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Teen Injures

Every day in Ontario, more than 16 teenagers are hospitalized and 300 visit an emergency department with an injury.

Results

In Ontario, there were 6,111 injury hospitalizations among teenagers during the 2002/03 fiscal year, representing 8% of all injury hospitalizations in the province. For teens, the highest number of injury hospitalizations was observed among males 18 years of age and females 17 years of age (Figure 1).

The leading external causes of injury hospitalization differed by sex (Figure 2). For male teens, transport incidents accounted for 25% of injury hospitalizations. Injuries to the occupant of a car, truck, van, or motorcycle accounted for 44% of these injury hospitalizations and injuries to pedal cyclists (e.g., falls, collisions with motor vehicles or other objects) represented another 22%. Unintentional falls and unintentionally being struck by or striking against an object or person were also frequent causes of injury hospitalization among male teens. It was not possible to identify all cases of sport-related injury, although, estimates were available for some classes of injury. For example, among male teens, approximately 41% of falls and 86% of the injuries caused by being struck by or striking against an object or person were sport-related.

For female teens, intentional self-harm was the leading cause of injury hospitalization. Self-poisoning with a drug accounted for 86% of these hospitalizations. Transport incidents represented 20% of injury hospitalizations among female teens. Injuries to the occupant of a car, truck, van, or motorcycle accounted for 58% of these injuries and injured pedestrians represented another 12%.

The 6,111 injured teens spent more than 25,000 days in an acute care hospital, with an average length of stay of 3.8 days for males and 4.7 days for females. Some of the longest lengths of hospital stay were observed for transport incidents (an average of 5.5 days for males and 7.4 days for females). About 90% of hospitalized teens were discharged home and fewer than 1% died during their hospital stay.

Lower leg and forearm fractures were the most frequent types of injuries sustained, followed by intracranial injuries and poisoning by nonopioid analgesic and antipyretic drugs such as acetaminophen and ibuprofen.

Among teens, July was the most common month of injury hospitalization. The lowest number of injury hospitalizations was observed in December.

By region, teens in the North had the highest rates of injury hospitalization and Toronto had the lowest. In terms of absolute numbers, South West and Central East experienced the highest numbers of injury hospitalization. The lowest numbers were observed in the Central South, Toronto, and East regions.

FIGURE 1. Injury hospitalizations among teenagers by age and sex (Ontario, 2002/03)

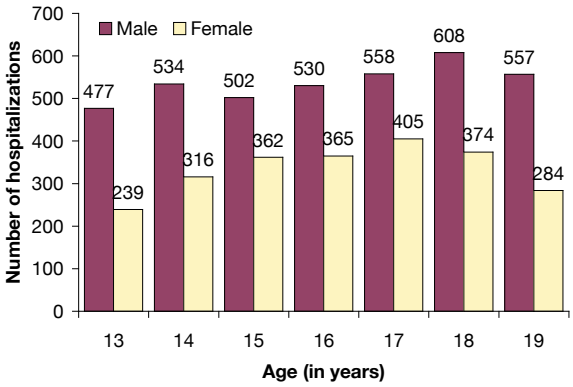
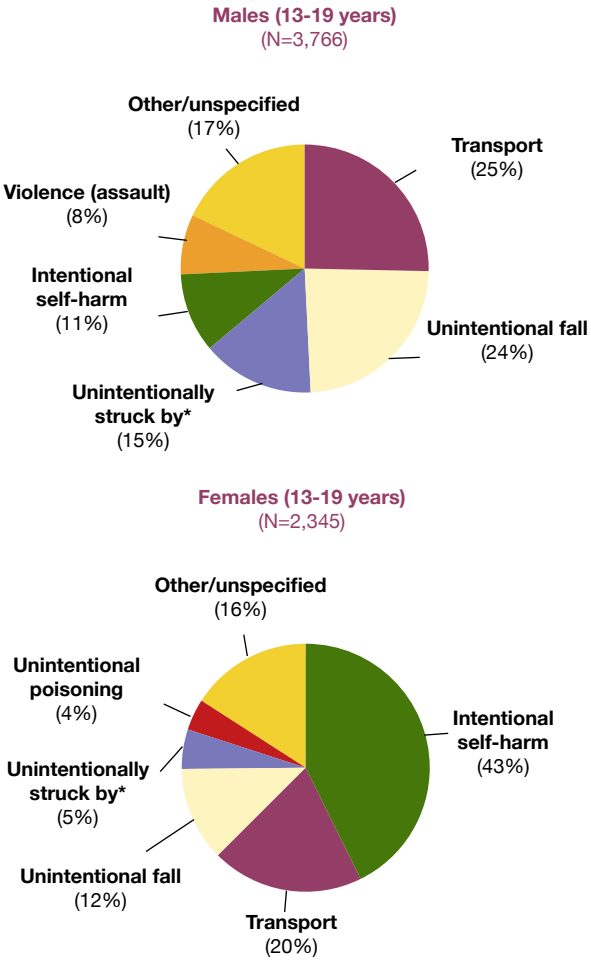


