

Injuries among Children

Every two minutes in Ontario, one child visits an emergency department and every two hours one child is hospitalized with an injury. Falls and cycling injuries are leading causes.

Results

In Ontario, during the 2005/06 fiscal year, there were a total of 281,437 emergency department visits and 6,145 hospitalizations among children under 15 years of age. Among both males and females, the highest number of injuries were seen among those 14 years of age. This pattern was observed for both emergency department visits and hospitalizations (Figures 1 & 2).

Unintentional falls were the most common external cause of childhood injury, representing 36% of emergency department visits and 42% of hospitalizations. Based on available external cause of injury codes, the leading specific causes of injury were identified (Table 1). For emergency department visits, the top 3 causes of childhood injury were: falls due to slips or trips on the same level, falls involving a bed, chair, or other furniture, and cycling-related injuries. For hospitalizations, playground falls, cycling incidents, and falls involving a chair, bed, or other furniture were the leading causes of injury.

June was the most common month for emergency department visits and September was the most common month for hospitalization.

About 94% of children who visited an emergency department were discharged to their place of residence. For hospitalized cases, about 96% were discharged home. Fewer than 1% of children died after arrival in the emergency department or after hospital admission. The 6,145 hospitalized cases accounted for more than 17,000 days in acute care hospitals with an average length of stay of 2.9 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. Regional variations were seen in the numbers and rates of injury by age group (Table 3).

FIGURE 1. Injury-related emergency department visits among children under 15 years by age and sex (Ontario, 2005/2006)

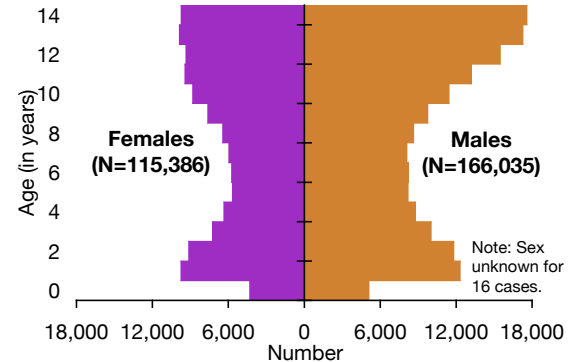


FIGURE 2. Injury-related hospitalizations among children under 15 years by age and sex (Ontario, 2005/2006)

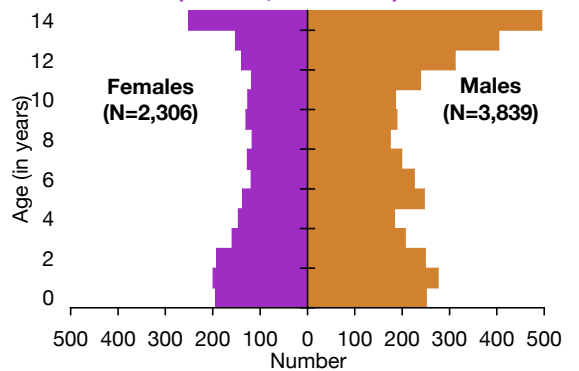


TABLE 1. Top 3 causes of injury among children under 15 years by age (Ontario, 2005/2006)

	Number (% of total)
Emergency Department Visits	
1. Slip or trip on the same level	19,203 (7%)
2. Fall involving bed, chair, or other furniture	11,461 (4%)
3. Cycling	11,022 (4%)
Hospitalizations	
1. Playground falls	478 (8%)
2. Cycling	410 (7%)
3. Falls involving chair, bed, or other furniture	343 (6%)

TABLE 2. Regional comparison of childhood injuries (Ontario, <15 year of age, 2005/06)

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
Emergency Department Visits								
Number	44,401	29,555	44,810	53,313	37,811	39,763	27,355	281,437
Rate per 100,000 ^a	15,253.4	13,765.5	9,410.8	12,505.3	8,566.0	13,599.5	17,928.9	12,265.0
% male	58	59	60	59	60	58	58	59
Hospitalizations								
Number	849	745	1,180	1,006	925	614	684	6,145
Rate per 100,000 ^a	291.7	347.0	247.8	236.0	209.6	210.0	448.3	267.8
% male	61	63	61	62	65	60	62	62

a. Age-specific rate per 100,000 population. Notes: Region of residence unknown/outside of Ontario for 4,429 emergency department visits and 142 hospitalizations. Sex unknown for 16 emergency department visits.



