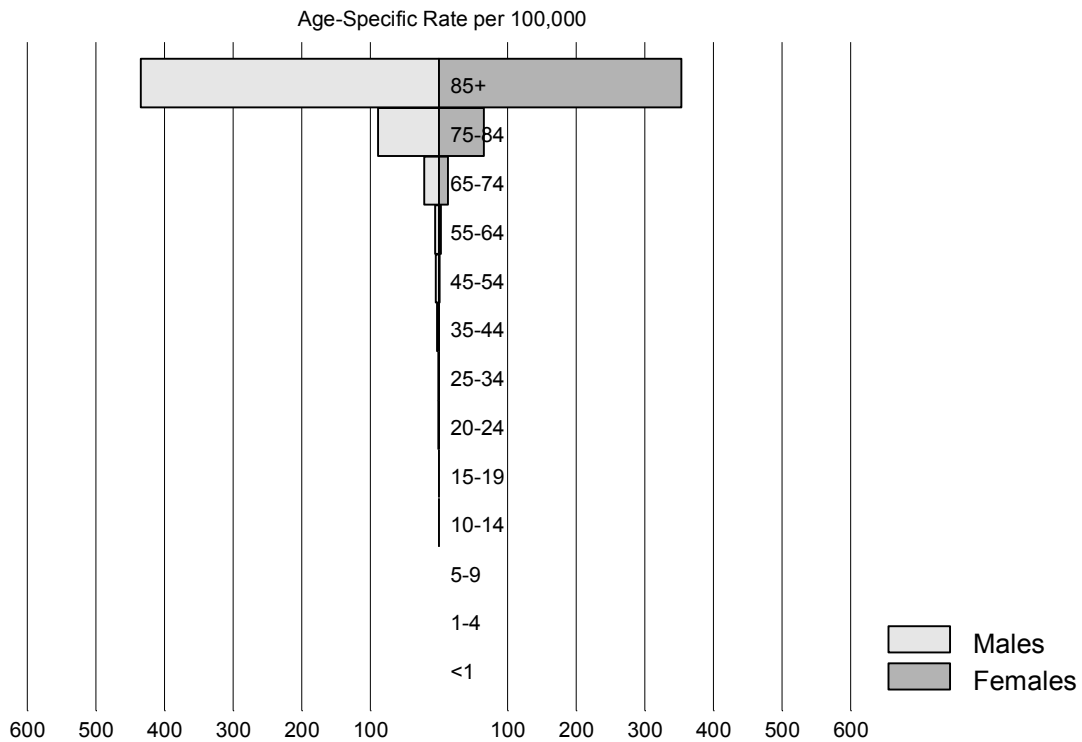
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**Number of Fall-Related Deaths by Age Group and Gender, Winnipeg Health Region Residents, 2000-2010**



