



National Trauma Registry 2011 Report:
Hospitalizations for Major Injury in Canada,
2008–2009 Data



Who We Are

Established in 1994, CIHI is an independent, not-for-profit corporation that provides essential information on Canada's health system and the health of Canadians. Funded by federal, provincial and territorial governments, we are guided by a Board of Directors made up of health leaders across the country.

Our Vision

To help improve Canada's health system and the well-being of Canadians by being a leading source of unbiased, credible and comparable information that will enable health leaders to make better-informed decisions.

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Executive Summary

Introduction

The purpose of the *National Trauma Registry 2011 Report: Hospitalizations for Major Injury in Canada* is to provide descriptive analyses of patients hospitalized with major trauma in participating facilities in Canada for 2008–2009 (April 1, 2008, to March 31, 2009). The data source for this report is the National Trauma Registry Comprehensive Data Set (NTR CDS), which is managed by the Canadian Institute for Health Information (CIHI). Data for the 2008–2009 NTR CDS was obtained from 107 participating facilities in eight provinces (British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Newfoundland and Labrador). In 2010, Saskatchewan began to participate in the CDS but did not submit data for 2008–2009. Most of Prince Edward Island's serious trauma cases are transferred to New Brunswick and Nova Scotia.

Trauma cases were selected based on an Injury Severity Score (ISS) greater than 12 and the presence of specific external cause of injury codes that meet the definition of trauma. To be included in the NTR CDS, cases also had to meet one of the following criteria:

- Were admitted to a participating hospital; or
- Were treated in the emergency department of a participating hospital without being admitted to hospital; or
- Died in the emergency department of a participating hospital after treatment was initiated but prior to admission to hospital.

Examples of causes of injury that are excluded from this definition are poisonings by drugs and gases and adverse effects of drugs and medicinal and biological substances. It is important to note that this report cannot capture all major injuries that occur in Canada. First, patients with major injuries may also present to, and be treated at, facilities that do not participate in the NTR CDS (that is, non-trauma centres). In addition, many patients who die due to injury do not survive to reach hospital; these cases cannot be captured using the NTR CDS.

There are significant variations in trauma system configuration across provinces.¹ Certain provinces include only lead trauma centres capable of providing tertiary care in their trauma system. Provincial trauma registries in these provinces include data from lead trauma centres only. Other provincial trauma systems formally integrate other hospitals that provide initial care to patients; although these centres may transfer more severely injured patients to a more specialized facility, they contribute data to the provincial trauma registry. Given these variations in provincial trauma system configuration, data included in the NTR CDS may differ in scope across provinces. Specifically, the proportion of severely injured patients captured by the NTR CDS may differ by province, given the differences in the structures of various provincial trauma systems and trauma registries.

Highlights

In 2008–2009, there were 14,065 major injury cases with an ISS greater than 12 across the eight provinces that contributed data to the NTR CDS. Of these cases with major injury, 1,605 died (11%), either in the emergency department ($n = 319$) or after admission to hospital ($n = 1,286$).

The mean age for all cases was 48 (median = 47). Thirteen percent of cases were individuals younger than age 20; cases in this age group represented 10% ($n = 158$) of deaths. Cases age 65 and older accounted for more than one-quarter of cases of major injury (28%, $n = 3,969$) and 48% ($n = 777$) of deaths.

Most cases of major injury were male (71%). Among all cases, the average ISS was 23 (median = 21). The most common type of injury was an internal organ injury (86%), followed by musculoskeletal (79%) and superficial (39%) injuries. Cases were predominantly caused by blunt injury (93%); 5% had a penetrating injury and 2% had a burn injury.

The injury cases included in this report resulted in 212,098 hospital days in the participating facilities, with an average length of stay (LOS) of 15 days (median = 8 days).

Causes of Injury

Overall

The leading causes of injury among all major injury cases in the 2008–2009 NTR CDS were motor vehicle collisions, which accounted for 41% of all cases (n = 5,797). Thirty-eight percent of cases were due to falls (n = 5,348). Gunshot wounds (n = 245) and stab wounds (n = 382) together accounted for 4% of injuries. The other 17% of cases involved other blunt injuries, land transport incidents, etc.

By Age Group

When the cause of major injury hospitalization was analyzed by various age groups (younger than 20, 20 to 34, 35 to 64 and 65 and older), some differences were evident, particularly among those age 65 and older. Motor vehicle collisions were the leading cause of injury for all age groups except seniors (65 and older). In this group, falls (74%, n = 2,941), followed by motor vehicle collisions (20%, n = 774), were the leading causes of major injury.

Motor Vehicle Collisions

More than one-third (41%, n = 5,797) of all major injury hospitalizations were due to motor vehicle collisions, and motor vehicle collisions accounted for 32% of all deaths (n = 520). Fifty-eight percent of the injured persons in motor vehicle collision injury cases were drivers (n = 3,336) and just more than one-fifth (21%, n = 1,200) were passengers. These numbers include motorcycle drivers and passengers, respectively. Fourteen percent (n = 810) were pedestrians, and 4% (n = 199) were pedal cyclists.

Unintentional Falls

Thirty-eight percent (n = 5,348) of all major injury hospitalizations were due to falls. Among these, 98% (n = 5,233) were unintentional in nature. Overall, the most common specified types of falls were on or from stairs or steps (19%, n = 1,004); however, the type of fall varied according to age group. The most common types of falls among those younger than 20 were falls from one level to another (33%, n = 100). Among those age 20 to 34, falling from buildings and other structures was the most common type of fall (32%, n = 107). The most frequently reported falls among those age 35 to 64 were falls on or from stairs and steps (22%, n = 352). Among those age 65 and older, falls on or from stairs and steps (20%, n = 577) and falls on the same level from slipping, tripping and stumbling (19%, n = 547) were the most common types of unintentional falls. Eight percent (n = 395) of unintentional falls were work-related.

Intentional Injuries

Intentional injuries represented 11% (n = 1,502) of all cases. Among these, homicides and injuries purposely inflicted by another person (that is, assault) accounted for 9% of cases (n = 1,217), and suicide and self-inflicted injury (excluding poisoning) accounted for 2% (n = 285) of cases. The most commonly specified means of homicide and injury purposely inflicted by another person (excluding poisoning) were bodily force (52%, n = 606) and stab wounds (26%, n = 299). Gunshot wounds accounted for 15% (n = 174) of cases due to homicide or injuries purposely inflicted by another person. Falling from a high place (33%, n = 95) followed by self-inflicted stab wounds (22%, n = 61) were the most common means of self-inflicted injury. Gunshot wounds accounted for 15% (n = 43) of self-inflicted injuries.

Homicide and injury purposely inflicted by another person accounted for 71% (n = 174) of injuries caused by gunshot wounds; suicide and self-inflicted injury accounted for 18% (n = 43).

Context of Injury

Overall, 13% (n = 1,827) of injury cases involved a sports or recreational activity. The three leading activities were cycling (24%), using all-terrain vehicles (22%) and dirt biking (12%).

Six percent (n = 813) of all injury cases were reported to be work-related. The proportion of work-related injury cases by participating province ranged from 4% in Nova Scotia to 9% in Manitoba.

Fifteen percent (n = 1,432) of major injury cases older than age 15 were documented to have a positive blood alcohol concentration (BAC),ⁱ and 19% (n = 1,830) had a recorded BAC of greater than zero. Of those individuals older than 15 involved in a motor vehicle collision, 23% had a BAC greater than zero. Caution is to be exercised in interpreting any analyses involving BAC because the overall coverage (provision of this measure) was only 64% across Canada in individuals older than 15 for 2008–2009.

i. Positive BAC ≥ 17.4 mmol/L, equivalent to 0.08%, which corresponds to the legal limit for driving.

Clinical Aspects of Injury

Deaths

Eleven percent (n = 1,605) of cases resulted in the death of the patient. The three leading causes of major injury in-hospital deaths were falls (48%, n = 776), motor vehicle collisions (32%, n = 520) and gunshot wounds (4%, n = 64).

Discharge Disposition

Eighty-nine percent of cases were discharged alive (n = 12,460). Among these cases, 48% (n = 6,013) were discharged home and 10% (n = 1,214) were sent home with support services.

Injury Severity Score

The ISS is an internationally recognized scoring system developed to assign a level of severity to injury. ISS scores range from 1 (minor) to 75 (fatal). Only cases with an ISS greater than 12 are included in the NTR CDS.

The overall mean ISS was 23 for 2008–2009. The mean ISS for cases who died was 30, compared with a mean ISS of 22 for survivors. The mean ISS was higher among cases age 20 to 34 and among those younger than 20 (ISS = 24) compared with the others (ISS = 23 for those age 35 to 64; ISS = 22 for those age 65 and older). Among the most common types of injuries, the highest mean ISS was for injuries from motor vehicle collisions (ISS = 25).

Length of Stay

The overall mean LOS was 15 days (median = 8 days). The mean LOS among survivors was 16 days (median = 8 days), compared with a mean LOS of 11 days (median = 3 days) for patients who died in hospital. Mean LOS appeared to increase with age. Cases age 65 and older had a mean LOS of 18 days, whereas cases younger than 20 had a mean LOS of 11 days. Among the three most common types of major injuries, falls and gunshot wounds had the highest mean LOS (16 days).

Electronic copies of *National Trauma Registry 2011 Report: Hospitalizations for Major Injury in Canada* are available free of charge at www.cihi.ca/ntr. Paper copies of the report are available to order at the same site. Copies of the executive summary, media release and recent bulletins can be downloaded free of charge from the CIHI website. Queries regarding this report may be addressed to CIHI at ntr@cihi.ca.

About the Canadian Institute for Health Information

The Canadian Institute for Health Information (CIHI) collects and analyzes information on health and health care in Canada and makes it publicly available. Canada's federal, provincial and territorial governments created CIHI as a not-for-profit, independent organization dedicated to forging a common approach to Canadian health information. CIHI's goal: to provide timely, accurate and comparable information. CIHI's data and reports inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health.

CIHI's mandate is based upon collaborative planning with key stakeholder groups, including all provincial, territorial and federal governments, national health care agencies and service providers.

CIHI is governed by a Board of Directors whose 15 members strike a balance among the health stakeholders, sectors and regions of Canada.

CIHI's core functions are to

- Identify and promote national health indicators;
- Coordinate and promote the development and maintenance of national health information standards;
- Develop and manage health databases and registries;
- Conduct analyses and special studies and participate in research;
- Publish reports and disseminate health information; and
- Coordinate and conduct education sessions and conferences.

1. Introduction

Traumatic injuries have a major impact on the health and well-being of Canadians; they also represent a significant burden in terms of mortality and morbidity on individuals, as well as in terms of health resource utilization. Such utilization has considerable economic cost implications for the health care system, as well as societal costs affecting those injured and their families.

Trauma is increasingly recognized as a national and global public health concern. Injuries are considered one of the most preventable of major health problems; it has been estimated that 90% of injuries are preventable.² Nevertheless, injuries are a leading cause of death and disease worldwide, and trauma is the leading cause of death in Canada among those younger than 45.³ Injuries are also an important cause of long-term disability.

A common theme in injury research and clinical literature is the recognition of a lack of supporting evidence for, and evaluations of, programs that are aimed at general injury prevention, as well as those targeting specific factors (such as home safety, helmet use, and sports and recreation). Interventions, programs and policies that are targeted towards preventing injury must be based on sound evidence, which can be supplied by a system that monitors the epidemiologic and clinical features of injuries, providing an understanding of patterns, causes and outcomes.

The Trauma Registries program at CIHI plays an important role in providing such information by disseminating statistics and analyses on all admissions to Canadian hospitals due to injury, as well as by providing more in-depth information on the subset of patients with what are defined as major injuries. This report focuses on the National Trauma Registry Comprehensive Data Set (NTR CDS), which contains cases of patients who have sustained a severe injury (Injury Severity Score greater than 12) and were treated in a hospital submitting data to the NTR CDS.

1.1 Purpose of Report

The purpose of this report is to provide descriptive analyses of patients hospitalized with major trauma in participating facilities in Canada for 2008–2009. Data for the 2008–2009 NTR CDS was obtained from 107 participating facilities in eight provinces (British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Newfoundland and Labrador). The data source for this report is the NTR CDS. Data elements collected in the NTR CDS are listed in Appendix A. Trauma cases were selected based on an Injury Severity Score (ISS) greater than 12 and the presence of specific external cause of injury codes that meet the definition of trauma (see Appendix B).

1.2 About the National Trauma Registry

1.2.1 Goals

The goals of the National Trauma Registry (NTR) are to

- Contribute to the reduction of injuries and related deaths in Canada by providing data that will allow for the examination of national injury epidemiology;
- Facilitate provincial and international injury comparisons;
- Increase awareness of injury as a public health problem in Canada;
- Assist injury prevention programs; and
- Facilitate injury research.

The availability of this information will allow health care providers, planners and researchers to make informed decisions about the care and treatment of trauma patients, resource allocation, injury prevention programs and legislative changes.

