

Injuries in Northern Ontario

Every four minutes in Northern Ontario, one person visits an emergency department and every hour one person is hospitalized with an injury. The emergency department visit rate is 1.5 times higher than the provincial rate and the hospitalization rate is 1.7 times higher.

Results

During the 2005/06 fiscal year, there were a total of 139,106 emergency department visits and 8,573 hospitalizations due to an injury in Northern Ontario (See Methods Section for Data Sources). The overall rate of injury for emergency department visits in Northern Ontario was 16,754.6 per 100,000 population and for hospitalizations was 917.2 per 100,000. The emergency department visit rate was 1.5 times higher and the hospitalization rate was 1.7 times higher than the provincial rate (Table 3).

For emergency department visits in Northern Ontario, the number of injuries were highest among males 12-22 years of age (Figure 1). In contrast, for hospitalizations, injuries peaked among females 79-85 years of age (Figure 2). The highest injury rates for emergency department visits were seen among those 15-19 years and for hospitalizations the highest rate was observed for the 90+ age group (Table 2).

About 91% of Northern Ontarians who visited an emergency department were discharged to their place of residence. For hospitalized cases, about 71% were discharged home and 8% were transferred to another facility that provides inpatient hospital care. Fewer than 1% of Northern Ontarians died after arrival in the emergency department and about 3% died after hospital admission. The 8,573 hospitalized cases accounted for more than 52,000 days in acute care hospitals with an average length of stay of 6.1 days.

Unintentional falls were the leading external cause of injury, accounting for 26% of emergency department visits and 45% of hospitalizations due to an injury (Table 1). The most common type of fall was a slip or trip on the same level followed by stair-related falls. Falls are the leading cause of injury for all age groups, except emergency department visits among the 15-19 year age group where unintentionally striking against/struck by an object or person was the leading cause.

FIGURE 1. Injury-related emergency department visits in Northern Ontario, by age and sex (2005/2006)

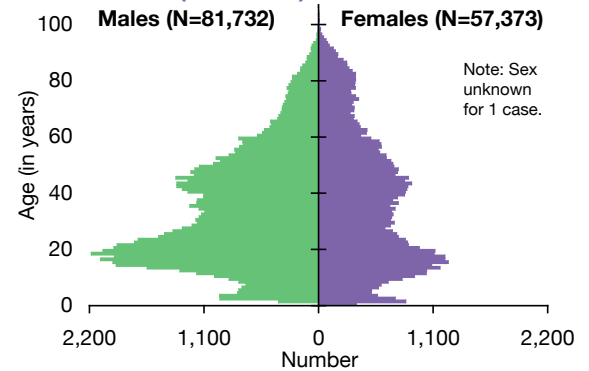


FIGURE 2. Injury-related hospitalizations in Northern Ontario, by age and sex (2005/2006)

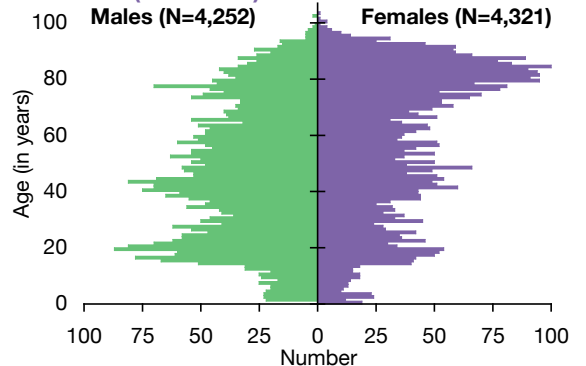


TABLE 2. Numbers and rates of injury in Northern Ontario, by age group (2005/06)

Age group	Emergency Department Visits	Hospitalizations
	Rate ^a (Number)	Rate ^a (Number)
0-4 years	16,218.9 (6,834)	469.9 (198)
5-9 years	14,022.9 (7,211)	350.0 (180)
10-14 years	22,553.2 (13,310)	518.5 (306)
15-19 years	26,162.2 (16,168)	980.6 (606)
20-24 years	22,184.7 (12,728)	829.7 (476)
25-29 years	21,662.9 (9,773)	933.2 (421)
30-34 years	17,955.2 (9,290)	746.0 (386)
35-39 years	15,970.1 (9,537)	815.5 (487)
40-44 years	14,707.7 (10,910)	808.9 (600)
45-49 years	13,456.1 (9,607)	717.1 (512)
50-54 years	12,168.8 (7,678)	749.7 (473)
55-59 years	11,340.2 (6,413)	839.9 (475)
60-64 years	9,990.6 (4,551)	968.1 (441)
65-69 years	9,076.8 (3,521)	1,028.6 (399)
70-74 years	9,805.3 (3,308)	1,505.8 (508)
75-79 years	11,348.6 (3,048)	2,278.7 (612)
80-84 years	14,812.1 (2,625)	3,690.3 (654)
85-89 years	19,684.4 (1,634)	6,107.7 (507)
90+ years	24,851.2 (960)	8,594.4 (332)

a. Age-specific rate per 100,000 population.