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

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
Emergency Department Visits								
Number								
<5 years	12,753	8,491	14,754	15,086	13,910	11,347	6,834	84,842
5-9 years	11,509	7,773	12,013	13,955	10,695	10,064	7,211	74,381
10-14 years	20,139	13,291	18,043	24,272	13,206	18,352	13,310	122,214
Rate per 100,000^a								
<5 years	15,283.5	13,985.0	10,176.9	12,555.8	9,679.0	13,437.8	16,218.9	12,484.5
5-9 years	11,593.2	10,627.3	7,357.6	9,558.5	7,174.4	10,232.1	14,022.9	9,529.5
10-14 years	18,583.2	16,439.7	10,745.9	15,153.3	8,885.4	16,746.5	22,553.2	14,644.7
Hospitalizations								
Number								
<5 years	295	242	413	311	358	193	198	2,057
5-9 years	208	179	321	294	286	157	180	1,666
10-14 years	346	324	446	401	281	264	306	2,422
Rate per 100,000^a								
<5 years	353.5	398.6	284.9	258.8	249.1	228.6	469.9	302.7
5-9 years	209.5	244.7	196.6	201.4	191.9	159.6	350.0	213.4
10-14 years	319.3	400.8	265.6	250.3	189.1	240.9	518.5	290.2

a. Age-specific rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 4,429 emergency department visits and 142 hospitalizations.

Discussion

This Compass highlights patterns of injury for children who visit an emergency department or are admitted to an acute care hospital. Several provincial and national analyses have been conducted on childhood injuries.¹⁻⁹ A report by Safe Kids Canada highlighted a 37% decline in childhood injury death rates, and a 34% drop in hospitalization rates.¹ This is a promising decline, however more injuries can be prevented.

The top 3 causes of injury were identified. The leading cause differed for emergency department visits and hospitalizations, however falls from furniture and cycling injuries were in the top 3 for both. The table of leading causes was based on available injury classification codes. Some injury causes are not explicitly captured. A few specific sports (e.g., hockey, football, soccer) are detailed but there is no category that identifies all of the different sport-related injuries. It is also important to note that other sources of data, such as deaths, may include other leading causes of injuries.

References

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Managing the risk

Children can be injured in a wide range of ways.

Here are tips for addressing the leading causes:

Slips and trips on the same level

❖ In the home, keep areas free of clutter.

❖ Remove scatter rugs.

Playground Falls

❖ Actively supervise children while they are on the playground. Teach children about playground rules and appropriate use of equipment.

❖ Ensure equipment is age appropriate.

Falls from Furniture

❖ 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.

Cycling Injuries

❖ Helmets are effective for cyclists of all ages and for all types of crashes. Helmets, worn properly, reduce risks for brain injury by 88%, head injury by 85%, and upper and mid facial injury by 65%.

For Further Information

Ontario Injury Prevention Resource Centre (refer to past issues of the Ontario Injury Compass on related topics)

www.OnInjuryResources.ca

Safe Kids Canada

www.safekidsCanada.ca

ThinkFirst Foundation of Canada

www.thinkfirst.ca

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www.smartrisk.ca

Methods

Emergency department data were obtained from the National Ambulatory Care Reporting System and data for acute care hospitalizations were obtained from the Discharge Abstract Database at the Canadian Institute for Health Information for the 2005/06 fiscal year. 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.