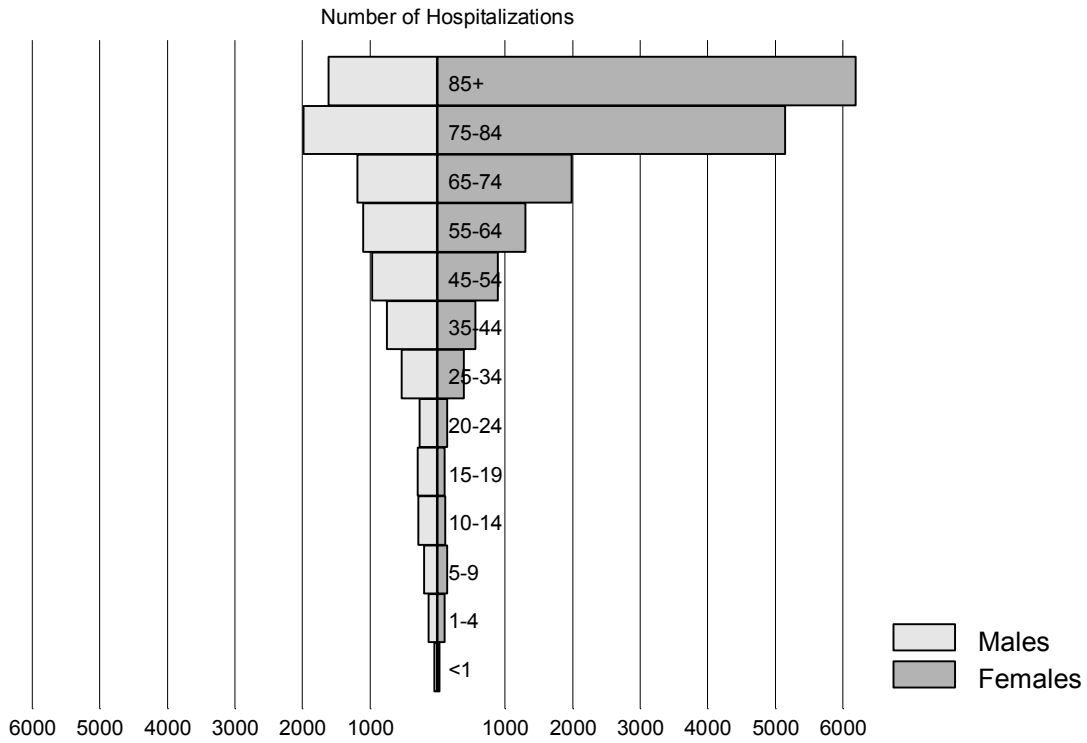
**FIGURE 4**

**Rate of Fall-Related Deaths by Age Group and Gender, Winnipeg Health Region Residents, 2000-2010**



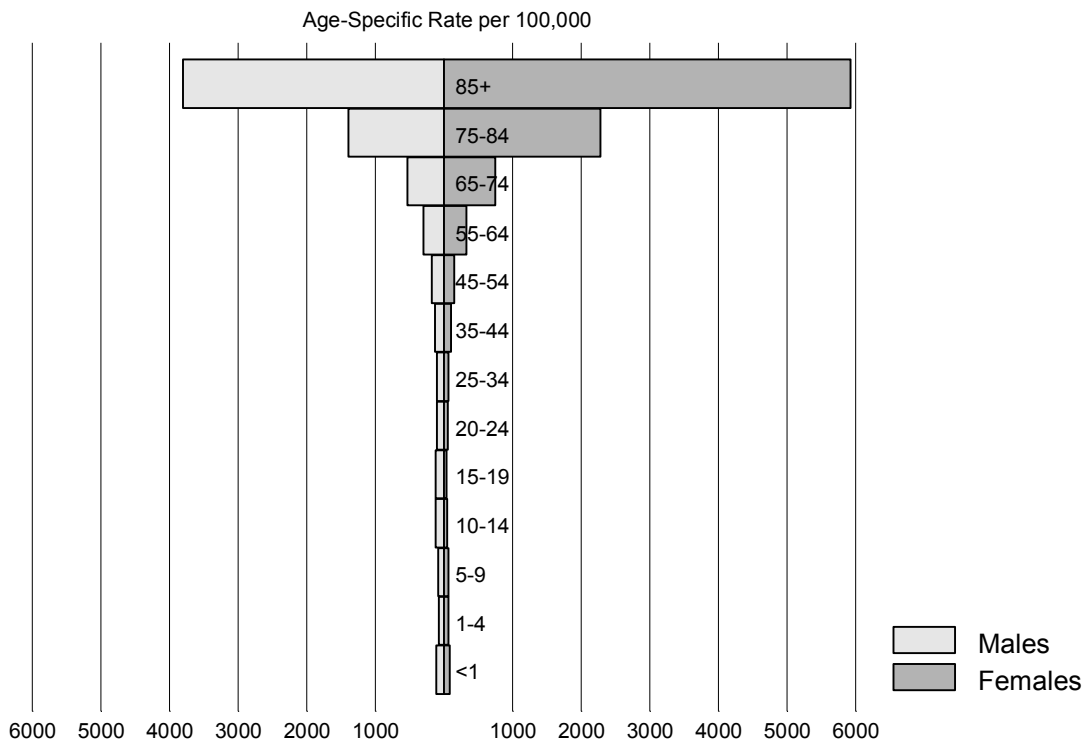
**FIGURE 5**

**Number of Fall-Related Hospitalizations by Age Group and Gender, Winnipeg Health Region Residents, 2000-2010**



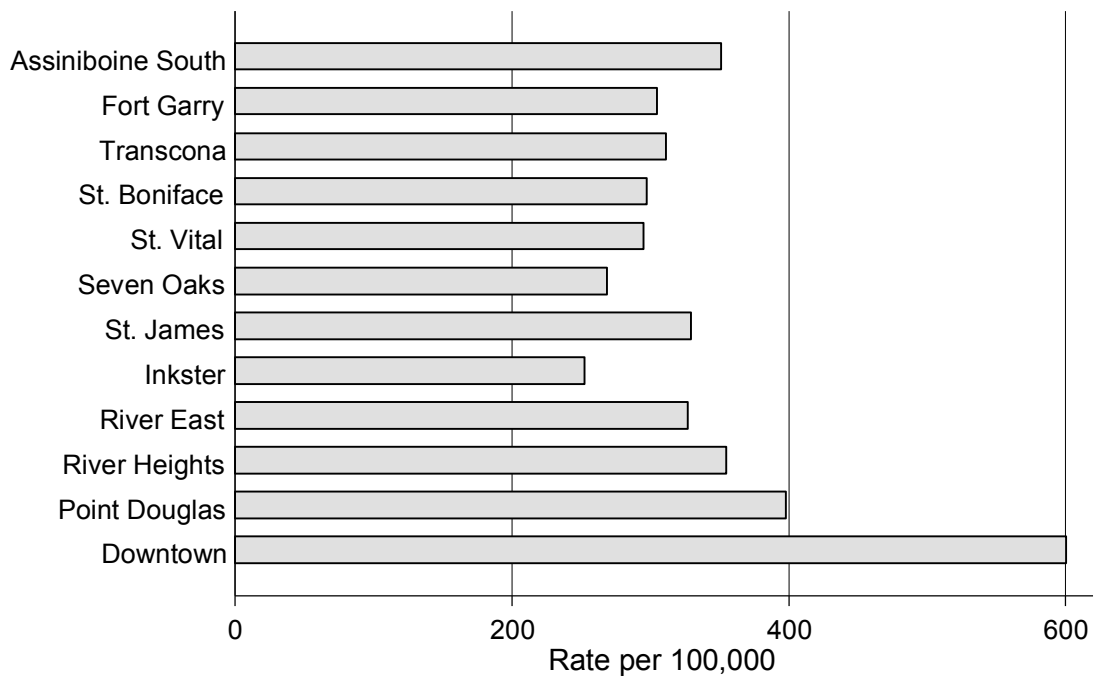
**FIGURE 6**

**Rate of Fall-Related Hospitalizations by Age Group and Gender, Winnipeg Health Region Residents, 2000-2010**



## FIGURE 7

### Fall-Related Hospitalizations by Community Area, Winnipeg Health Region Residents, 2000-2010



Rates are directly age-standardized to the 2006 Canadian Census Population

**TABLE 1**

**Deaths (Counts and Rates) by Year, 2000-2010 – Frequency, crude and age-standardized rates, and 95% confidence intervals (95%CI) of fall-related injury, Winnipeg Health Region (WHR) residents<sup>a</sup>**