FIGURE 2. Leading external causes of injury hospitalization among teenagers by sex (Ontario, 2002/03)



*Includes being struck by or striking against an object or person.

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An analysis of injury issues in Ontario

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TABLE 1. Injury hospitalizations among teenagers in Ontario by age, sex, and region of residence

	South West	Central South	Central West	Central East	Toronto	East	North	**Ontario**
Number of male injury hospitalizations (Rate per 1,000)[a]								
13 years	85 (7.9)	68 (8.5)	64 (4.2)	73 (4.9)	57 (3.9)	54 (5.0)	64 (10.5)	**477 (6.0)**
14 years	72 (6.6)	67 (8.3)	114 (7.5)	93 (6.2)	61 (4.2)	55 (5.0)	65 (10.3)	**534 (6.6)**
15 years	84 (7.3)	54 (6.4)	92 (6.0)	88 (5.8)	54 (3.6)	55 (5.0)	69 (10.7)	**502 (6.1)**
16 years	99 (8.6)	73 (8.5)	69 (4.4)	91 (6.0)	52 (3.4)	55 (5.0)	79 (11.8)	**530 (6.3)**
17 years	86 (7.6)	52 (6.3)	84 (5.5)	91 (6.2)	65 (4.3)	83 (7.7)	86 (13.2)	**558 (6.8)**
18 years	106 (9.4)	57 (6.9)	84 (5.5)	108 (7.4)	81 (5.1)	79 (7.2)	84 (13.0)	**608 (7.4)**
19 years	109 (10.0)	55 (6.8)	100 (6.6)	95 (6.7)	67 (4.1)	41 (3.8)	76 (12.2)	**557 (6.8)**
Total	**641 (8.2)**	**426 (7.4)**	**607 (5.7)**	**639 (6.2)**	**437 (4.1)**	**422 (5.5)**	**523 (11.7)**	**3,766 (6.6)**
Number of female injury hospitalizations (Rate per 1,000)[a]								
13 years	46 (4.4)	25 (3.3)	32 (2.2)	37 (2.6)	27 (2.0)	20 (2.0)	46 (7.9)	**239 (3.1)**
14 years	46 (4.3)	35 (4.4)	42 (2.9)	64 (4.5)	31 (2.3)	42 (4.1)	52 (8.8)	**316 (4.1)**
15 years	59 (5.5)	47 (6.0)	48 (3.3)	62 (4.4)	43 (3.1)	41 (3.9)	57 (9.0)	**362 (4.6)**
16 years	54 (4.9)	39 (4.9)	60 (4.1)	53 (3.7)	48 (3.4)	53 (5.0)	48 (7.8)	**365 (4.6)**
17 years	65 (6.0)	44 (5.7)	52 (3.6)	75 (5.3)	40 (2.8)	56 (5.4)	64 (10.3)	**405 (5.2)**
18 years	70 (6.5)	34 (4.4)	63 (4.4)	58 (4.3)	40 (2.6)	36 (3.5)	67 (10.7)	**374 (4.8)**
19 years	43 (4.0)	33 (4.3)	51 (3.5)	40 (3.0)	41 (2.6)	31 (3.0)	42 (7.0)	**284 (3.6)**
Total	**383 (5.1)**	**257 (4.7)**	**348 (3.4)**	**389 (4.0)**	**270 (2.7)**	**279 (3.8)**	**376 (8.8)**	**2,345 (4.3)**

a. Age- and sex-specific rates per 1,000 population. Note: Region of residence unknown or outside of Ontario for 114 hospitalizations.