The NTR Advisory Committee (NTRAC) includes provincial representation from trauma care experts from across the country and has played a key role in the development and enhancement of the NTR. The role of this group has included advising on the goals and objectives of the NTR, uses of the data, definitions, inclusion/exclusion criteria, data quality issues, report formats and development of promotional strategies. For a list of NTRAC members, see Appendix C.

1.2.2 History

The establishment of the NTR, including the acquisition, analysis and dissemination of national injury data, is consistent with the mission, vision and corporate goals of CIHI. CIHI has worked toward the establishment of the NTR since the creation of the Ontario Trauma Registry in May 1992 at the Hospital Medical Records Institute, one of CIHI's founding organizations. The NTR was established in 1994.

1.2.3 Structure

The National Trauma Registry is composed of two data sets:

1. The **Minimum Data Set (MDS)** contains demographic, diagnostic and procedural information about hospitalizations due to trauma from all acute care hospitals in Canada. Hospitalization data is obtained from the Hospital Morbidity Database (HMDB) at CIHI. The data source for the HMDB is CIHI's Discharge Abstract Database (DAD) for all provinces, with the exception of Quebec. For this province, data is submitted from the hospitals to CIHI via the provincial ministry of health. Selection of trauma cases is based on specific external cause of injury codes within the International Classification of Diseases, 9th Revision (ICD-9) and the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada (ICD-10-CA). A list of the external cause codes that are included in and excluded from the definition of trauma is located in Appendix B. Examples of external cause codes that are *not* included in this definition are poisoning by drugs or gases, suicide and self-inflicted injury using poisoning, adverse effects of drugs and medicines, and complications.
2. The **Comprehensive Data Set (CDS)**, the data source for this report, is described in detail in the next chapter.

1.2.4 National Trauma Registry Advisory Committee

NTRAC provides advice and recommendations to CIHI regarding issues relating to the NTR CDS data set. A list of NTRAC members can be found in Appendix C.

2. Methodological Notes

2.1 Data Source

The NTR CDS consists of information on patients hospitalized with major trauma in participating hospitals in British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and Newfoundland and Labrador. Many participating provinces use specialized trauma software (such as Collector from Digital Innovation and Tri-Code from Tri-Analytics, Inc.) to collect data on injury cases. NTR CDS data is a subset of participating provincial trauma registries and is electronically submitted to CIHI.

2.2 Data Elements

Data elements collected in the NTR CDS are listed in Appendix A. Because other provincial registries may collect data differently than the NTR CDS, data elements were mapped to a common definition when necessary. In some cases, complete data is not provided because it was not collected in a particular province or facility.

The number of data elements in the NTR CDS was expanded from 17 to 45 in 1999–2000, as approved by members of the NTR CDS Working Group and as part of CIHI's Roadmap initiative. Elements added include Sports/Recreational Activity Code, Work-Related Code, Protective Devices, Total RTS (Revised Trauma Score) on Arrival at Trauma Centre, AIS (Abbreviated Injury Scale) Code by ISS Body Region and various data elements for vital statistics upon arrival at the trauma hospital.

2.3 Data Quality

CIHI performs various validity checks on the data submitted by the provinces, such as checking that the diagnosis codes are valid and data is complete. If data does not pass CIHI validations, a notification of error is sent to data suppliers who are then asked to resubmit the corrected or complete data.

Relevant data quality notes are stated within the body of this report and within Section 2.6—Reporting Guidelines.

Whenever cause of injury was of interest, external causes of injury for all figures were coded based on the Center for Disease Control's External Cause of Injury and Mortality Matrix, available at www.cdc.gov/nchs/data/ice/icd10_transcode.pdf. Data tables in Appendix H, however, adhere to CIHI coding standards. Therefore, there may be small discrepancies between the figures and the tables.

The Data Quality Framework, a tool documenting the accuracy, timeliness, comparability, usability and relevance of the NTR CDS, is completed each year. A summary of this framework is available to stakeholders at www.cihi.ca/ntr.

2.4 Cell Size Suppression

In accordance with CIHI's privacy policy, cells with counts of 1 to 4 are suppressed. Also, to avoid residual disclosure, double cell suppression is done using the smallest cell value.

2.5 Inclusion Criteria

2.5.1 Definition of Trauma Case

A trauma case is included in the NTR CDS and this report if it

- Has an ISS greater than 12, which is based on an international system to provide an overall score for patients with multiple injuries, based on severity of injury and body region;
- Has an ICD external cause of injury code that meets the definition of trauma (see Appendix B for more detail); and
- Meets one of the following criteria:
 - Was admitted to a trauma centre or a participating hospital; or
 - Was treated in the emergency department of a participating hospital without being admitted to hospital; or
 - Died in the emergency department of a participating hospital after treatment was initiated but prior to admission to hospital.

2.5.2 Participating Facilities

The 2008–2009 NTR CDS is composed of data from 107 facilities across eight provinces in Canada.

2.5.3 Scope

There are significant variations in trauma system configuration across provinces.¹ Certain provinces include only lead trauma centres capable of providing tertiary care in their trauma system. Provincial trauma registries in these provinces include data from lead trauma centres only. Other provincial trauma systems formally integrate major trauma from *all* other hospitals that provide initial care to patients; although these centres may transfer more severely injured patients to a more specialized centre, they contribute data to the provincial trauma registry. Given these variations in provincial trauma system configuration, data included in the NTR CDS may differ in scope across provinces. Specifically, the proportion of severely injured patients captured by the NTR CDS may differ by province, given the differences in the structures of various provincial trauma systems and trauma registries.

Table 1: Number of Participating Facilities by Province, NTR CDS, 2006–2007 to 2008–2009

Province	Number of Participating Facilities		
	2006–2007	2007–2008	2008–2009
British Columbia	9	10	12
Alberta	4	4	9
Saskatchewan	0	0	0
Manitoba	1	1	1
Ontario	13	13	13
Quebec	59	59	59
New Brunswick	1	1	1
Nova Scotia	10	10	10
Prince Edward Island	0	0	0
Newfoundland and Labrador	3	3	3

Source

National Trauma Registry Comprehensive Data Set, Canadian Institute for Health Information.

Refer to Appendix G for a list of participating facilities by province.

In previous years, the number of participating provincial/regional trauma registries and facilities has differed slightly in the NTR CDS. **Therefore, trends over time should be interpreted with caution.** In addition, certain provincial/regional trauma registries have added data retrospectively; this means that, while their data was not available for previous reports, data for previous years is now available to CIHI for this year's report. Table 2 lists participating provincial/regional trauma registries by fiscal year of data.

Table 2: Participating Provinces, NTR CDS, 1996–1997 Through 2008–2009

Year	Participating Provinces
1996–1997	B.C., Alta., Ont., Que., N.S., N.L.
1997–1998	B.C., Alta., Ont., Que., N.S., N.L.
1998–1999	B.C., Alta., Ont., N.S., N.L.
1999–2000	B.C., Alta., Man., Ont., N.S.
2000–2001	B.C., Alta., Man., Ont., Que., N.B., N.S.
2001–2002	B.C., Alta., Man., Ont., Que., N.B., N.S.
2002–2003	B.C., Alta., Man., Ont., Que., N.B., N.S.
2003–2004	B.C., Alta., Man., Ont., Que., N.B., N.S., N.L.
2004–2005	B.C., Alta., Man., Ont., Que., N.B., N.S., N.L.
2005–2006	B.C., Alta., Man., Ont., Que.,* N.B., N.S., N.L.
2006–2007	B.C., Alta., Man., Ont., Que.,* N.B., N.S., N.L.
2007–2008	B.C., Alta., Man.,* Ont., Que.,* N.B., N.S., N.L.
2008–2009	B.C., Alta., Man., Ont., Que.,* N.B., N.S., N.L.

Note

* Data was retroactively added to the NTR.

Source

National Trauma Registry Comprehensive Data Set, Canadian Institute for Health Information.

2.6 Reporting Guidelines

- This report provides data from 107 participating facilities across eight provinces, submitted and uploaded to the NTR CDS database by the end of the fiscal year.
- Cases included in this report are based on a fiscal year of discharge date from April 1, 2008, to March 31, 2009.
- Participating provinces in this year's report are British Columbia, Alberta, Manitoba (one facility), Ontario, Quebec, New Brunswick (one facility), Nova Scotia and Newfoundland and Labrador.
- Historical trends should be interpreted with caution as participating provinces vary each year. Differences in numbers and percentages may be largely due to changes in reporting. This has been identified wherever applicable.
- Cause of injury reports are based on the first documented external cause code only, which is the primary cause of injury.
- Reporting causes and nature of injury diagnoses is based on the ICD-10-CA and the Canadian Classification of Health Interventions (CCI).
- Diagnostic information from all participating provinces in 2008–2009 was coded to the ICD-10-CA.
- For trending cause of injury (Table 1), injury code groupings were utilized to map the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) with the ICD-10-CA (see Appendix E).
- Discharges rather than individuals are reported, meaning that the same patient may be included more than once in the NTR CDS.
- Deaths in this report refer to major injury cases that died in the emergency department or in the hospital after admission. Deaths occurring at the scene or before treatment was initiated at the hospital are not included, as this data is not available in the NTR CDS.
- At the time of this report, injury diagnosis was not available for cases from New Brunswick.
- Percentages may not add to 100% due to rounding.
- Reports on positive blood alcohol concentration (BAC), defined as greater than or equal to 17.4 mmol/L (to reflect the legal positive blood alcohol limit, commonly known as 0.08%) are based on cases older than age 15.

3. Overview

3.1 2008–2009 Highlights

Highlighted statistics from the 2008–2009 NTR CDS:

- There were 14,065 major injury cases from 107 facilities across 8 jurisdictions.
- Each case had an ISS greater than 12; the mean ISS was 23 (median = 21).
- The mean LOS was 15 days (median = 8 days).
- There were 1,605 deaths, including 1,286 in-hospital deaths and 319 deaths in the emergency department.
- Most trauma cases (n = 10,014, 71%) were male.
- The mean age for all cases was 48 (median = 47).
- Approximately one-third of trauma cases (n = 4,837, 34%) were younger than 35.
- Among trauma cases, 4,123 (29%) had ventilator days documented; the mean number of ventilator days was 7 (median = 2).ⁱⁱ
- Among trauma cases, 1,432 (15%) had a positive BAC documented.ⁱⁱ
- Fewer than 10% of trauma cases (n = 813, 6%) were documented as work-related.
- Among trauma cases, 1,827 (13%) injuries occurred while engaged in a sports and recreational activity.
- Among trauma cases, 31% (n = 4,335) of injuries occurred on the street or highway, 18% (n = 2,602) occurred at home, 2% (n = 486) occurred in an industrial or construction area, 2% (n = 281) occurred in a trade or service area and 2% (n = 256) occurred in a sports and recreational setting.

Annual highlighted statistics from 2004–2005 to 2008–2009 are shown in Appendix H, Table 1. As not all provinces contributed to all data fields for each year, Appendix H, Table 1 should not be used to calculate trends over time.

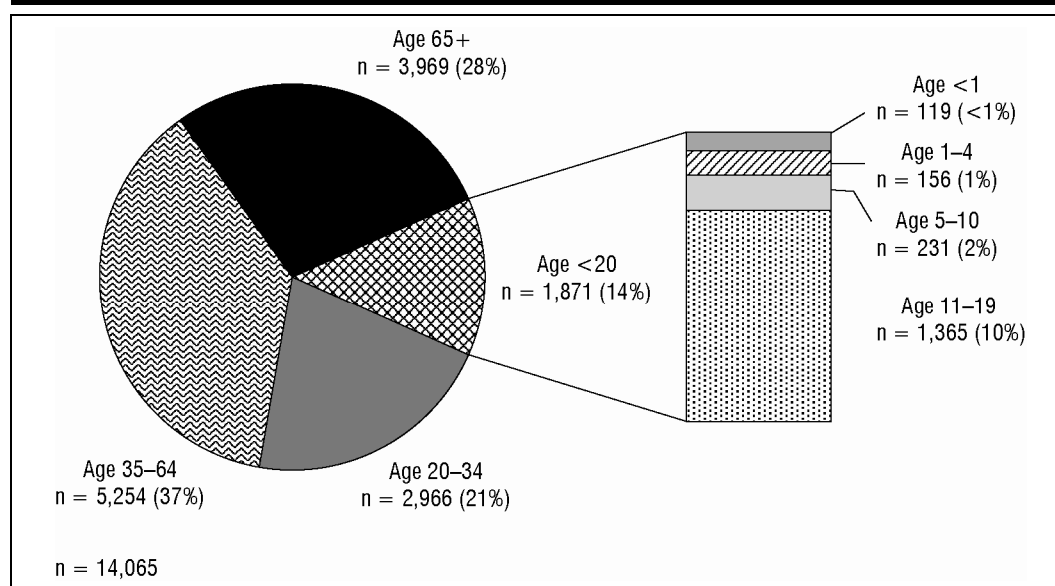
ii. Due to low coverage of ventilation days and BAC, caution is urged when interpreting results.