	No. Cases	Crude Rate <sup>b</sup>	Total Age Standardized Rate <sup>c</sup>	95%CI <sup>d</sup>	No. Cases	Crude Rate <sup>b</sup>	Females Age Standardized Rate <sup>c</sup>	95%CI <sup>d</sup>	No. Cases	Crude Rate <sup>b</sup>	Males Age Standardized Rate <sup>c</sup>	95%CI <sup>d</sup>
2000	60	9.3	9.1	6.9 - 11.7	26	7.8	5.9	3.8 - 8.7	34	10.8	14.1	9.7 - 19.7
2001	72	11.1	10.5	8.2 - 13.2	38	11.4	8.4	5.9 - 11.7	34	10.8	14.8	10.2 - 20.6
2002	78	12.0	11.3	9.0 - 14.2	41	12.3	9.3	6.6 - 12.8	37	11.7	15.6	11.0 - 21.5
2003	74	11.3	10.6	8.3 - 13.3	39	11.6	8.0	5.7 - 11.1	35	11.0	14.0	9.7 - 19.5
2004	80	12.2	11.4	9.0 - 14.2	47	13.9	10.5	7.7 - 14.1	33	10.3	13.3	9.1 - 18.6
2005	93	14.1	13.0	10.5 - 15.9	51	15.0	10.8	8.0 - 14.4	42	13.1	16.3	11.7 - 22.0
2006	106	16.0	14.3	11.7 - 17.3	66	19.4	13.6	10.5 - 17.5	40	12.4	15.3	10.9 - 20.7
2007	90	13.5	11.7	9.4 - 14.4	54	15.8	10.5	7.8 - 13.9	36	11.1	13.3	9.3 - 18.3
2008	107	15.9	13.6	11.1 - 16.5	70	20.2	13.6	10.5 - 17.4	37	11.3	13.3	9.4 - 18.3
2009	123	18.0	14.7	12.2 - 17.7	77	22.0	13.8	10.8 - 17.5	46	13.8	16.3	11.9 - 21.7
2010	132	19.0	16.1	13.5 - 19.2	79	22.3	14.3	11.2 - 18.1	53	15.7	18.1	13.5 - 23.6
Total	1,015	13.9	12.5	11.8 - 13.3	588	15.7	11.0	10.1 - 11.9	427	12.0	15.0	13.6 - 16.5

<sup>a</sup>All rates are per 100,000

<sup>b</sup>Crude rates are calculated using the corresponding year's mid-point WHR population as the denominator. Population data were derived from the Manitoba Health Insurance Registry and provided (in electronic format) by Manitoba Health in December 2012

<sup>c</sup>Rates are directly age-standardized to the 2006 Canadian population (provided by Statistics Canada)

<sup>d</sup>95%CI calculated with the Tiwari et al. (2006) formula

**TABLE 2****Deaths (PYLL) by Year, 2000-2010 – Fall-related injury, Winnipeg Health Region (WHR) residents under the age of 75<sup>a</sup>**

	Total			Females			Males		
	No. Cases	PYLL Sum	Average PYLL per injury <sup>b</sup>	No. Cases	PYLL Sum	Average PYLL per injury <sup>b</sup>	No. Cases	PYLL Sum	Average PYLL per injury <sup>b</sup>
2000	17	344	20.2	5	103	20.6	12	241	20.1
2001	12	187	15.6	6	37	6.2	6	150	25.0
2002	17	395	23.2	8	154	19.3	9	241	26.8
2003	14	243	17.4	1	13	13.0	13	230	17.7
2004	21	380	18.1	10	150	15.0	11	230	20.9
2005	19	297	15.6	6	69	11.5	13	228	17.5
2006	20	207	10.4	9	72	8.0	11	135	12.3
2007	15	300	20.0	6	143	23.8	9	157	17.4
2008	19	181	9.5	8	126	15.8	11	55	5.0
2009	11	98	8.9	3	30	10.0	8	68	8.5
2010	21	336	16.0	8	93	11.6	13	243	18.7
Total	186	2,968	16.0	70	990	14.1	116	1,978	17.1

<sup>a</sup>PYLL is derived using injuries occurring in those under the age of 75; therefore, not all injuries are captured<sup>b</sup>Calculated by dividing PYLL sum by number of injuries for that year.



**TABLE 3**

Hospitalizations (Counts and Rates) by Year, 2000-2010 – Frequency, crude and age-standardized rates, and 95% confidence intervals (95%CI) of fall-related injury, Winnipeg Health Region (WHR) residents<sup>a</sup>

