

# Falls

In the winter, as we shovel our slippery walks, make our way across wet floors and go about our routines on the job or at school, it's a good time to remember the substantial risk of falling each of us faces every day.

## Results

There were 191,600 persons admitted to hospital with an unintentional fall in Ontario from 1997/98 to 2001/02, representing an annual average of 38,320 injury admissions, or 306 admissions per 100,000 population (Table 1). Hospitalization rates were fairly consistent over the five-year period; however, there was a slight decrease in children and adults (Figure 1).

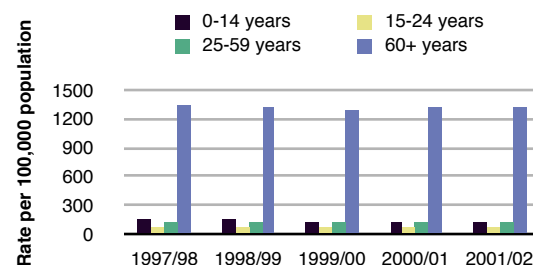
About 60% of the persons hospitalized were females, with a large peak among those over 60 years of age (Figure 2).

Regional differences were observed in the rates of unintentional falls by age and sex (Table 1). In general, the highest rates were observed in the North.

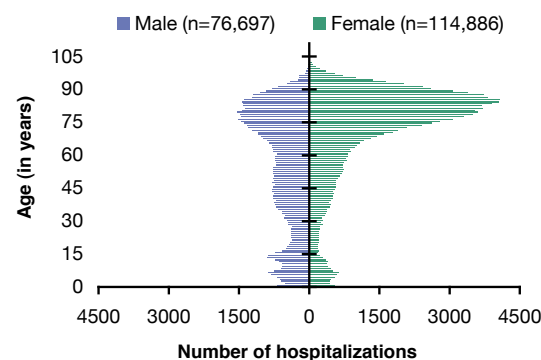
Infants and toddlers most commonly experienced a fall from one level to another, while playground falls were most frequent in children 5-9 years of age. Seniors experienced a large number of other and unspecified falls. Slips and trips on the same level were frequent in both children and seniors (Figure 3).

Overall, the highest number of admissions (17,894) occurred in January and the lowest (14,318) in April. The seasonal pattern varied by type of unintentional fall. For example, it was hardly surprising that slips, trips and falls on the same level were most frequent in winter, while playground falls were most common in summer (Figure 4).

**FIGURE 1. Age-specific hospitalization rates for unintentional falls by year (Ontario, 1997/98-2001/02)**



**FIGURE 2. Unintentional falls by age and sex (Ontario, 1997/98-2001/02)**



Note: Unknown age or sex for 17 cases.

**TABLE 1. Regional comparison of unintentional falls in Ontario by region of residence (1997/98-2001/02)**

|  | South West | Central South | Central West | Central East | Toronto | East   | North  | Ontario       |
|--|------------|---------------|--------------|--------------|---------|--------|--------|---------------|
| <b>All unintentional falls</b>                                 |            |               |              |              |         |        |        |               |
| Hospitalizations <sup>a</sup>                                  | 6,079      | 4,481         | 5,501        | 5,647        | 7,046   | 5,132  | 3,949  | <b>38,320</b> |
| Rate <sup>b</sup>  | 341.9      | 327.3         | 299.5        | 302.1        | 246.2   | 289.9  | 399.2  | <b>306.0</b>  |
| <i>Rates per 100,000 population by age and sex<sup>c</sup></i> |            |               |              |              |         |        |        |               |
| <b>0-14 years</b>  |            |               |              |              |         |        |        |               |
| Female   | 117.4      | 146.4         | 139.0        | 85.3         | 106.9   | 100.8  | 106.7  | <b>114.5</b>  |
| Male   | 185.7      | 217.3         | 183.4        | 158.6        | 153.2   | 132.6  | 234.2  | <b>176.9</b>  |
| <b>15-24 years</b>   |            |               |              |              |         |        |        |               |
| Female   | 45.7       | 57.8          | 54.4         | 40.7         | 47.2    | 53.0   | 90.7   | <b>53.1</b>   |
| Male   | 121.1      | 147.0         | 109.9        | 112.3        | 77.9    | 111.5  | 181.5  | <b>117.3</b>  |
| <b>25-59 years</b>   |            |               |              |              |         |        |        |               |
| Female   | 127.3      | 137.1         | 120.7        | 88.9         | 101.1   | 137.8  | 202.4  | <b>122.5</b>  |
| Male   | 182.7      | 181.3         | 137.7        | 149.3        | 127.6   | 154.5  | 246.3  | <b>160.5</b>  |
| <b>60+ years</b>   |            |               |              |              |         |        |        |               |
| Female   | 1741.2     | 1753.7        | 1718.6       | 1290.8       | 1599.9  | 1811.9 | 2018.3 | <b>1671.3</b> |
| Male   | 1064.3     | 961.9         | 837.1        | 884.0        | 767.0   | 878.2  | 1076.9 | <b>908.5</b>  |

a. Average number of hospitalizations per year. All ages, both sexes.

b. Annual age-standardized hospitalization rate per 100,000 population. All ages, both sexes.

c. Annual age- and sex-specific hospitalization rate per 100,000 population.

Note: 2,421 cases were hospitalized in an Ontario hospital but did not reside in the province; Unknown age or sex for 17 cases.