3.2 Demographic Analysis

The mean age for all cases was 48 (median = 47).

Figure 1 shows major injury hospitalizations by age group. Those age 35 to 64 accounted for the greatest proportion of cases (37%, $n = 5,254$), followed by those age 65 and older (28%, $n = 3,969$) and those age 20 to 34 (21%, $n = 2,966$). Cases younger than 20 accounted for 14% ($n = 1,871$) of all injury hospitalizations.

Figure 1: Hospitalizations Due to Major Injury in Canada, by Age Group, 2008–2009*



Notes

* Five cases with unknown age are excluded (less than 1% of all cases).

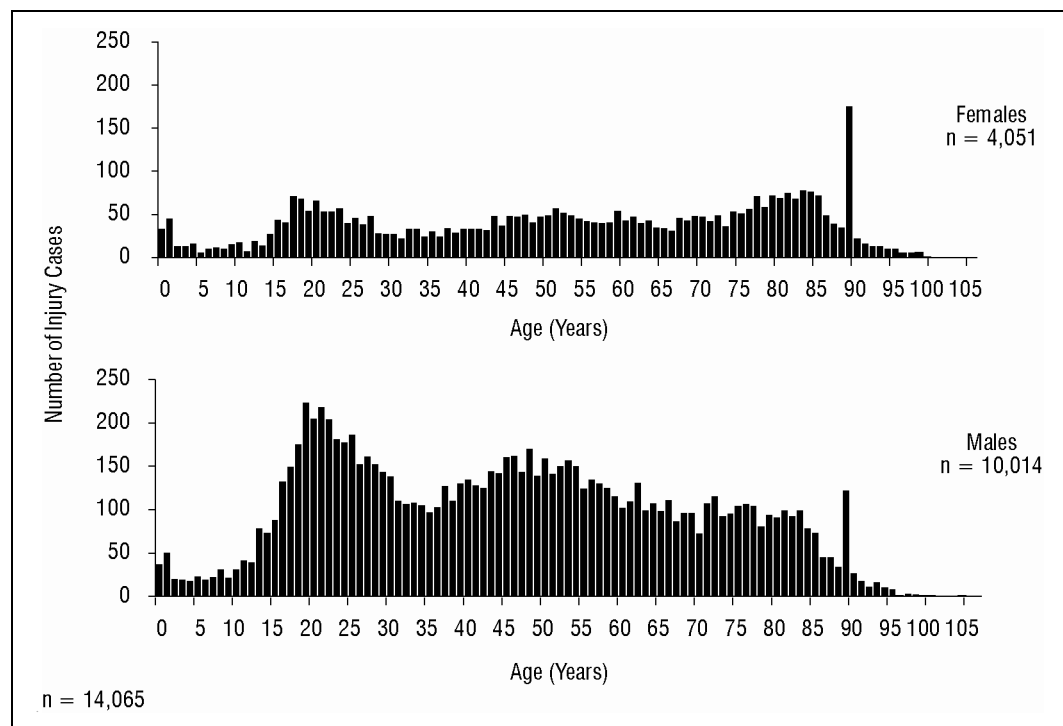
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 2 separates cases based on sex and single year of age. Among males, cases involving patients in the late teenage years predominate. Among females, cases involving those older than age 65 predominate. Males composed 71% (n = 10,014) of all major injury cases.

Figure 2: Hospitalizations Due to Major Injuries in Canada, by Single Year of Age and Sex, All Cases, 2008–2009*



Notes

* Five cases with unknown age are excluded (less than 1% of all cases).

The figure includes data from 107 hospitals across 8 jurisdictions.

For all Quebec patients age 85 and older, the age used is the median of the age group older than 85 as a whole; this explains the spike around age 89.

Source

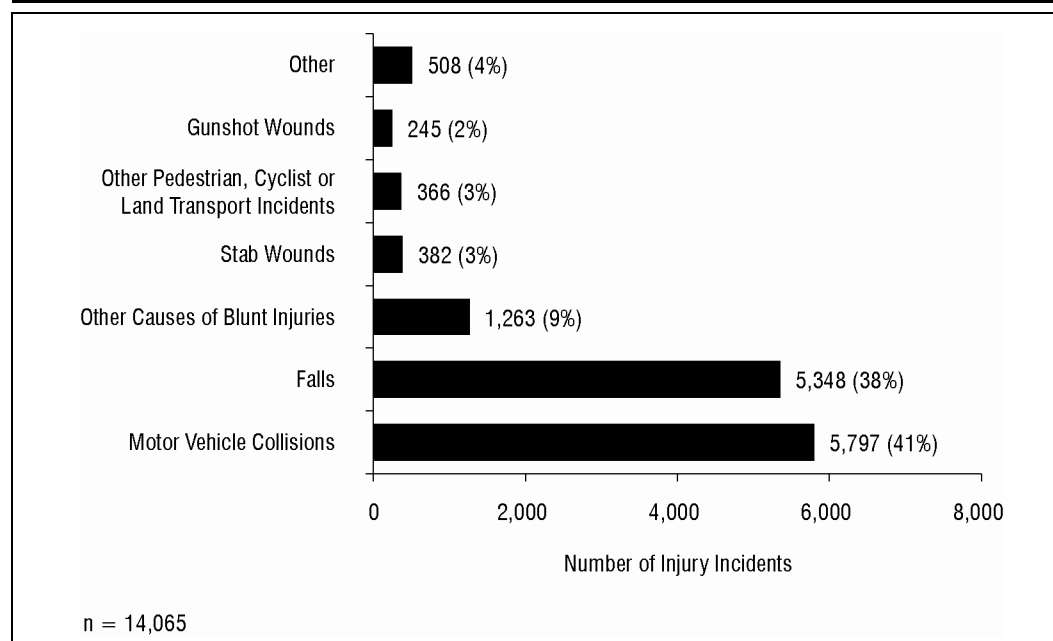
National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

4. Causes of Major Injury

4.1 Overall Causes

Figure 3 shows the causes of major injury hospitalizations for the 14,065 cases in the 2008–2009 NTR CDS. The leading specified causes of major injury were motor vehicle collisions (41%, n = 5,797), falls (38%, n = 5,348) and other causes of blunt injuries (9%, n = 1,263). Gunshot wounds (n = 245) and stab wounds (n = 382) together accounted for 5% of injuries. A total of 156 patients (1%) did not have a specified cause of injury.

Figure 3: Causes of Major Injury Hospitalizations in Canada, All Cases, 2008–2009*



Notes

* The figure excludes 156 cases with unspecified cause of injury (1% of all cases).

The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

For the leading causes of major injury, the mean age statistics were as follows (Appendix H, Table 16):

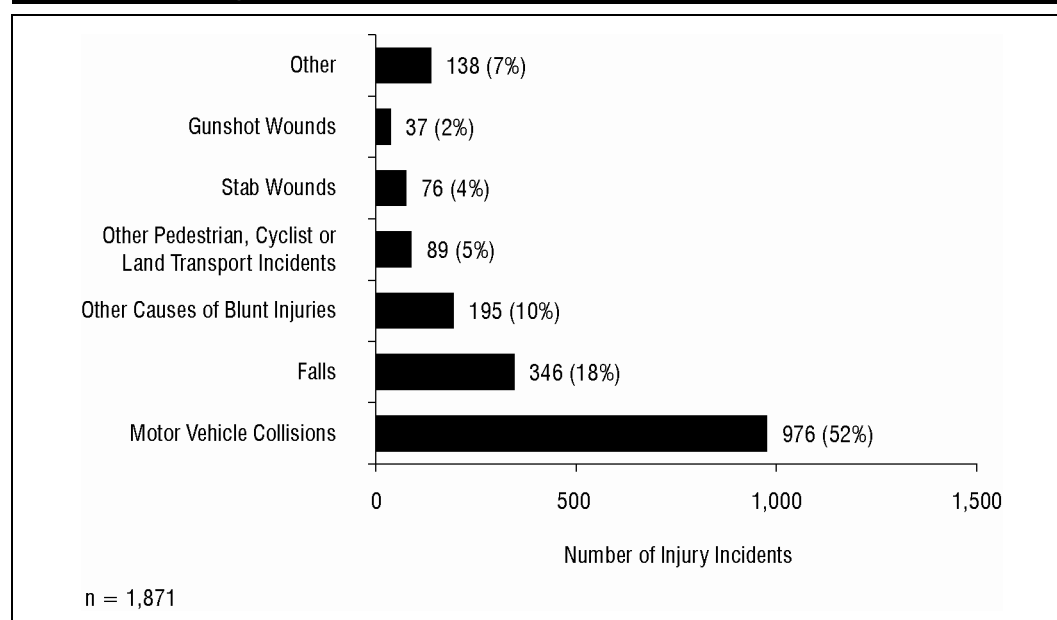
- Falls: mean = 62 (median = 68).
- Motor vehicle collisions: mean = 40 (median = 38).

4.2 Causes by Age Group

4.2.1 Cases Younger Than Age 20

Figure 4 shows the causes of major injury for cases younger than age 20 (n = 1,871). The leading causes of major injury were motor vehicle collisions (52%, n = 976), falls (18%, n = 346) and other causes of blunt injury (10%, n = 195). Gunshot wounds (n = 37) and stab wounds (n = 76) together accounted for 6% of injuries. A total of 14 cases (1%) did not have a specified cause of injury.

Figure 4: Causes of Major Injury Hospitalizations in Canada, Patients Younger Than Age 20, 2008–2009*



Notes

* The figure excludes 14 cases with unspecified cause of injury (less than 1% of all cases younger than age 20). The figure includes data from 107 hospitals across 8 jurisdictions.

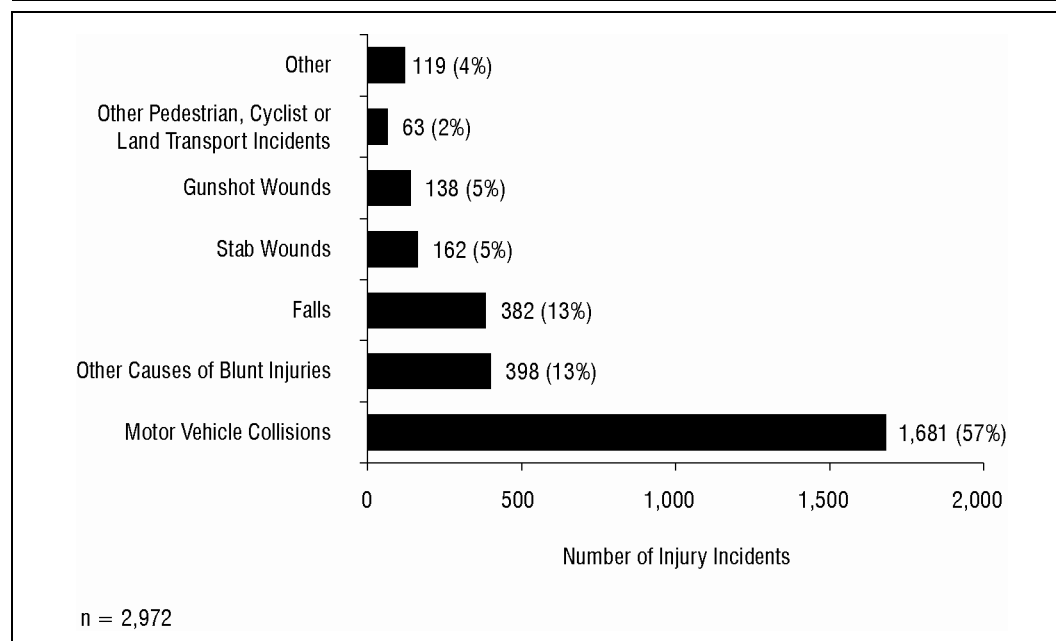
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

4.2.2 Cases Age 20 to 34

Figure 5 shows the causes of major injury hospitalizations for cases age 20 to 34 (n = 2,972). The leading causes of major injury were motor vehicle collisions (57%, n = 1,681), other causes of blunt injury (13%, n = 398) and falls (13%, n = 382). Gunshot wounds (n = 138) and stab wounds (n = 162) together accounted for 10% of major injury hospitalizations. A total of 29 cases (1%) did not have a specified cause of injury.

Figure 5: Causes of Major Injury Hospitalizations in Canada, Patients Age 20 to 34, 2008–2009*



Notes

* The figure excludes 29 cases with unspecified cause of injury (1% of cases age 20 to 34).

The figure includes data from 107 hospitals across 8 jurisdictions.