Discussion

This Compass highlights patterns of hospitalized injury among teens in Ontario. Motor vehicle collisions, falls, and sport-related injury hospitalizations are common among males. In contrast, intentional self-harm injury hospitalizations are frequent among females.

It is important to note that hospitalizations represent only one dimension of the injury spectrum. In Ontario during the 2002/03 fiscal year, almost 110,000 teens visited an emergency department with an injury.[1] In terms of deaths, about three-quarters of all deaths among Canadian youth 15 -19 years of age are injury-related.[2]

The teen years are an important period in the development of personal identity.[3] Beliefs, values, and attitudes play a key role in shaping choices and behaviour.[4] For example, engaging in risk-taking and thrill seeking behaviours is a personal choice that can be associated with various negative health outcomes such as injury.[5]

While many of the injury patterns among teens are also observed among other age groups, there may be different underlying causes and approaches that could be applied to this population. At SMARTRISK, we use an educational approach with positive messaging to help engage youth. We don't try to stop people from taking risks. Instead, we help people learn to take smart risks.

References

1. Canadian Institute for Health Information. Data request. Source: National Ambulatory Care Reporting System, 2002/03 data.
2. Canadian Vital Statistics, Death Database. *Chapter XX: External causes of morbidity and mortality (V01-Y89), by age group and sex*. Ottawa: Statistics Canada; 2002. Cat. No: 84-208-XIE.
3. Lerner RM, Steinberg L. *Handbook of adolescent psychology*. 2nd edition. New Jersey: John Wiley & Sons, Inc.; 2004.
4. Federal/Provincial/Territorial Advisory Committee on Population Health. *The opportunity of adolescence: the health sector contribution.* Ottawa: Minister of Public Works and Government Services Canada; 2000. Cat. No: H39-548/2000E.
5. Pickett W, Schmid H, Boyce WF, et al. Multiple risk behavior and injury: an international analysis of young people. *Arch Pediatr Adolesc Med* 2002;156:786-93.

Managing the risk

Examples of the 3 E's of Injury Prevention that are applicable to teens include:

Education and Behaviour Change

SMARTRISK has developed three national programs:

- **SMARTRISK Heroes** is a full-scale, DVD sound and light production hosted by an injury survivor, that travels to schools, helping youth learn to take smart risks.
- **SMARTRISK No Regrets** is a peer leadership program that trains youth to take the smart risk approach back to their peers.
- **SNOWSMART** is a curriculum-based program, which teaches youth how to make smart choices when participating in winter activities.

Engineering and Technology

- **Helmets** for activities such as cycling and skiing
- **Prescription and package size limits** for drugs

Enforcement and Policy/Legislation

- **Graduated Driver Licensing** programs
- **Seat belt** enforcement

For Further Information

SMARTRISK Catalogue of Best Practices
http://www.smartrisk.ca/ListingSections.aspx?dd=4&sd=207

Cochrane Injuries Group
http://www.cochrane-injuries.lshtm.ac.uk/

Harborview Injury Prevention and Research Center—Best Practices
http://depts.washington.edu/hiprc/practices/index.html

Centre for Suicide Prevention (Includes a list of Ontario crisis centres)
http://www.suicideinfo.ca/

Methods

This Compass includes acute care injury hospitalizations for teens 13-19 years of age in Ontario. Data were obtained for the 2002/03 fiscal year from the Discharge Abstract Database at the Canadian Institute for Health Information. In-hospital deaths are included (fewer than 1% of injured teens died during their hospital stay). Injuries are classified according to the International Classification of Diseases, 10th revision (ICD-10). Regions are defined according to Ontario Ministry of Health Region Codes.