

# Injuries among Seniors

Every four minutes in Ontario, at least one senior visits an emergency department and every 20 minutes at least one senior is hospitalized with an injury. Injuries are more common among females than males.

## Results

In Ontario, during the 2005/06 fiscal year, there were a total of 150,470 emergency department visits and 30,478 hospitalizations among seniors 65 years of age and older. For emergency department visits, injuries peaked among females 65-66 and 77-83 years and males 65-70 years of age (Figure 1). For hospitalizations, injuries soared among females 76-90 years and peaked among males 75-85 years of age.

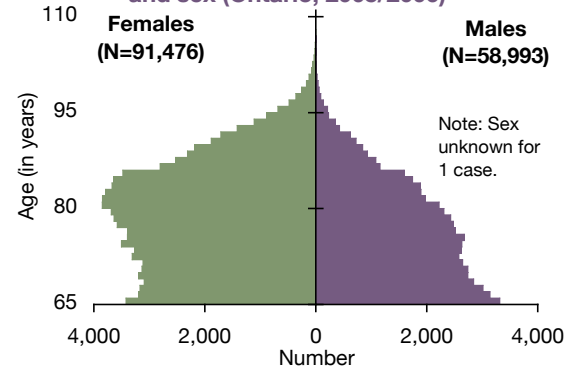
Among seniors, the overall provincial rate of injury for emergency department visits was 9,130.9 per 100,000 population and for hospitalizations was 1,762.0 per 100,000 (Table 2). The highest rates were seen among those 85 years of age and older (Table 3).

Unintentional falls were by far the leading external cause of injury among seniors, accounting for 59% of all emergency department visits and 79% of hospitalizations due to an injury. The most common type of fall was a slip or trip on the same level followed by stair-related falls.

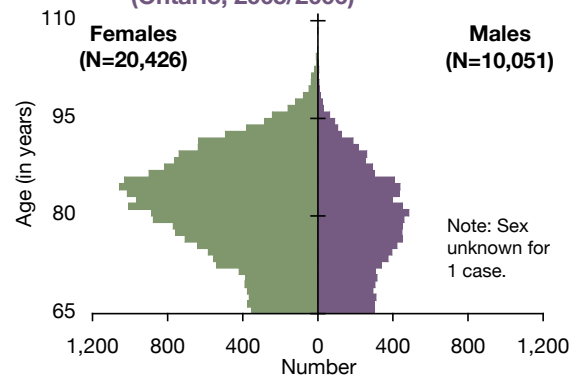
About 80% of seniors who visited an emergency department were discharged to their place of residence and 18% were admitted to the hospital where they were seen. For hospitalized cases, about 42% were discharged home (including discharges home with support services), 27% were transferred to a long-term care facility, and 22% were transferred to another facility that provides inpatient hospital care. Fewer than 1% of seniors died after arrival in the emergency department and almost 8% died after hospital admission. The 30,478 hospitalized cases accounted for more than 300,000 days in acute care hospitals with an average length of stay of 9.9 days.

By region, the lowest overall injury rates were observed in the Toronto region and the highest rates were seen in the North region (Table 2). This pattern was seen for both emergency department visits and hospitalizations.

**FIGURE 1. Injury-related emergency department visits among seniors 65+ years, by age and sex (Ontario, 2005/2006)**



**FIGURE 2. Injury-related hospitalizations among seniors 65+ years, by age and sex (Ontario, 2005/2006)**



**TABLE 1. Top 3 causes of injury among seniors 65+ years (Ontario, 2005/2006)**

	Number (% of total)
<b>Emergency Department Visits</b>	
1. Falls (e.g., slip or trip on the same level)	89,092 (59%)
2. Transport (e.g., motor vehicle occupant)	8,284 (6%)
3. Striking against/struck by object (e.g., collision with post, walked into wall)	6,698 (4%)
<b>Hospitalizations</b>	
1. Falls (e.g., slip or trip on the same level)	24,131 (79%)
2. Transport (e.g., motor vehicle occupant)	1,503 (5%)
3. Unintentional poisoning	635 (2%)

**TABLE 2. Regional comparison of injuries among seniors (Ontario, 2005/06)**

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Emergency Department Visits</b>								
Number	23,244	17,311	18,085	23,805	27,312	23,340	15,096	150,470
Rate per 100,000 <sup>a</sup>	10,031.9	9,165.7	7,650.7	9,190.1	7,404.1	10,075.0	11,492.3	9,139.0
% female	61	60	61	60	64	61	57	61
<b>Hospitalizations</b>								
Number	5,052	3,631	4,071	4,744	5,112	4,565	3,012	30,478
Rate per 100,000 <sup>a</sup>	2,021.3	1,808.3	1,680.1	1,782.2	1,304.8	1,869.6	2,240.3	1,762.0
% female	69	66	67	66	67	67	66	67

a. Age-standardized rate per 100,000 population. Notes: Region of residence unknown/outside of Ontario for 2,277 emergency department visits and 291 hospitalizations. Sex unknown for 1 emergency department visit and 1 hospitalization.