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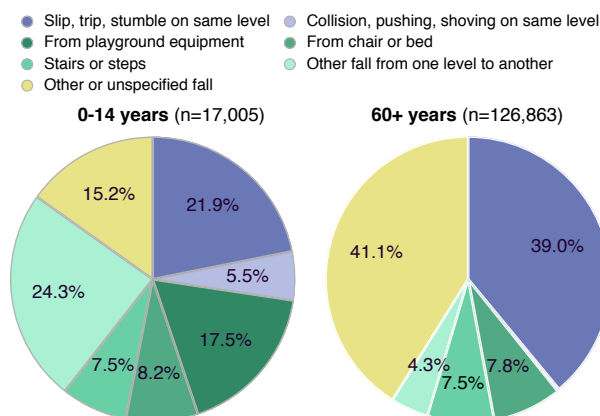
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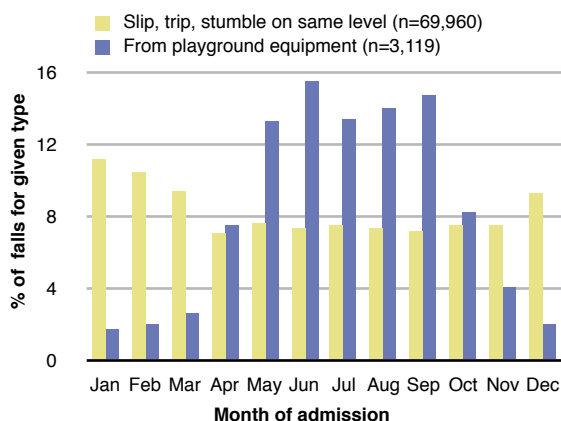
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**FIGURE 3. Types of unintentional falls for children and seniors (Ontario, 1997/98-2001/02)**



**FIGURE 4. Seasonal pattern for falls from playground equipment versus slip, trip, stumble on the same level (Ontario, 1997/98-2001/02)**



## Discussion

While falls are a concern for all Ontarians, they are of particular concern for children and seniors. Exploring surroundings and learning new skills are important developmental processes that potentially expose children to hazards. Playground falls are particularly frequent among school age children. Factors such as height of equipment, type and depth of landing surface, and equipment design play a role in risk for injury.<sup>1,2</sup> The value of play should not be discouraged but risks must be managed. Awareness and education for children, parents, and caregivers can assist in ensuring a safe environment and prevention of these injuries.

Among seniors, falls have been linked to a number of disabling conditions beyond physical injury, including reductions in self-efficacy and confidence. Falls directly impact the injured individual, but also have broader implications, for example affecting family decisions around placement of loved ones in nursing homes and long-term care.<sup>3</sup> Furthermore, concern about falls among this province's seniors is made more urgent by demographic forecasts, showing the overall aging of our population. The Ministry of Finance projects that by 2031, Ontarians aged 65 and older will nearly double to 22.3% of the population.<sup>4</sup> Other countries are already registering large increases in fall-related injuries which will only grow worse without a shift in society's approach to this issue.<sup>5,6</sup>

## Managing the risk

### For Children

- In the home, keep the floor free of books, toys, shoes or other things one may trip over. (Note: this helps prevent falls in all ages.)
- When infants are placed at a height, such as on a change table, prevent falls by always remaining at their side.
- Ensure adequate supervision of toddlers when playing in the home.
- Older children should be supervised when playing on equipment above ground height.
- Ensure that playground climbing equipment has guardrails and that swings are well maintained.
- The surface beneath the playground should be a shock-absorbent material such as sand, pea gravel or wood chips.

### For Seniors

- Talk to your health care provider and family about osteoporosis and fall prevention.
- Exercise every day to keep your muscles and bones in good condition.
- Talk to your health care provider and pharmacist about fall risks associated with any medication(s) you are taking.
- Remove throw rugs from high traffic areas and at the top of stairs.
- Keep homes, particularly stairways, well lit.
- Use solid hand rails or banisters on stairs.
- Install non-slip surfaces or a bathmat in the shower or bath and install grab bars by the toilet, shower and bath.
- Sit on the edge of the bed for a count of ten when getting up then wait a count of five before walking.

### Links for Further Information

- BCIRPU Falls Prevention Report  
[http://www.injuryresearch.bc.ca/Publications/Reports/FallPrevention\\_PHO.pdf/](http://www.injuryresearch.bc.ca/Publications/Reports/FallPrevention_PHO.pdf/)
- SMARTRISK Best Practices Catalogue  
<http://www.smartrisk.ca/ListingSections.aspx?dd=4&sd=207>
- Smart Moves Falls Prevention Toolkit  
<http://www.smartrisk.ca/ListingContributions.aspx?sd=143&dd=2>
- Safe Kids Canada  
<http://www.sickkids.ca/safekidscanada/>

## Methods

The source of these data is the Discharge Abstract Database (DAD) from the Canadian Institute for Health Information. The DAD contains data on hospital discharges across Canada. Data include cases discharged from an acute care facility in Ontario for the fiscal years of 1997/98 to 2001/02. An unintentional fall is defined using codes E880-E888 in the International Classification of Diseases, 9th revision (ICD-9). Regions are defined according to the Ontario Ministry of Health Region Code.

## References

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