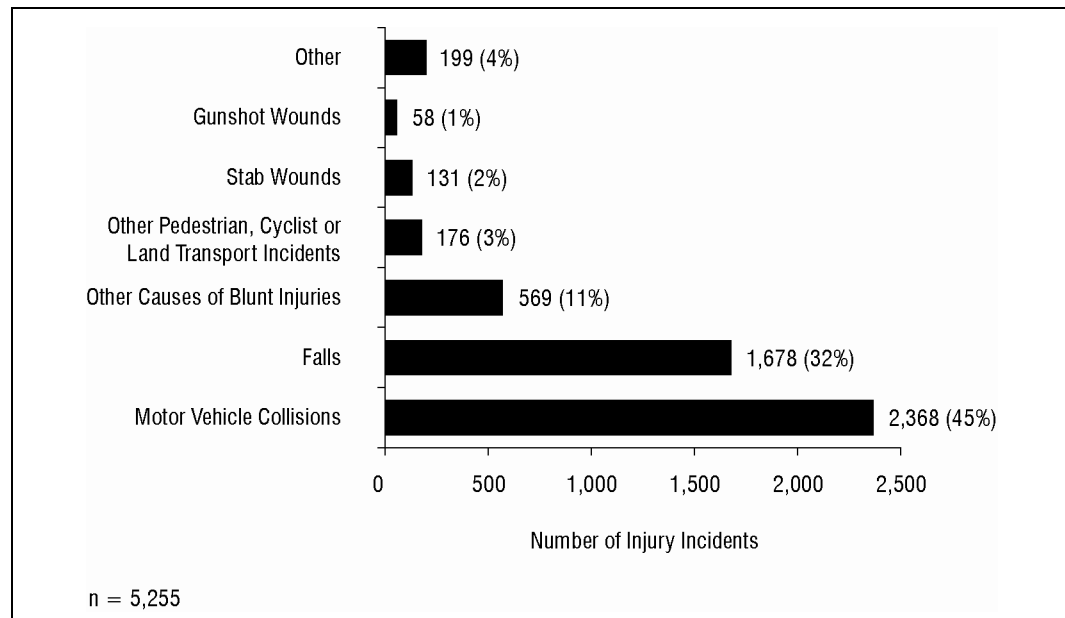
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

4.2.3 Cases Age 35 to 64

Figure 6 shows the causes of major injury hospitalizations for cases age 35 to 64 (n = 5,255). The leading causes of major injury were motor vehicle collisions (45%, n = 2,368), falls (32%, n = 1,678) and other causes of blunt injuries (11%, n = 569). Gunshot wounds (n = 58) and stab wounds (n = 131) together accounted for 3% of injuries. A total of 76 cases (1%) did not have a specified cause of injury.

Figure 6: Causes of Major Injury Hospitalizations in Canada, Patients Age 35 to 64, 2008–2009*



Notes

* The figure excludes 76 cases with unspecified cause of injury (1% of cases age 35 to 64).
The figure includes data from 107 hospitals across 8 jurisdictions.

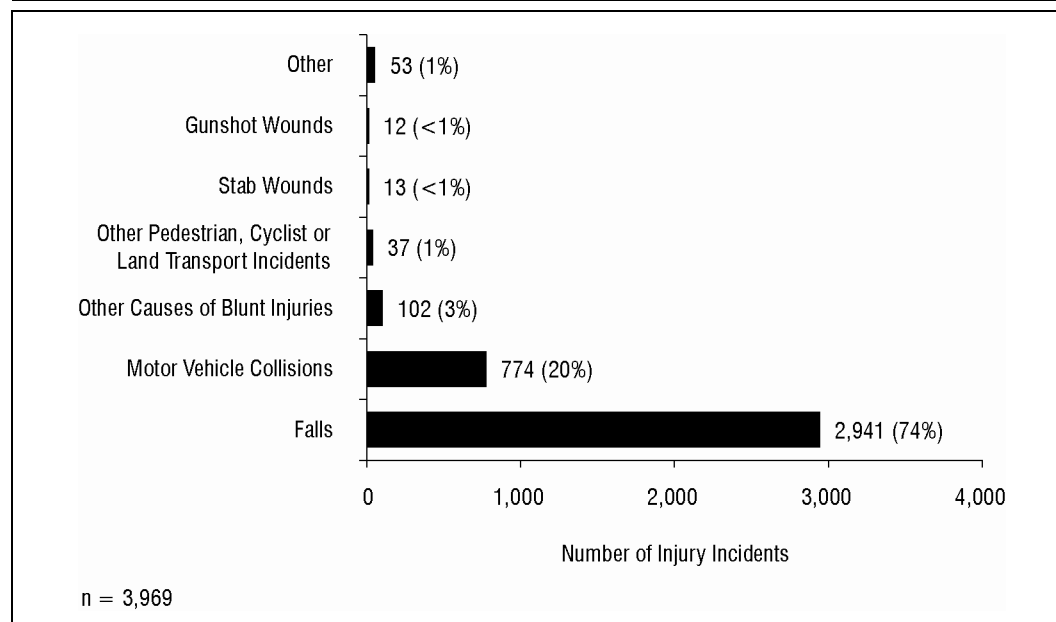
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

4.2.4 Cases Age 65 and Older

Figure 7 shows the causes of major injury hospitalizations for cases age 65 and older (n = 3,969). The leading causes of major injury were falls (74%, n = 2,941), motor vehicle collisions (20%, n = 774) and other causes of blunt injuries (3%, n = 102). A total of 37 cases (1%) did not have a specified cause of injury.

Figure 7: Causes of Major Injury Hospitalizations in Canada, Patients Age 65 and Older, 2008–2009*



Notes

* The figure excludes 37 cases with unspecified cause of injury (less than 1% of cases age 65 and older). The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

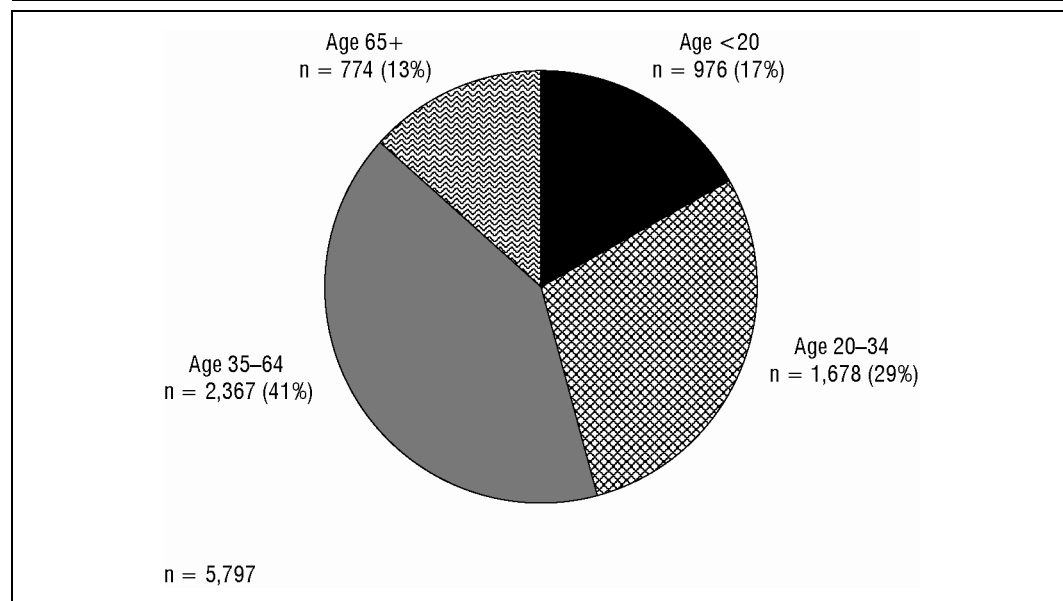
4.3 Motor Vehicle Collisions

Motor vehicle collisions include motor vehicle traffic incidents, motor vehicle non-traffic incidents, motor vehicle boarding or alighting incidents, as well as select cases in which a motor vehicle is used in an assault or as a means of self-inflicted injury. Intentional injuries will be discussed in further detail elsewhere in this report. Highlighted statistics for motor vehicle collision cases (Appendix H, tables 4, 5, 15 and 16) include the following:

- Motor vehicle collision cases made up 41% of all cases (n = 5,797).
- These cases made up 32% of deaths in emergency or after admission (n = 520).
- Of motor vehicle collision cases, 69% (n = 4,007) were male.
- The mean age was 40 (median = 38).
- The mean LOS was 16 days (median = 9 days).
- The mean ISS was 25 (median = 22).

Figure 8 shows motor vehicle collision cases by age group. Forty-one percent of incidents occurred among cases age 35 to 64 (n = 2,367).

Figure 8: Major Injury Hospitalizations Due to Motor Vehicle Traffic and Non-Traffic Incidents in Canada, by Age Group, 2008–2009*



Notes

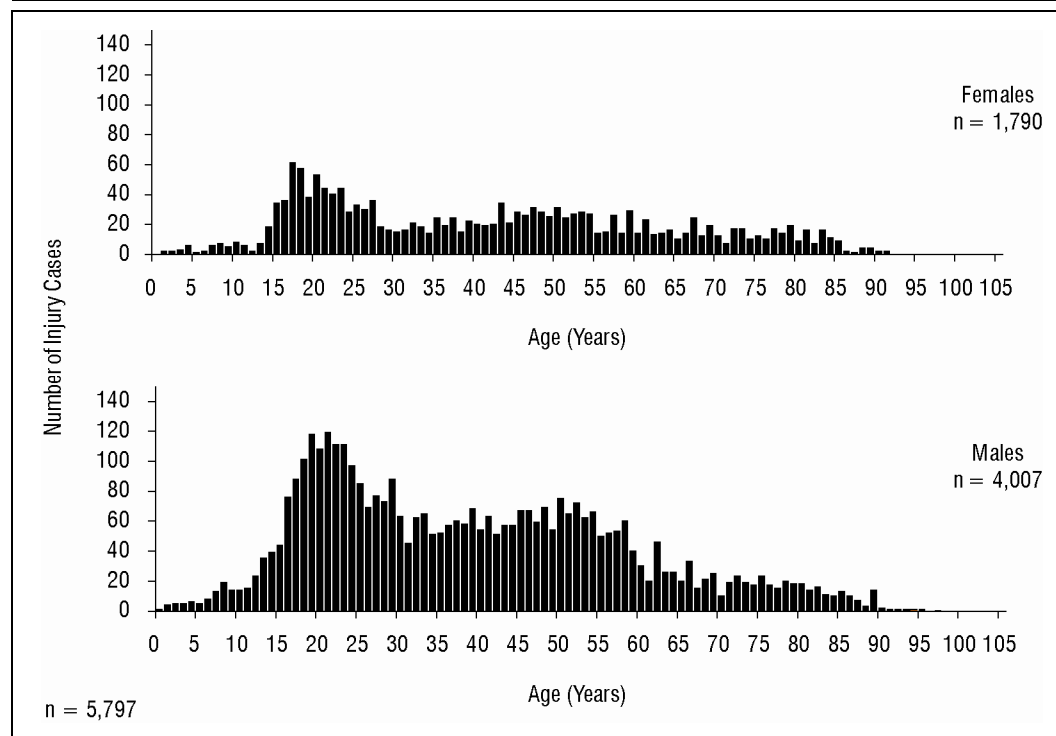
* The figure excludes two cases with unspecified age (less than 1% of all cases in this category of injury). The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 9 shows that the highest number of motor vehicle collisions was among males and females in their late teens and early 20s.

Figure 9: Major Injury Hospitalizations Due to Motor Vehicle Collisions in Canada, by Age and Sex, 2008–2009*



Notes

* The figure excludes two cases with unspecified age (less than 1% of all cases in this category).
The figure includes data from 107 hospitals across 8 jurisdictions.

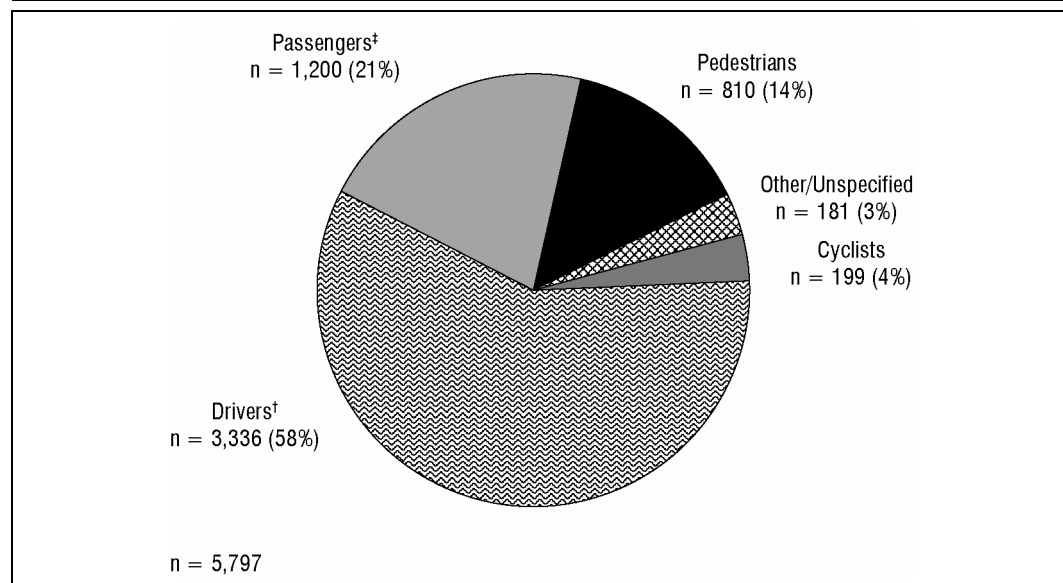
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

4.3.1 Injured Persons in Transport Incidents

Figure 10 shows the 5,797 motor vehicle collision cases in the 2008–2009 NTR CDS by injured person. The ICD coding system identifies the injured person for transport incidents through the use of a required fourth digit for ICD-9 and third digit for ICD-10-CA. The majority of injured persons in motor vehicle collision injury cases were drivers (58%, $n = 3,336$), which included 615 motorcycle drivers. Passengers accounted for one-fifth (21%, $n = 1,200$) of the injured cases, of which 64 were motorcycle passengers. Fourteen percent ($n = 810$) were pedestrians. Four percent ($n = 199$) were pedal cyclists.