## Ontario Injury Compass

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**TABLE 3. Regional comparison of injuries among seniors by age group (Ontario, 2005/06)**

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Emergency Department Visits</b>								
<b>Number</b>								
65-74 years	9,388	6,800	7,332	9,870	9,982	9,199	6,829	60,674
75-84 years	9,066	6,918	6,984	9,216	11,001	8,995	5,673	58,618
85+ years	4,790	3,593	3,769	4,719	6,329	5,146	2,594	31,178
<b>Rate per 100,000<sup>a</sup></b>								
65-74 years	8,123.7	7,395.2	5,644.7	6,920.5	5,551.5	7,825.9	9,415.7	7,138.9
75-84 years	11,252.3	10,168.0	8,805.1	10,727.1	8,633.2	11,501.2	12,725.4	10,392.3
85+ years	19,057.1	18,079.8	17,356.7	19,334.6	16,139.2	20,767.6	21,325.2	18,637.3
<b>Hospitalizations</b>								
<b>Number</b>								
65-74 years	1,136	920	993	1,162	1,175	1,149	907	7,569
75-84 years	2,192	1,560	1,782	2,032	2,243	1,918	1,266	13,107
85+ years	1,724	1,151	1,296	1,550	1,694	1,498	839	9,802
<b>Rate per 100,000<sup>a</sup></b>								
65-74 years	8,123.7	7,395.2	5,644.7	6,920.5	5,551.5	7,825.9	9,415.7	7,138.9
75-84 years	11,252.3	10,168.0	8,805.1	10,727.1	8,633.2	11,501.2	12,725.4	10,392.3
85+ years	19,057.1	18,079.8	17,356.7	19,334.6	16,139.2	20,767.6	21,325.2	18,637.3

a. Age-specific rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 2,277 emergency department visits and 291 hospitalizations.

## Discussion

This Compass highlights patterns of injury for emergency department visits and hospitalizations among seniors in Ontario. Other Ontario and national analyses have also examined patterns of injury and falls among seniors.<sup>1-5</sup>

A recent Ontario report identified that seniors represent over one-tenth of all visits to an emergency department and two-fifths of admissions to hospital due to an injury.<sup>1</sup> The magnitude or frequency of injuries among Ontario's seniors represents only one aspect of the injury issue. These injuries are also associated with substantial economic costs.

A report released in 2006 by SMARTRISK highlights costs of falls among seniors as an important area of concern.<sup>6</sup> Falls among those 55 years of age and older accounted for \$962 million, almost half of all costs related to falls or about 17% of the total economic costs for injury in the province.<sup>6</sup> These statistics become even more alarming when the age structure of Ontario's population is considered. Seniors represent about 13% (or about 1.6 million) of Ontario's population and this proportion is expected to almost double to nearly 25% (or about 3.5 million) by 2031.<sup>7</sup>

## References

1. Ontario Injury Prevention Resource Centre. *Injuries among Seniors in Ontario: A Descriptive Analysis of Emergency Department and Hospitalization Data*. Toronto: Ontario Injury Prevention Resource Centre, 2007.
2. Institute for Clinical and Evaluative Sciences (ICES). *Injuries in Ontario*. Toronto: ICES, 2005.
3. Gowing R, Jain MK. Injury patterns and outcomes associated with elderly trauma victims in Kingston, Ontario. *Can J Surg* 2007;50:437-44.
4. Ontario Injury Prevention Resource Centre. *Ontario Injury Compass. Falls Among Seniors*. Sept. 2006. Available at: [www.oninjuryresources.ca](http://www.oninjuryresources.ca).
5. Public Health Agency of Canada. *Report on Seniors' Falls in Canada*. Ottawa: Minister of Public Works and Government Services Canada, 2005. Cat. No.: HP25-1/20005E.
6. SMARTRISK. *The Economic Burden of Injury in Ontario*. Toronto: SMARTRISK, 2006.
7. Statistics Canada. *Population Projections for Canada, Provinces and Territories 2005-2031*. Ottawa: Statistics Canada. Cat. No.: 91-520-XIE.

## Managing the risk

Check the online Catalogue at the Ontario Injury Prevention Resource Centre for examples and details of best practices for older adults:

### Falls

- ❖ No Falls! No Fear! Falls Prevention Project
- ❖ Stay on Your Feet
- ❖ Tai Chi and Computerized Balance Training

### Motor and other road vehicle

- ❖ DriveABLE Assessment Centres
- ❖ Florida Elder Roadway User Program

**Key factors emerging from these best practices include using multifactorial/multi-sectoral interventions and selecting the appropriate approaches for the setting or target population. Interventions should act on risk factors, such as history of falls, physical or cognitive impairment, low body mass index, use of multiple medications, and home hazards.**

### For Further Information

Ontario Injury Prevention Resource Centre (to access the Best Practices Catalogue and to obtain information about the Canadian Falls Prevention Curriculum and other resources)

[www.OnInjuryResources.ca](http://www.OnInjuryResources.ca)

Ontario Neurotrauma Foundation

[www.onf.org](http://www.onf.org)

Public Health Agency of Canada, Division of Aging and Seniors

[www.phac-aspc.gc.ca/seniors-aines](http://www.phac-aspc.gc.ca/seniors-aines)

Veterans Affairs Canada

[www.vac-acc.gc.ca](http://www.vac-acc.gc.ca)

SMARTRISK

[www.smartrisk.ca](http://www.smartrisk.ca)

BC Injury Prevention and Research Group

[www.injuryresearch.bc.ca](http://www.injuryresearch.bc.ca)

## Methods

Emergency department data were obtained from the National Ambulatory Care Reporting System and acute care hospitalization data were obtained from the Discharge Abstract Database at the Canadian Institute for Health Information for the 2005/06 fiscal year. All cases for seniors 65+ years of age were included in this analysis. Causes of injury were classified according to available International Classification of Diseases, 10th revision (ICD-10) codes. Note that some persons were seen in an emergency department and then admitted to hospital; however, persons can be admitted to hospital without visiting an emergency department. Deaths occurring outside of the hospital setting are not included in this analysis. Regions were defined according to place of residence using the Ontario Ministry of Health Region Codes.