	No. Cases	Crude Rate <sup>b</sup>	Total Age Standardized Rate <sup>c</sup>	95%CI <sup>d</sup>	No. Cases	Crude Rate <sup>b</sup>	Females Age Standardized Rate <sup>c</sup>	95%CI <sup>d</sup>	No. Cases	Crude Rate <sup>b</sup>	Males Age Standardized Rate <sup>c</sup>	95%CI <sup>d</sup>
2000	2,445	378.9	376.7	361.9 - 392.1	1,638	493.8	410.5	390.4 - 431.4	807	257.3	309.1	287.7 - 331.6
2001	2,380	367.4	362.1	347.6 - 377.1	1,549	465.1	383.8	364.5 - 404.0	831	264.0	307.7	286.8 - 329.8
2002	2,472	380.3	372.6	358.0 - 387.7	1,598	478.4	392.7	373.2 - 413.0	874	276.7	321.0	299.8 - 343.4
2003	2,539	389.1	377.3	362.7 - 392.3	1,682	501.7	411.0	391.1 - 431.7	857	270.1	311.3	290.5 - 333.2
2004	2,540	386.2	371.5	357.1 - 386.3	1,632	482.9	389.4	370.3 - 409.3	908	284.0	327.7	306.5 - 350.0
2005	2,555	387.1	369.4	355.2 - 384.1	1,683	496.5	398.1	378.8 - 418.1	872	271.6	308.8	288.4 - 330.2
2006	2,357	355.7	336.5	323.0 - 350.5	1,502	441.6	353.2	335.0 - 372.0	855	265.1	295.5	275.9 - 316.1
2007	2,236	335.4	314.7	301.7 - 328.2	1,471	430.0	344.5	326.6 - 363.2	765	235.7	258.5	240.4 - 277.5
2008	2,349	348.0	324.5	311.4 - 338.0	1,483	428.2	343.9	326.0 - 362.5	866	263.5	287.8	268.9 - 307.7
2009	2,364	345.7	318.9	306.0 - 332.1	1,494	426.4	336.9	319.4 - 355.1	870	260.9	283.2	264.6 - 302.7
2010	2,309	333.0	305.4	293.0 - 318.3	1,461	411.6	322.3	305.3 - 339.9	848	250.6	271.0	253.0 - 290.0
Total	26,546	363.9	347.0	342.8 - 351.2	17,193	459.1	370.6	365.0 - 376.4	9,353	263.5	297.2	291.2 - 303.4

<sup>a</sup>All rates are per 100,000

<sup>b</sup>Crude rates are calculated using the corresponding year's mid-point WHR population as the denominator. Population data were derived from the Manitoba Health Insurance Registry and provided (in electronic format) by Manitoba Health in December 2012

<sup>c</sup>Rates are directly age-standardized to the 2006 Canadian population (provided by Statistics Canada)

<sup>d</sup>95%CI calculated with the Tiwari et al. (2006) formula

**TABLE 4**

Hospitalizations (LOS) by Year, 2000-2010 – Length of stay (in days) due to fall-related injury, Winnipeg Health Region (WHR) residents

	Total			Females			Males		
	No. Cases	LOS Sum	Average LOS per injury <sup>a</sup>	No. Cases	LOS Sum	Average LOS per injury <sup>a</sup>	No. Cases	LOS Sum	Average LOS per injury <sup>a</sup>
2000	2,445	70,687	28.9	1,638	50,373	30.8	807	20,314	25.2
2001	2,380	65,518	27.5	1,549	47,290	30.5	831	18,228	21.9
2002	2,472	67,477	27.3	1,598	48,497	30.3	874	18,980	21.7
2003	2,539	72,496	28.6	1,682	51,276	30.5	857	21,220	24.8
2004	2,540	78,047	30.7	1,632	53,485	32.8	908	24,562	27.1
2005	2,555	71,716	28.1	1,683	53,130	31.6	872	18,586	21.3
2006	2,357	60,736	25.8	1,502	43,568	29.0	855	17,168	20.1
2007	2,236	59,386	26.6	1,471	41,098	27.9	765	18,288	23.9
2008	2,349	47,695	20.3	1,483	31,399	21.2	866	16,296	18.8
2009	2,364	42,184	17.8	1,494	28,503	19.1	870	13,681	15.7
2010	2,309	38,362	16.6	1,461	25,138	17.2	848	13,224	15.6
Total	26,546	674,304	25.4	17,193	473,757	27.6	9,353	200,547	21.4

<sup>a</sup>Calculated by dividing total LOS sum by number of years of data. LOS data represent only the acute portion of the total LOS after 2008 (see Methods)