Figure 10: Major Injury Hospitalizations Due to Motor Vehicle Collisions by Injured Person in Canada, All Cases, 2008–2009*



Notes

* The figure excludes 71 cases where the person involved in the incident is missing (1% of all cases in this category).

† Includes motorcycle drivers.

‡ Includes motorcycle passengers.

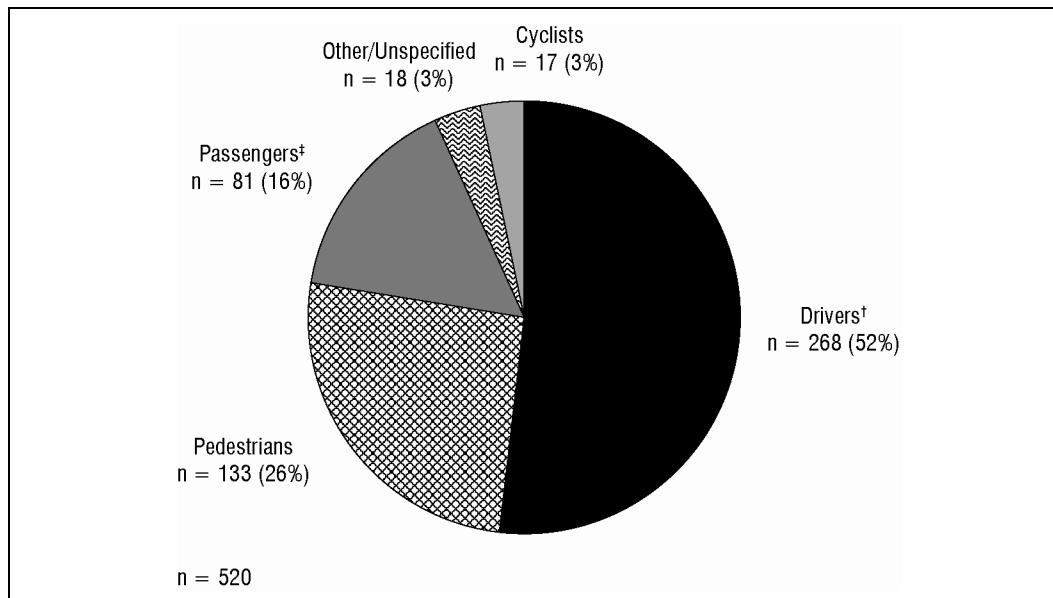
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 11 shows the 520 *deaths* by injured person among the motor vehicle collision injury cases in the 2008–2009 NTR CDS. More than one-half were drivers (52%, $n = 268$), which included 54 motorcycle drivers. Twenty-six percent ($n = 133$) were pedestrians and 16% ($n = 81$) were passengers, of which two were motorcycle passengers. Three percent ($n = 17$) were pedal cyclists.

Figure 11: Major Injury Hospitalizations Due to Motor Vehicle Collisions by Injured Person in Canada, Deaths, 2008–2009*



Notes

* The figure excludes three cases where the person involved in the incident is missing (less than 1% of all cases in this category).

† Includes motorcycle drivers.

‡ Includes motorcycle passengers.

The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

4.4 Unintentional Falls

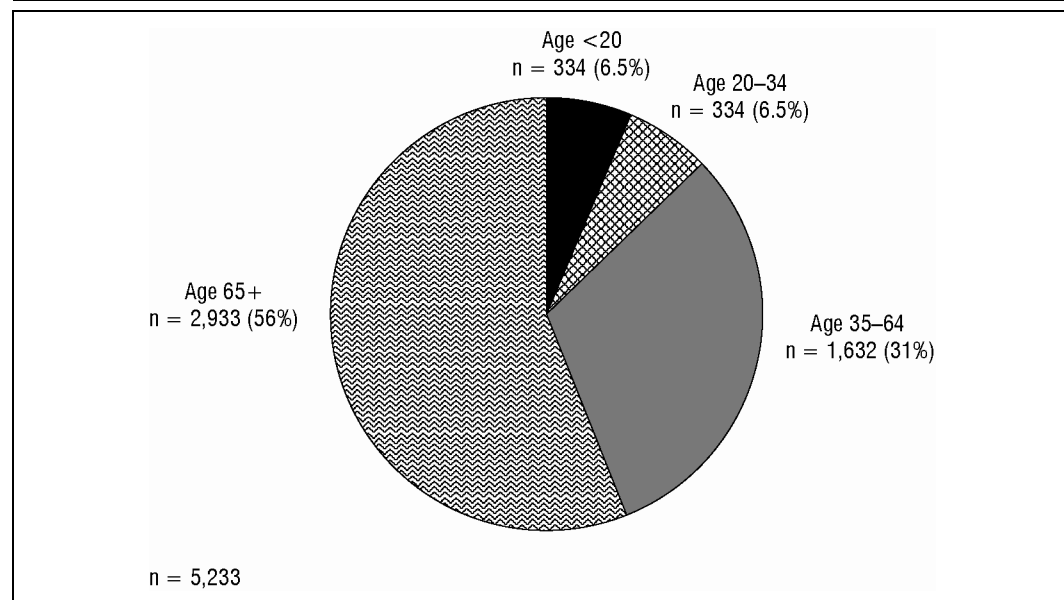
In the 2008–2009 NTR CDS, there were 5,348 falls. Among these, 98% (n = 5,233) were unintentional. Of the remaining falls, 104 were intentional (assault or suicide) and 11 were of undetermined intent. Intentional injuries will be discussed elsewhere in this report.

Highlighted statistics for unintentional fall injury cases (Appendix H, tables 4, 5, 6, 15 and 16) include the following:

- There were 5,233 cases (representing 37% of all cases).
- There were 761 deaths (representing 47% of all injury deaths).
- Of unintentional fall cases, 67% (n = 3,481) were male.
- The mean age was 63 (median = 68).
- The mean LOS was 16 days (median = 8 days).
- The mean ISS was 21 (median = 20).

Figure 12 shows the major injury hospitalizations due to unintentional falls by age group. More than one-half (56%, n = 2,933) of patients with unintentional fall injuries were age 65 and older. Approximately one-third (31%, n = 1,632) were age 35 to 64.

Figure 12: Major Injury Hospitalizations Due to Unintentional Falls in Canada, by Age Group, 2008–2009



Note

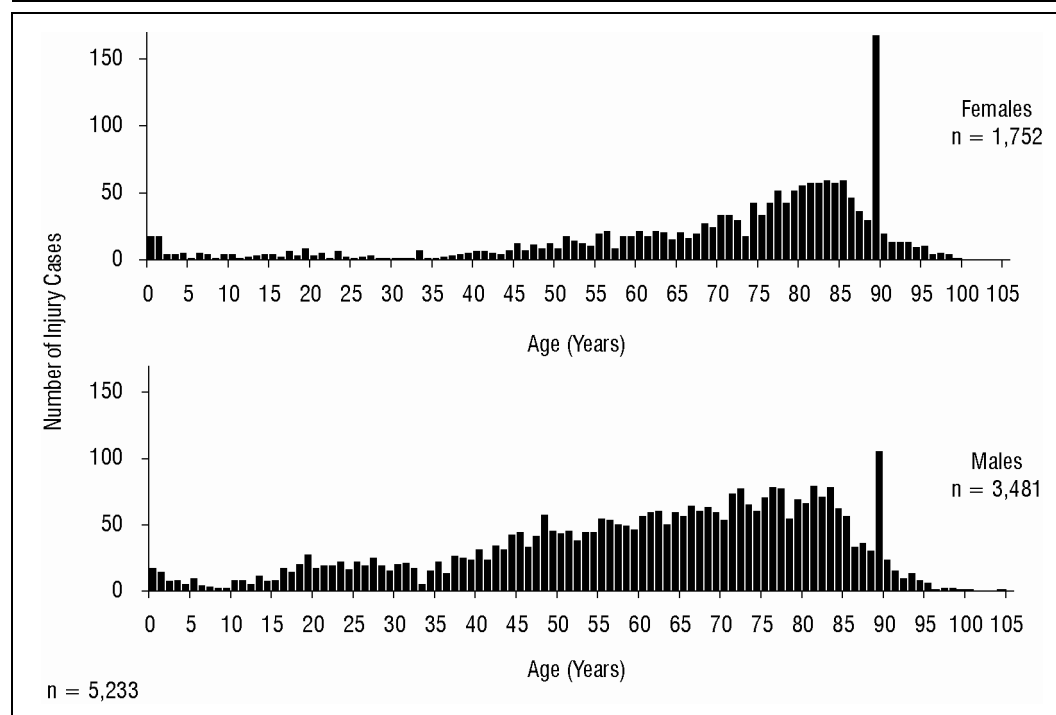
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 13 shows that males accounted for 67% (n = 2,838) of all unintentional fall cases resulting in a major injury. When analyzed by single year of age and sex, the number of males hospitalized remained high after age 40, while the number of women hospitalized due to falls increased after age 70.

Figure 13: Major Injury Hospitalizations Due to Unintentional Falls in Canada, by Single Year of Age and Sex, 2008–2009



Notes

The figure includes data from 107 hospitals across 8 jurisdictions.

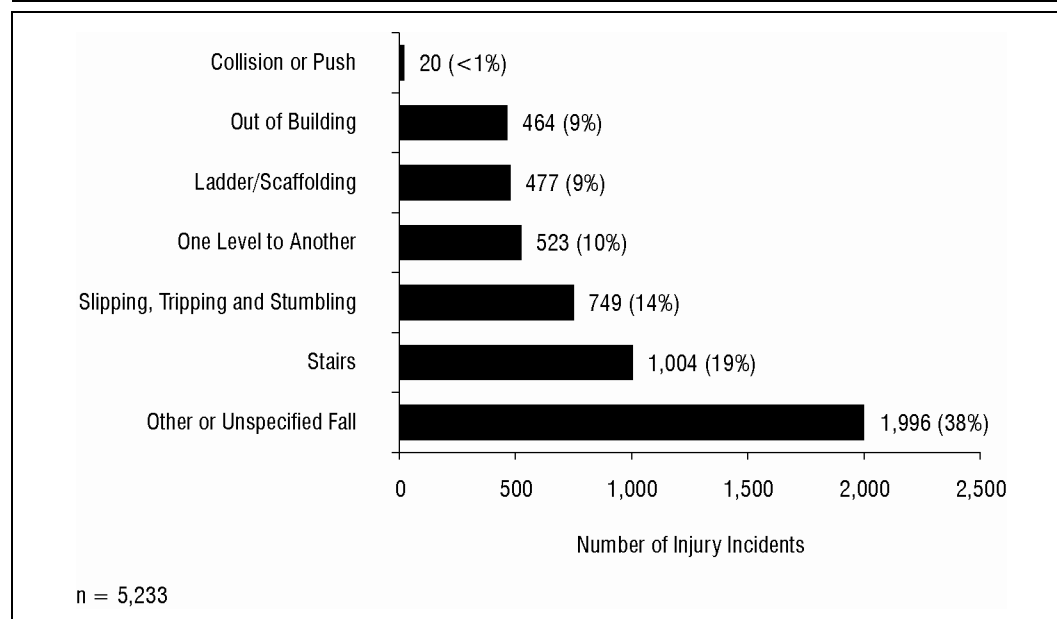
For all Quebec patients age 85 and older, the age used is the median of the age group older than 85 as a whole; this explains the spike around age 89.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 14 shows the types of falls experienced by major injury cases. The most common *specified* types of falls were on or from stairs or steps (19%, n = 1,004), falls from slipping, tripping or stumbling (14%, n = 749) and other falls from one level to another (10%, n = 523). The next most common types *specified* were falls on or from a ladder or scaffolding (9%, n = 477) and falls from or out of a building or structure (9%, n = 464).