TABLE 1. Top 3 causes of injury in Northern Ontario (2005/2006)

Top 3 Causes of Injury	Number (% of total)
Emergency Department Visits	
1. Falls (e.g., slip or trip on the same level)	35,806 (26%)
2. Unintentionally striking against/struck by object or person (e.g., walked into wall, sport collision)	18,842 (14%)
3. Transport (e.g., motor vehicle occupant)	11,460 (8%)
Hospitalizations	
1. Falls (e.g., slip or trip on the same level)	3,876 (45%)
2. Self-inflicted (e.g., intentional self-poisoning or cutting/piercing)	1,214 (14%)
3. Transport (e.g., motor vehicle occupant)	990 (12%)



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TABLE 3. Provincial and Northern Ontario rates for the top 3 causes of injury (2005/2006)

Top 3 Causes of Injury	Northern Ontario Rate ^a	Ontario Rate ^a
Emergency Department Visits		
1. Falls	4,080.7	2,904.4
2. Unintentionally striking against/struck by object or person	2,334.8	1,525.0
3. Transport	1,395.9	974.8
Overall injury rate	16,754.6	10,827.1
Hospitalizations		
1. Falls	368.1	263.0
2. Self-inflicted	151.4	53.2
3. Transport	112.6	71.4
Overall injury rate	917.2	551.7

a. Age-standardized rate per 100,000 population.

The injury rates in Northern Ontario for the leading causes of injury were higher than the provincial rates (Table 3). Of particular note was the rate of self-inflicted hospitalizations which was 2.8 times higher than the provincial rate.

Discussion

This Compass highlights patterns of injury for emergency department visits and hospitalizations in Northern Ontario. Several regional analyses have also examined patterns of injury in Northern Ontario.¹⁻⁵ Refer to past issues of the Ontario Injury Compass for regional comparisons of specific injury topics. Past issues are available at: www.OnInjuryResources.ca.

Injury rates tend to be high in Northern Ontario. The Economic Burden of Injury in Ontario report released in 2006 highlights Northern Ontario as the region with the highest injury-related death, hospitalization, and disability rates along with the largest per capita economic burden of injury.² All of these estimates are approximately 1.5 times greater than provincial averages.²

Northern Ontario represents nearly 90% of Ontario's land mass but less than 10% of the provincial population.⁶ The diverse population of Northern Ontario presents unique challenges to injury prevention from primary prevention to rehabilitation. Northern Ontario differs from the rest of the province in a number of ways, such as road engineering (e.g., a large number of two lane highways), weather conditions (e.g., longer winter season), distance to hospitals (e.g., access to specialty health care), and availability of recreational activities utilizing the vast geographic region, all of which impact injury risks and outcomes.

References

1. Institute for Clinical and Evaluative Sciences (ICES). *Injuries in Ontario*. Toronto: ICES, 2005.
2. SMARTRISK. *The Economic Burden of Injury in Ontario*. Toronto: SMARTRISK, 2006.
3. 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.
4. Rowe BH, Therrien S, Johnson C, Sahai VS, Bota GW. Regional variations of northern health: the epidemic of fatal trauma in northeastern Ontario. *Can J Public Health* 1995;86:249-54.
5. Bellinger S. *A profile of injury in the emergency department. An overview of external causes of morbidity in the emergency department. Residents of North Ontario 2002/03*. Northern Ontario: Algoma, Cochrane, Manitoulin and Sudbury District Health Council; 2005.
6. Statistics Canada. *Census Data*. Available at: <http://www.statcan.ca>.

Managing the risk

To address injury prevention in the vast geographical area of Northern Ontario, multidisciplinary committees work together and are a valuable resource for: enhancing programs and interventions, advocating for prevention, sharing information, skills or knowledge, and identifying issues unique or particularly pertinent to Northern Ontario.

The Northern Injury Prevention Practitioners Network (NIPP) is a multidisciplinary committee comprised of a broad range of injury prevention stakeholders. Members include public health units, Ministry of Transportation, RCMP, municipal and provincial police, Fire Marshal office, trauma hospital, First Nations and Inuit health, regional ABI, Osteoporosis Strategy, and Safe Communities. The strength and sustainability of northern injury prevention initiatives is due to strong committed partners working together for a common goal.

At the regional and provincial level, it is important to involve a myriad of community partners to focus on programs targeting a range of injury types and age groups. Interventions are designed to increase the profile of injury prevention as a regional strategy and to synergize partnerships within the region. The cooperation and coordination of partners and interventions are positive. As issues and needs are identified in Northern Ontario, partners work together to investigate and implement appropriate interventions. Examples of injury prevention interventions in Northern Ontario include:

- ❖ Falls among seniors- e.g., multifactorial approaches
- ❖ Children and youth injuries- e.g., shaken baby syndrome, peer-led initiatives in elementary and secondary schools
- ❖ Road safety- e.g., wildlife collisions, seatbelt use, driver distraction
- ❖ Sport and recreational injuries- e.g., helmet use for all activities, ATV and snowmobile safety

For Further Information

Ontario Injury Prevention Resource Centre (to access Forum for details about the Northern Injury Prevention Practitioners Network)

www.OnInjuryResources.ca

Ontario Neurotrauma Foundation

www.onf.org

Safe Kids Canada

www.safekidscanada.ca

SMARTRISK

www.smartrisk.ca

ThinkFirst Foundation of Canada

www.thinkfirst.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 Northern Ontario were defined according to place of residence using the Ontario Ministry of Health Region Codes. 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.

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