**TABLE 5****Deaths (Counts and Rates) by Age and Gender, 2000-2010 – Age-specific rates and 95% confidence intervals (95% CI) of fall-related injury, Winnipeg Health Region (WHR) residents<sup>a,b</sup>**

	<b>Total</b>				<b>Females</b>				<b>Males</b>			
	<b>No. Cases</b>	<b>Percent</b>	<b>Age Specific Rate</b>	<b>95% CI<sup>c</sup></b>	<b>No. Cases</b>	<b>Percent</b>	<b>Age Specific Rate</b>	<b>95% CI<sup>c</sup></b>	<b>No. Cases</b>	<b>Percent</b>	<b>Age Specific Rate</b>	<b>95% CI<sup>c</sup></b>
<1	0	0.0	0.0	0.0 - 4.6	0	0.0	0.0	0.0 - 9.3	0	0.0	0.0	0.0 - 8.9
1-4	0	0.0	0.0	0.0 - 1.1	0	0.0	0.0	0.0 - 2.3	0	0.0	0.0	0.0 - 2.2
5-9	0	0.0	0.0	0.0 - 0.8	0	0.0	0.0	0.0 - 1.7	0	0.0	0.0	0.0 - 1.6
10-14	1	0.1	0.2	0.0 - 1.2	0	0.0	0.0	0.0 - 1.6	1	0.2	0.4	0.0 - 2.3
15-19	1	0.1	0.2	0.0 - 1.1	0	0.0	0.0	0.0 - 1.5	1	0.2	0.4	0.0 - 2.3
20-24	3	0.3	0.6	0.1 - 1.7	1	0.2	0.4	0.0 - 2.2	2	0.5	0.8	0.1 - 2.9
25-34	5	0.5	0.5	0.2 - 1.1	2	0.3	0.4	0.0 - 1.4	3	0.7	0.6	0.1 - 1.7
35-44	21	2.1	1.9	1.2 - 2.9	7	1.2	1.3	0.5 - 2.6	14	3.3	2.5	1.4 - 4.2
45-54	34	3.3	3.1	2.1 - 4.3	10	1.7	1.8	0.9 - 3.3	24	5.6	4.4	2.8 - 6.6
55-64	36	3.5	4.7	3.3 - 6.6	14	2.4	3.6	2.0 - 6.0	22	5.2	6.0	3.7 - 9.0
65-74	85	8.4	17.3	13.8 - 21.4	36	6.1	13.5	9.5 - 18.7	49	11.5	21.8	16.2 - 28.9
75-84	276	27.2	75.0	66.4 - 84.4	149	25.3	66.1	55.9 - 77.6	127	29.7	89.0	74.2 - 105.8
85+	553	54.5	376.9	346.1 - 409.7	369	62.8	353.6	318.5 - 391.6	184	43.1	434.3	373.8 - 501.7
<b>Total</b>	<b>1,015</b>	<b>100.0</b>	<b>13.9</b>	<b>13.1 - 14.8</b>	<b>588</b>	<b>100.0</b>	<b>15.7</b>	<b>14.5 - 17.0</b>	<b>427</b>	<b>100.0</b>	<b>12.0</b>	<b>10.9 - 13.2</b>

Due to rounding, all percentages may not add up to 100%

<sup>a</sup>All rates are per 100,000<sup>b</sup>Crude rates are calculated using the corresponding year's mid-point WHR population as the denominator. Population data were derived from the Manitoba Health Insurance Registry and provided (in electronic format) by Manitoba Health in December 2012<sup>c</sup>95%CI based on exact Poisson method

**TABLE 6**

**Hospitalizations (Counts and Rates) by Age and Gender, 2000-2010 – Age-specific rates and 95% confidence intervals (95% CI) of fall-related injury, Winnipeg Health Region (WHR) residents<sup>a,b</sup>**