Figure 14: Major Injury Hospitalizations Due to Unintentional Falls in Canada, by External Causes of Injury, 2008–2009



Note

The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

The most common *specified* types of falls by age group were as follows:

- Younger than age 20—fall from one level to another (33%, n = 110).
- Age 20 to 34—fall from, out of or through a building or structure (32%, n = 107).
- Age 35 to 64—fall on or from stairs/steps (22%, n = 352).
- Age 65 and older—fall on and from stairs and steps (20%, n = 577) and fall on same level from slipping, tripping and stumbling (19%, n = 547).

Caution is to be exercised when interpreting these results. The category *other or unspecified* contains 38% of falls and, due to coding restraints, cannot be separated any more finely.

Highlighted statistics for *deaths* among unintentional fall injury cases in the 2008–2009 NTR CDS (Appendix H, tables 5 and 16):

- There were 761 deaths (representing 47% of all injury deaths).
- The mean age was 74 (median = 80).
- The mean LOS was 13 days (median = 5 days).
- The mean ISS was 25 (median = 25).

4.5 Intentional Injuries

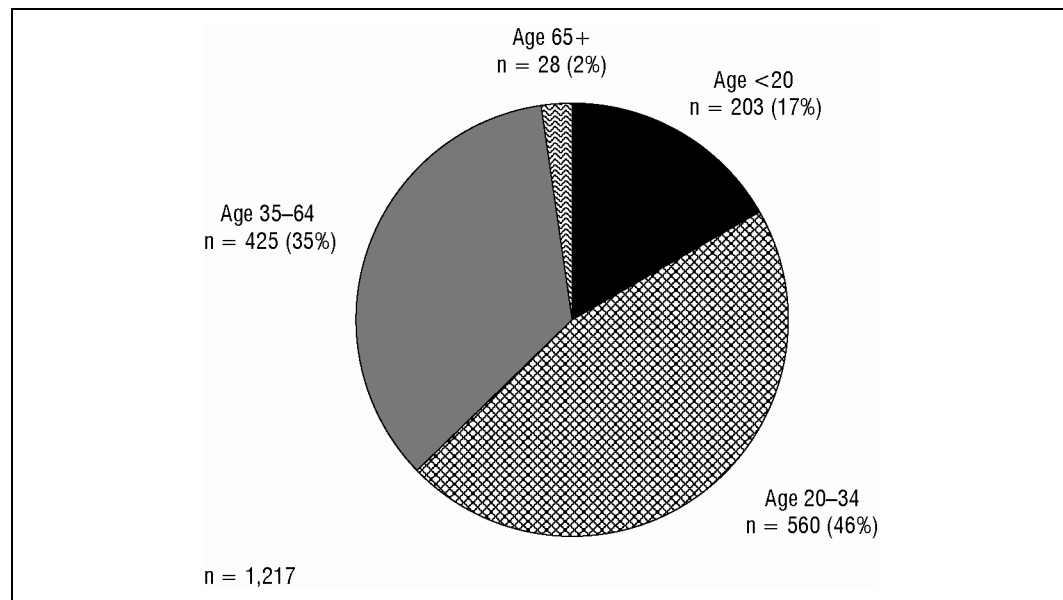
4.5.1 Homicide and Injury Purposely Inflicted by Another Person (Excluding Poisoning)

Highlighted statistics for the injury cases caused by homicide and injury purposely inflicted by another person (Appendix H, tables 4, 5, 15 and 16):

- There were 1,217 cases of intentional injury (representing 9% of all cases).
- There were 107 deaths (representing 7% of all injury deaths).
- Of intentional injury cases, 91% (n = 1,112) were male.
- The mean age was 31 (median = 28).
- The mean LOS was 11 days (median = 6 days).
- The mean ISS was 21 (median = 19).
- Homicide and injury purposely inflicted by another person accounted for 71% (n = 174) of injuries caused by gunshot wounds.

Figure 15 shows major injury cases caused by homicide and injury purposely inflicted by another person by age group. Forty-six percent of the cases (n = 560) were persons age 20 to 34 and 35% (n = 425) were persons age 35 to 64.

Figure 15: Major Injury Hospitalizations Due to Homicide and Injury Purposely Inflicted by Another Person (Excluding Poisoning) in Canada, by Age Group, 2008–2009*



Notes

* The figure excludes one case with unspecified age (less than 1% of all cases in this category).
The figure includes data from 107 hospitals across 8 jurisdictions.

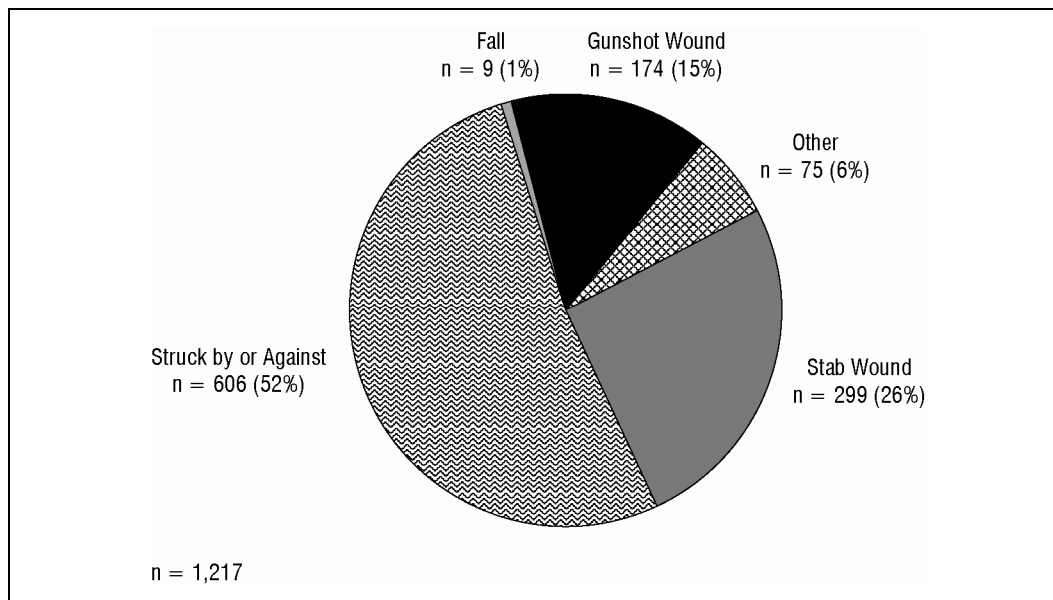
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Important note: The NTR definition of homicide and injury purposely inflicted by another person excludes poisoning cases (see Appendix B—Trauma Definition: External Cause of Injury Code Inclusions and Exclusions).

As shown in Figure 16, the most common specified means of homicide and injury purposely inflicted by another person (excluding poisoning) were bodily force (52%, n = 606) and stab wounds (26%, n = 299).

Figure 16: Major Injury Hospitalizations by Means of Homicide and Injury Purposely Inflicted by Another Person (Excluding Poisoning) in Canada, 2008–2009*



Notes

* The figure excludes 55 cases with unspecified means (5% of all cases in this category).
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Highlighted statistics for *deaths* due to homicide and injury purposely inflicted by another person (excluding poisoning) in the 2008–2009 NTR CDS (Appendix H, tables 5 and 15):

- The mean age was 30 (median = 26).
- The mean LOS was 7 days (median = 1 day).
- The mean ISS was 29 (median = 5).
- Of intentional injury deaths, 35% (n = 34) had a blunt injury and 63% (n = 61) had a penetrating injury as the most serious injury.
- Homicide and injury purposely inflicted by another person accounted for 55% (n = 35) of deaths caused by gunshot wounds.

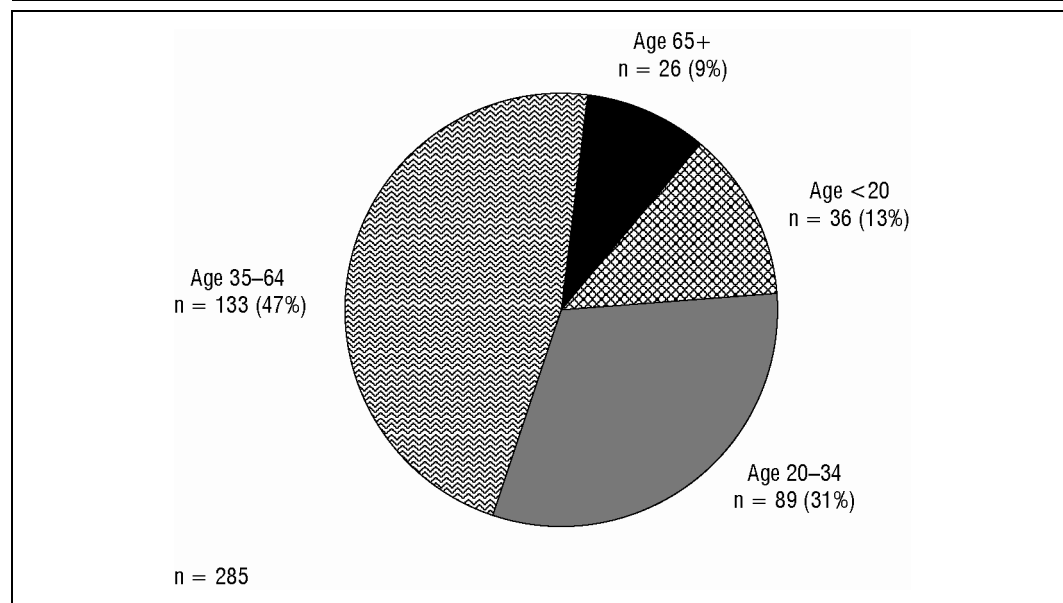
4.5.2 Suicide and Self-Inflicted Injury (Excluding Poisoning)

Highlighted statistics for suicide and self-inflicted injury cases (Appendix H, tables 4, 5, 15 and 16):

- There were 285 suicide and self-inflicted injury cases (representing 2% of all major injury cases).
- There were 70 deaths (representing 4% of all injury deaths).
- Of these cases, 71% (n = 201) were male.
- The mean age was 40 (median = 40).
- The mean LOS was 29 days (median = 15 days).
- The mean ISS was 26 (median = 25).
- Suicide and self-inflicted injury accounted for 18% (n = 43) of injuries caused by gunshot wounds.

Figure 17 shows suicide and self-inflicted injury (excluding poisoning) cases by age group. Persons age 35 to 64 accounted for 47% (n = 133) of cases, followed by persons age 20 to 34 (31%, n = 89).

Figure 17: Major Injury Hospitalizations by Suicide and Self-Inflicted Injury (Excluding Poisoning) by Age Group, 2008–2009*



Notes

* The figure excludes one case with unspecified age (less than 1% of all cases in this category).
The figure includes data from 107 hospitals across 8 jurisdictions.

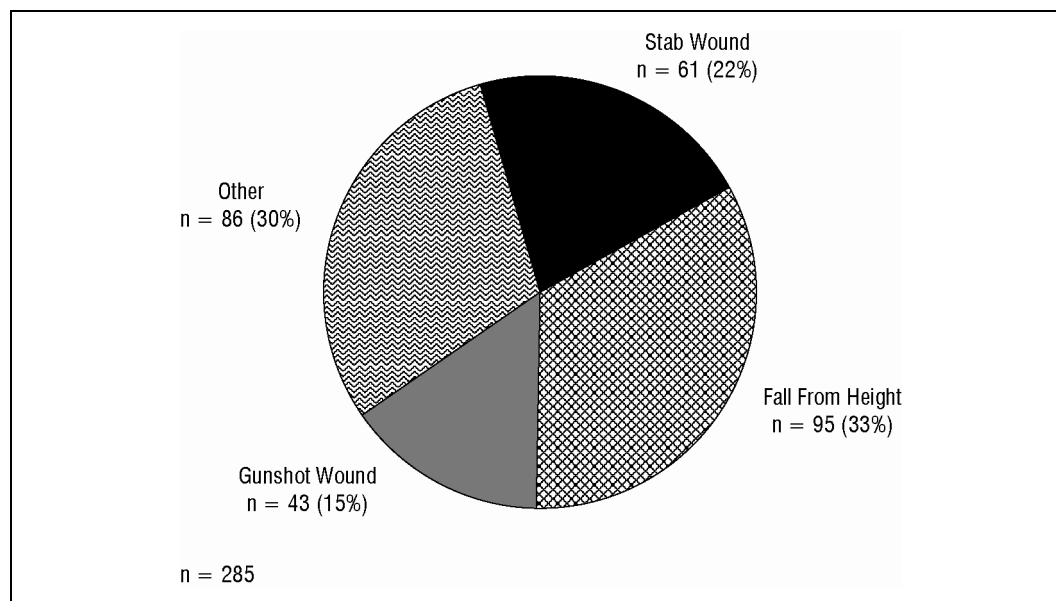
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Important note: The NTR definition of suicide and self-inflicted injury excludes poisoning cases (see Appendix B—Trauma Definition: External Cause of Injury Code Inclusions and Exclusions).