	No. Cases	Percent	Total Age Specific Rate	95% CI <sup>c</sup>	No. Cases	Percent	Females Age Specific Rate	95% CI <sup>c</sup>	No. Cases	Percent	Males Age Specific Rate	95% CI <sup>c</sup>
<1	81	0.3	100.0	79.5 - 124.4	33	0.2	83.1	57.2 - 116.7	48	0.5	116.4	85.8 - 154.3
1-4	247	0.9	75.6	66.4 - 85.6	116	0.7	72.8	60.2 - 87.3	131	1.4	78.2	65.4 - 92.8
5-9	345	1.3	79.0	70.9 - 87.8	149	0.9	70.1	59.3 - 82.3	196	2.1	87.4	75.6 - 100.5
10-14	408	1.5	86.9	78.7 - 95.8	124	0.7	54.1	45.0 - 64.5	284	3.0	118.2	104.9 - 132.8
15-19	414	1.6	85.4	77.3 - 94.0	116	0.7	48.5	40.1 - 58.2	298	3.2	121.2	107.8 - 135.8
20-24	424	1.6	84.4	76.5 - 92.8	157	0.9	61.9	52.6 - 72.3	267	2.9	107.3	94.8 - 121.0
25-34	921	3.5	90.7	84.9 - 96.8	388	2.3	76.0	68.6 - 83.9	533	5.7	105.6	96.9 - 115.0
35-44	1,320	5.0	118.5	112.2 - 125.1	570	3.3	102.3	94.1 - 111.1	750	8.0	134.8	125.3 - 144.8
45-54	1,868	7.0	169.9	162.3 - 177.8	905	5.3	162.7	152.3 - 173.7	963	10.3	177.3	166.3 - 188.9
55-64	2,402	9.0	316.1	303.6 - 329.0	1,300	7.6	332.0	314.2 - 350.6	1,102	11.8	299.2	281.8 - 317.4
65-74	3,179	12.0	647.9	625.6 - 670.8	1,993	11.6	748.5	716.0 - 782.1	1,186	12.7	528.5	498.9 - 559.5
75-84	7,135	26.9	1,938.5	1,893.8 - 1,984.0	5,151	30.0	2,286.2	2,224.2 - 2,349.5	1,984	21.2	1,389.7	1,329.2 - 1,452.2
85+	7,802	29.4	5,317.7	5,200.3 - 5,437.0	6,191	36.0	5,933.1	5,786.2 - 6,082.8	1,611	17.2	3,802.1	3,618.7 - 3,992.4
Total	26,546	100.0	363.9	359.5 - 368.3	17,193	100.0	459.1	452.3 - 466.0	9,353	100.0	263.5	258.1 - 268.9

Due to rounding, all percentages may not add up to 100%

<sup>a</sup>All rates are per 100,000

<sup>b</sup>Crude rates are calculated using the corresponding year's mid-point WHR population as the denominator. Population data were derived from the Manitoba Health Insurance Registry and provided (in electronic format) by Manitoba Health in December 2012

<sup>c</sup>95%CI based on exact Poisson method

**TABLE 7**

**Hospitalizations (Counts and Rates) by Community Area, 2000-2010 – Frequency, rates and 95% confidence interval (95% CI) of fall related-injury, Winnipeg Health Region (WHR) residents<sup>a,b</sup>**