As seen in Figure 18, the most common means of self-inflicted injury (excluding poisoning) with ICD-10-CA external cause of injury codes were falling from a high place (33%, n = 95), self-inflicted stab wounds (22%, n = 61) and gunshot wounds (15%, n = 43).

Figure 18: Major Injury Hospitalizations by Means of Suicide and Self-Inflicted Injury (Excluding Poisoning), 2008–2009



Note

The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Highlighted statistics for *deaths* due to suicide and self-inflicted injury cases (excluding poisoning) in the 2008–2009 NTR CDS (Appendix H, tables 5 and 15):

- There were 70 suicide and self-inflicted injury deaths (representing 4% of all injury deaths).
- The mean age was 46 (median = 46).
- The mean LOS was 12 days (median = 2 days).
- The mean ISS was 27 (median = 5).
- Of these cases, 51% (n = 25) had a blunt injury, 37% (n = 18) had a penetrating injury and 12% (n = 6) had a burn.
- Suicide and self-inflicted injury accounted for 36% (n = 23) of deaths caused by gunshot wounds.

5. Context of Major Injury

5.1 Place of Injury

Data regarding place of injury was not available for Quebec. In the remainder of cases, of all major injury hospitalizations

- Almost half (42%, $n = 4,335$) occurred on a street or highway;
- One-quarter (25%, $n = 2,602$) occurred at home;
- Less than 5% (3%, $n = 310$) occurred in an industrial or construction area;
- Less than 5% (3%, $n = 281$) occurred in a trade or service area;
- Less than 5% (2%, $n = 256$) occurred in a sports or recreational setting;
- More than one-tenth (12%, $n = 1,382$) occurred in a setting other than those listed above;
- More than one-tenth (12%, $n = 1,196$) occurred in an unspecified setting; and
- There were 11 cases that did not have a listed place of injury.

5.2 Work-Related Injury

Six percent ($n = 813$) of all major injury cases were reported to be work-related. The proportion of work-related injury cases by participating province ranged from 4% in Nova Scotia to 9% in Manitoba (Appendix H, Table 11).

5.3 Blood Alcohol Concentration

BAC was reported by categories in Quebec and therefore was not usable for numeric analyses. In Newfoundland and Labrador, the number of cases with a reported BAC was too small to report on its own. In view of this, caution should be exercised in interpreting the data. Among cases from British Columbia, Alberta, Manitoba, Ontario, Nova Scotia, New Brunswick and Newfoundland and Labrador, 15% ($n = 1,432$) of all major injury cases older than age 15 were reported to have a positive BAC, which is defined as $BAC \geq 17.4$ mmol/L (equivalent to 80 mg/100 mL). Forty percent of cases ($n = 3,818$) had a BAC less than 17.4 mmol/L (including zero). Of those, 90% ($n = 3,420$) had a reading of 0 and 10% ($n = 398$) had a reading between 0 and 17.4 mmol/L. Forty-five percent of cases ($n = 4,262$) did not have a BAC measured/recorded. The proportion of positive BAC injury cases by participating province ranged from 7% in Manitoba to 19% in Alberta (Appendix H, Table 9). Nineteen percent ($n = 1,830$) of cases older than 15 had a recorded BAC of greater than zero. The proportion of cases with a BAC greater than zero was elevated across multiple causes of injury among those older than 15:

- Almost one-quarter (23%) of motor vehicle collisions (n = 763);
- More than one-tenth (12%) of falls (n = 430);
- Nearly one-fifth (19%) of other incidents involving pedestrians, cyclists or other land transport (n = 161);
- More than one-quarter (28%) of incidents involving gunshot wounds (n = 55); and
- Almost half (43%) of incidents involving stab wounds (n = 137).

5.4 Sports and Recreational Injury

Thirteen percent (n = 1,827) of injury cases were reported to have been involved in a sports or recreational activity at the time of injury. The proportion of sports and recreational injury cases in each participating province ranged from 9% in Ontario to 19% in Manitoba (Appendix H, Table 11); caution should be exercised when interpreting this data as coverage is low.

Table 3 shows summary statistics for the most commonly reported sports and recreational activities among the cases with major injury. The three leading activities were cycling (24%), using all-terrain vehicles (22%) and dirt biking (12%). Across the most frequently reported activities, males accounted for the majority of cases. The mean age was lowest for snowboarding and highest for horseback riding. The mean ISS ranged between 19 and 24 for these leading activities. The mean LOS was highest for snowmobiling and lowest for snowboarding and horseback riding. Among all sports and recreational major injury cases, 5% died either in hospital or in the emergency department.

Table 3: Summary Statistics for Hospitalizations for Major Sports and Recreational Injuries, by Type of Activity, 2008–2009

Activity	Number of Cases	Percentage*	Mean Age (Years)	Mean ISS	Mean LOS (Days)	Males (N)	Males (%) [†]	Deaths (N)	Deaths (%) [†]
Cycling	433	23.7	38	23	10	364	84.1	25	5.8
Other[‡]	403	22.1	32	21	10	322	79.9	21	5.2
Using All-Terrain Vehicle	402	22.0	36	22	12	320	79.6	17	4.2
Dirt Biking/Mini Bikes/Motocross	226	12.4	33	23	10	199	88.0	14	6.2
Snowmobiling	139	7.6	35	24	14	113	81.3	6	4.3
Horseback Riding	91	5.0	43	19	9	32	35.2	N/R	—
Snowboarding	75	4.1	20	20	9	64	85.3	0	—
Skiing	58	3.2	38	23	12	50	86.2	N/R	—
Total Sports and Recreational Injuries	1,827	100.0	35	22	11	1,464	80.1	83	4.5

Notes

* Percentage of all 1,827 cases indicating sports and recreational injury.

† Percentage within cause of sports and recreational injury.

‡ Includes a wide variety of other activities, such as hockey, hiking, etc.

N/R: actual number suppressed because cell count is less than 5. Total excludes suppressed cells.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

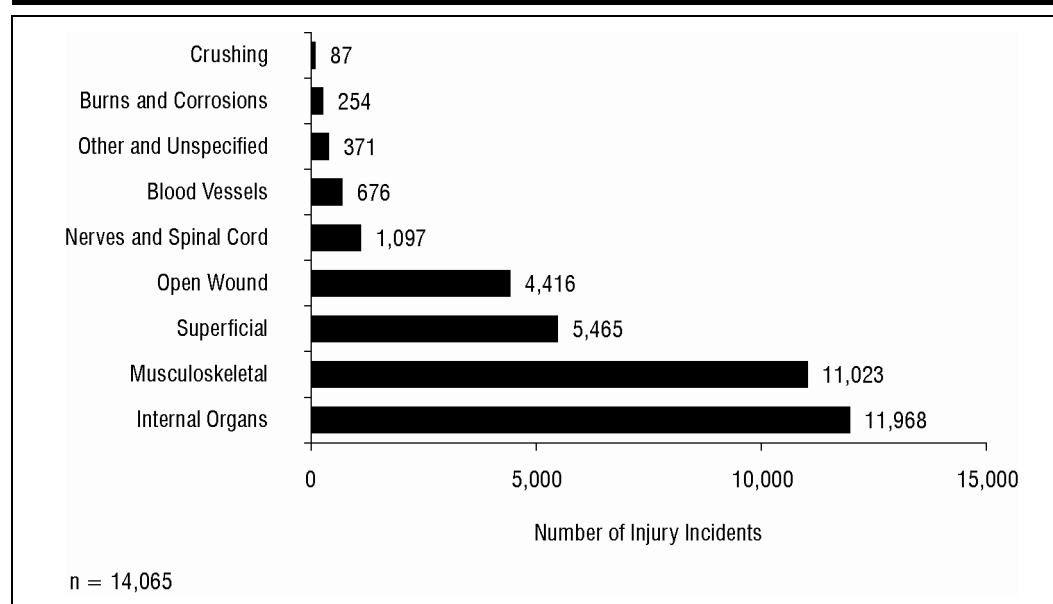
Note: Unlike the ICD, the NTR CDS permits documentation of whether the injured person was involved in a sports or recreational activity at the time of injury and, if yes, specification of the type of activity. Currently, the Sports/Recreational Activity Code in the NTR CDS can distinguish among 99 types of sports and recreational activities.

6. Clinical Aspects of Major Injury

6.1 Diagnosis of Injury

Figure 19 shows type of injury according to diagnosis for 2008–2009 NTR CDS cases. Cases from New Brunswick were excluded because injury diagnosis codes were not available. Eighty-six percent ($n = 11,968$) of injury cases had an internal organ injury, 79% ($n = 11,023$) had a musculoskeletal injury and 39% ($n = 5,465$) had a superficial injury.

Figure 19: Injury Type* for All Major Injury Hospitalizations in Canada, 2008–2009



Notes

* See Appendix D for definitions of injury types.

The figure includes data from 107 hospitals across 8 jurisdictions.

Data from New Brunswick is not included.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Additional analyses by age group are shown in Appendix H, Table 7.

Note: The denominator for the percentage calculations is the total number of cases for the year ($n = 14,065$), excluding New Brunswick, as injury diagnosis codes were not available for that province. If a case involved injuries that fell into several of the injury types listed, the case was counted once in *each* type. If a case involved several injuries that fell into only one injury type, then the case was counted once in *that* type. Therefore, the total number of injuries indicated in Figure 19 exceeds the total number of cases.

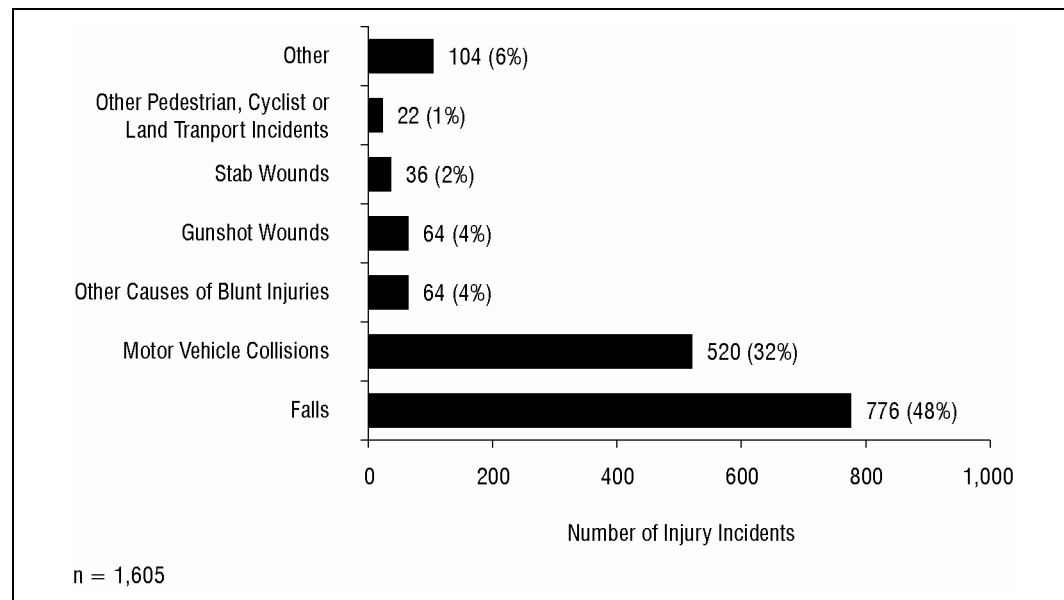
6.2 Deaths

Highlighted statistics for *deaths* among the injury cases in the 2008–2009 NTR CDS (Appendix H, tables 3, 5 and 15):

- There were 1,605 deaths (representing 11% of all injury cases).
- Of those who died, 319 died in the emergency department and 1,286 died after admission to hospital.
- Among death cases, 68% (n = 1,098) were male.
- The mean ISS was 30 (median = 25).
- The mean length of stay was 11 days (median = 3 days).

Figure 20 shows the causes of injury for these cases. The leading causes of injury among these cases were falls (48%, n = 776) and motor vehicle collisions (32%, n = 520). The next leading specified causes were gunshot wounds (4%, n = 64), stab wounds (2%, n = 36) and other incidents involving pedestrians, cyclists or land transport (1%, n = 22).

Figure 20: Causes of Injury for Major Injury Hospitalizations in Canada, All Deaths, 2008–2009*



Notes

* The figure excludes 19 cases with unspecified cause (1% of all cases in this category).

The figure includes data from 107 hospitals across 8 jurisdictions.