	No. Cases	Crude Rate	Total Age Standardized Rate <sup>c</sup>	95% CI <sup>d</sup>	No. Cases	Crude Rate	Females Age Standardized Rate <sup>c</sup>	95% CI <sup>d</sup>	No. Cases	Crude Rate	Males Age Standardized Rate	95% CI <sup>cd</sup>
St. James	2,766	427.6	329.8	317.4 - 342.7	1,846	546.0	353.1	336.4 - 370.5	920	298.0	283.3	265.2 - 302.3
Assiniboine South	1,687	428.9	351.5	334.5 - 369.1	1,172	573.0	396.8	373.2 - 421.7	515	272.8	275.7	252.3 - 300.7
Fort Garry	2,181	295.5	304.8	292.1 - 317.9	1,476	387.7	349.2	331.4 - 367.8	705	197.3	233.5	216.4 - 251.6
St. Vital	2,119	303.8	295.0	282.6 - 307.9	1,413	389.8	322.3	305.4 - 339.9	706	210.8	237.9	220.5 - 256.3
St. Boniface	1,638	300.7	297.8	283.6 - 312.6	1,073	384.1	330.1	310.4 - 350.7	565	212.9	243.3	223.3 - 264.5
Transcona	894	253.9	311.2	290.7 - 332.6	555	311.4	340.1	312.4 - 369.7	339	195.0	256.7	227.7 - 288.0
River East	3,670	350.2	327.2	316.7 - 338.0	2,422	449.1	354.8	340.5 - 369.6	1,248	245.4	274.6	259.4 - 290.4
Seven Oaks	1,928	288.7	268.9	256.9 - 281.2	1,254	363.2	287.8	271.7 - 304.6	674	209.0	227.8	210.8 - 245.7
Inkster	710	203.3	252.8	234.0 - 272.5	399	227.0	263.4	237.9 - 290.8	311	179.2	228.1	201.9 - 256.6
Pt. Douglas	1,763	384.4	397.6	378.9 - 417.0	978	429.2	389.2	364.1 - 415.6	785	340.0	391.5	364.0 - 420.6
Downtown	4,423	560.7	600.3	582.3 - 618.7	2,648	681.0	598.0	574.1 - 622.5	1,775	443.8	574.5	547.3 - 602.7
River Heights	2,749	450.4	354.8	341.2 - 368.8	1,944	599.0	386.6	368.4 - 405.6	805	281.7	287.8	268.2 - 308.5
Total	26,528	363.6	346.8	342.6 - 351.0	17,180	458.7	370.3	364.7 - 376.1	9,348	263.3	297.1	291.0 - 303.2

<sup>a</sup>All rates are per 100,000

<sup>b</sup>Crude rates are calculated using the corresponding year's mid-point WHR population as the denominator. Population data were derived from the Manitoba Health Insurance Registry and provided (in electronic format) by Manitoba Health in December 2012, and includes only individuals with no missing geographic information.

<sup>c</sup>Rates are directly age-standardized to the 2006 Canadian population (provided by Statistics Canada)

<sup>d</sup>95%CI calculated with the Tiwari et al. (2006) formula

**TABLE 8**

**Hospitalizations (Counts and Rates) by Income Quintile, 2000-2010 – Frequency, rates and 95% confidence interval (95% CI) of fall-related injury, Winnipeg Health Region (WHR) residents<sup>a,b</sup>**

	Total			Females			Males		
	No. Cases	Quintile Rate	95% CI <sup>c</sup>	No. Cases	Quintile Rate	95% CI <sup>c</sup>	No. Cases	Quintile Rate	95% CI <sup>c</sup>
U1 (Lowest)	7,704	533.6	521.8 - 545.7	5,060	677.5	659.0 - 696.5	2,644	379.4	365.1 - 394.2
U2	4,646	330.1	320.6 - 339.7	2,982	409.5	394.9 - 424.4	1,664	244.9	233.3 - 257.0
U3	4,021	294.0	285.0 - 303.2	2,494	355.3	341.5 - 369.5	1,527	229.3	218.0 - 241.1
U4	3,277	224.1	216.5 - 231.9	1,916	259.3	247.8 - 271.1	1,361	188.2	178.3 - 198.5
U5 (Highest)	3,409	226.3	218.8 - 234.0	2,157	281.8	270.0 - 293.9	1,252	169.0	159.8 - 178.6
Total (w/o NF)	23,057	320.8	316.7 - 325.0	14,609	396.8	390.4 - 403.3	8,448	240.9	235.8 - 246.1
NF <sup>d</sup>	3,489	3,252.2	3,145.2 - 3,361.9	2,584	4,074.7	3,919.1 - 4,235.0	905	2,063.1	1,930.9 - 2,202.0
Total (w. NF)	26,546	363.9	359.5 - 368.3	17,193	459.1	452.3 - 466.0	9,353	263.5	258.2 - 268.9

<sup>a</sup>All rates are per 100,000. NF=Income quintile not found

<sup>b</sup>Crude rates are calculated using the corresponding year's mid-point WHR population as the denominator. Population data (incl. income quintile figures) were derived from the Manitoba Health Insurance Registry and provided (in electronic format) by Manitoba Health in December 2012.

<sup>c</sup>95%CI based on exact Poisson method

<sup>d</sup>NF refers to records not found or allocated to one of the 5 income quintiles