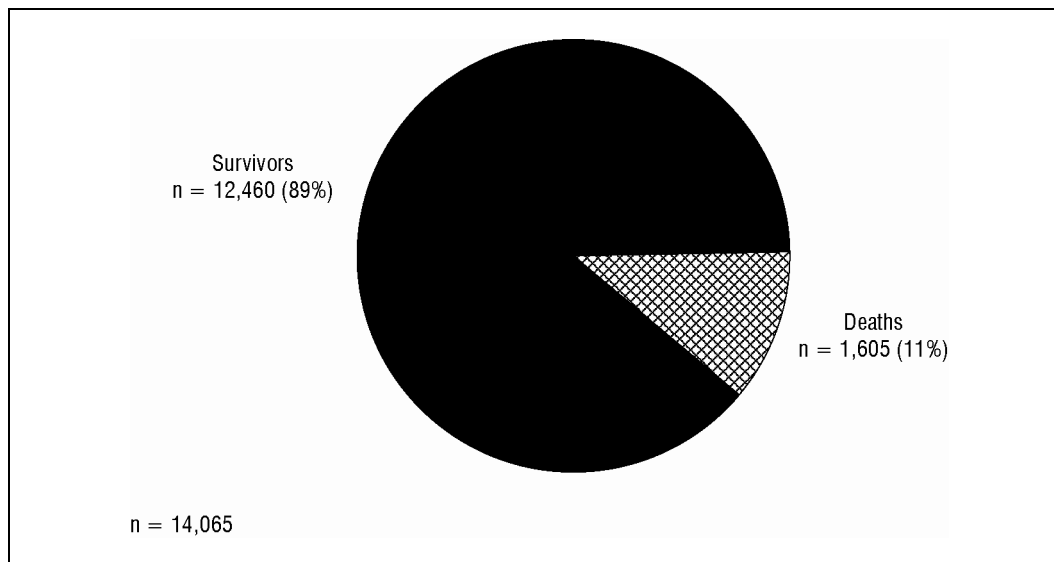
Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

6.3 Discharge Disposition

Figure 21 shows the discharge disposition of all injury cases. Eleven percent ($n = 1,605$) of the 14,065 injury cases in the 2008–2009 NTR CDS died in hospital. The majority (89%, $n = 12,460$) of major injury cases were discharged alive from hospital.

Figure 21: Discharge Disposition for Major Injury Hospitalizations in Canada, 2008–2009



Note

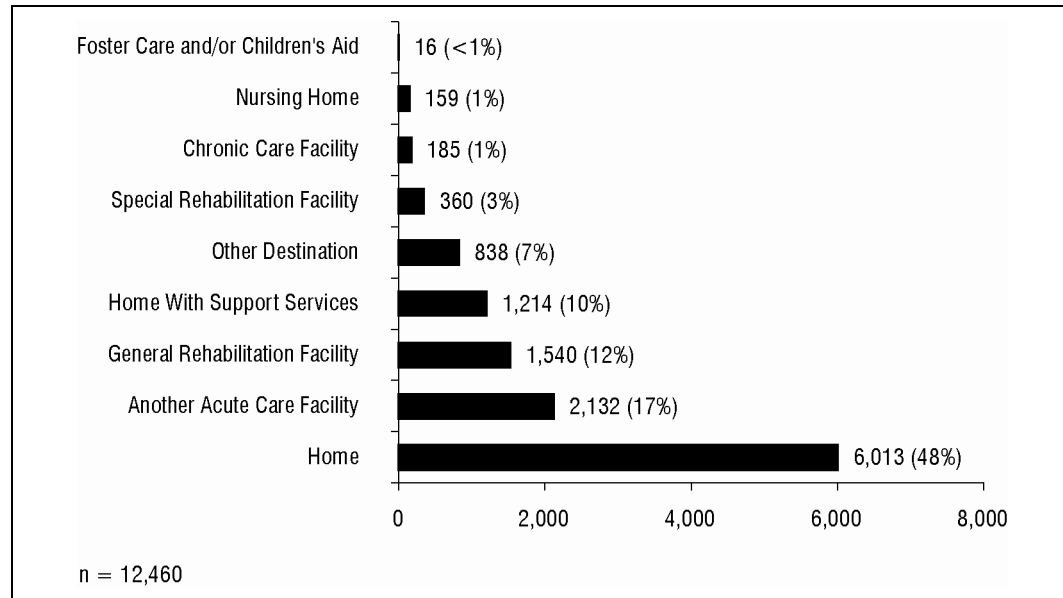
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 22 shows the discharge disposition of the survivors. Forty-eight percent (n = 6,013) were discharged home, 10% (n = 1,214) were discharged home with support services, 17% (n = 2,132) were discharged to another acute care facility and 12% (n = 1,540) were discharged to a rehabilitation facility. The remainder were discharged to a nursing home, chronic care facility or another type of facility. Three cases were missing discharge disposition.

Figure 22: Discharge Disposition for Major Injury Hospitalizations in Canada, Survivors, 2008–2009*



Notes

* The figure excludes three cases missing discharge disposition (less than 1% of cases in this category). The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

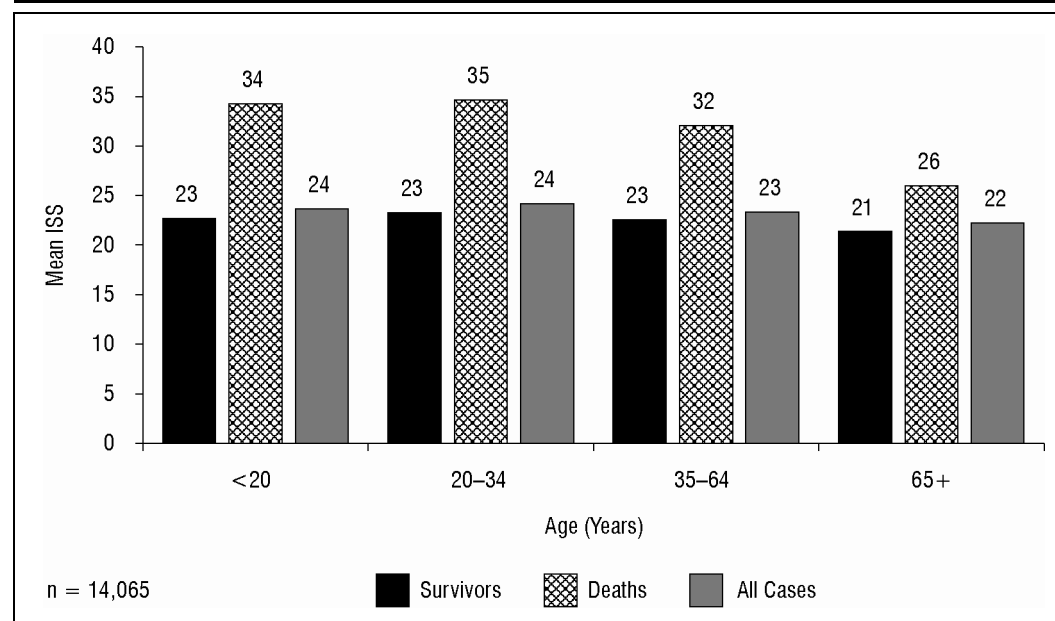
6.4 Injury Severity Score

The ISS is an internationally recognized scoring system developed to assign a level of severity to injury. ISS scores range from 1 (minor) to 75 (fatal). In the NTR CDS, cases with an ISS greater than 12 are included.

The mean ISS among all injury cases was 23 (median = 21). Among survivors, the mean ISS was 22 (median = 20), compared to cases that resulted in death, where the mean ISS was 30 (median = 25).

Figure 23 shows the mean ISS by age group and outcome. Among all cases, the mean ISS was comparable across age groups, ranging from 22 to 24. The mean ISS was also comparable among injury cases that were discharged alive, ranging from 21 to 23. Among injury cases who died, the mean ISS was considerably higher for all age groups compared with the ISS for survivors. Cases age 20 to 34 had the highest mean ISS, ranging from 26 to 35.

Figure 23: Mean Injury Severity Score for All Major Injury Hospitalizations in Canada, by Outcome and Age Group, 2008–2009*



Notes

* The figure excludes five cases with unspecified age (less than 1% of all cases).

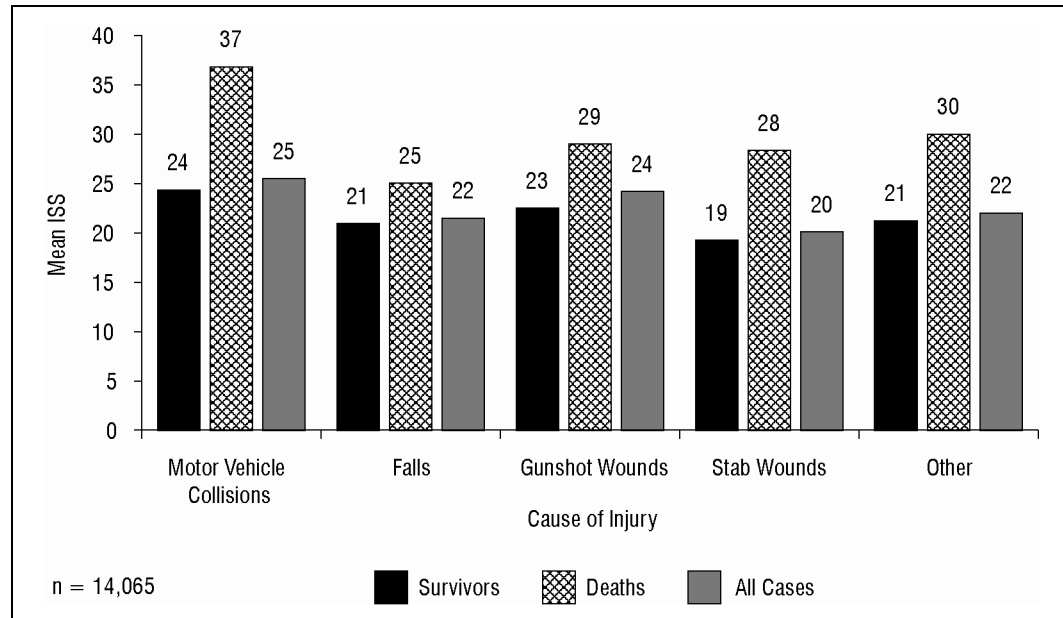
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 24 shows the mean ISS by outcome and cause of injury. Among survivors, deaths and all cases, the highest mean ISS was for motor vehicle collision injury cases (ISS = 24, 37 and 25, respectively).

Figure 24: Mean Injury Severity Score for All Major Injury Hospitalizations in Canada, by Outcome and Cause of Injury, 2008–2009*



Notes

* The figure excludes 156 cases with unspecified cause of injury (1% of all cases).

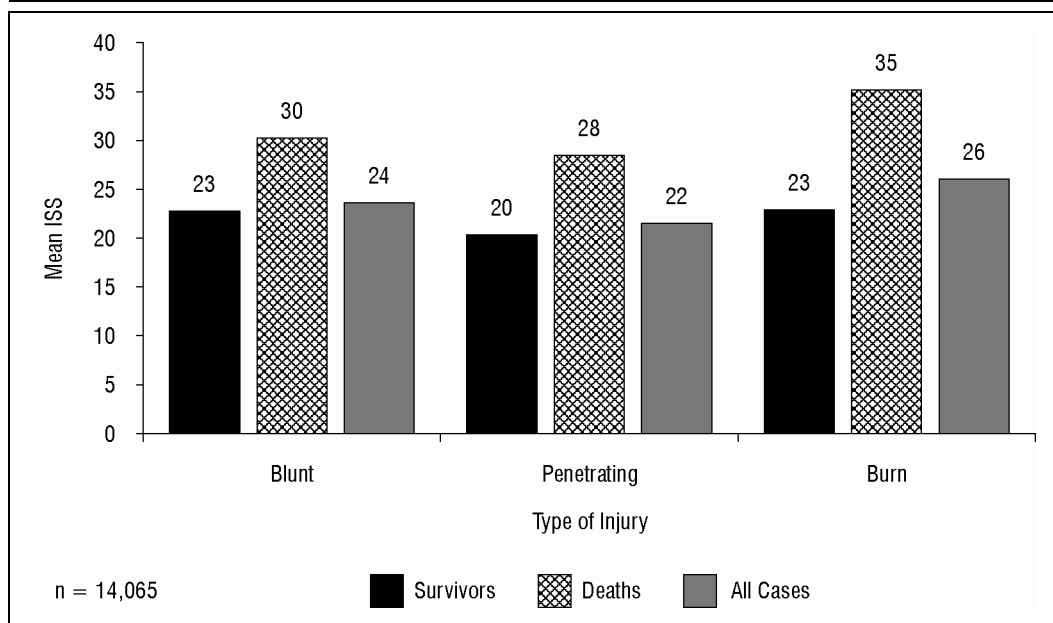
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 25 shows the mean ISS by outcome and type of injury. Among all cases, the highest mean ISS was among cases with burn injuries (ISS = 26). Among survivors, the mean ISS was highest among cases with blunt injuries and burns (ISS = 23). Among those who died, the mean ISS was highest among cases with burn injuries (ISS = 35).

Figure 25: Mean Injury Severity Score for All Major Injury Hospitalizations in Canada, by Outcome and Type of Injury, 2008–2009



Note

The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

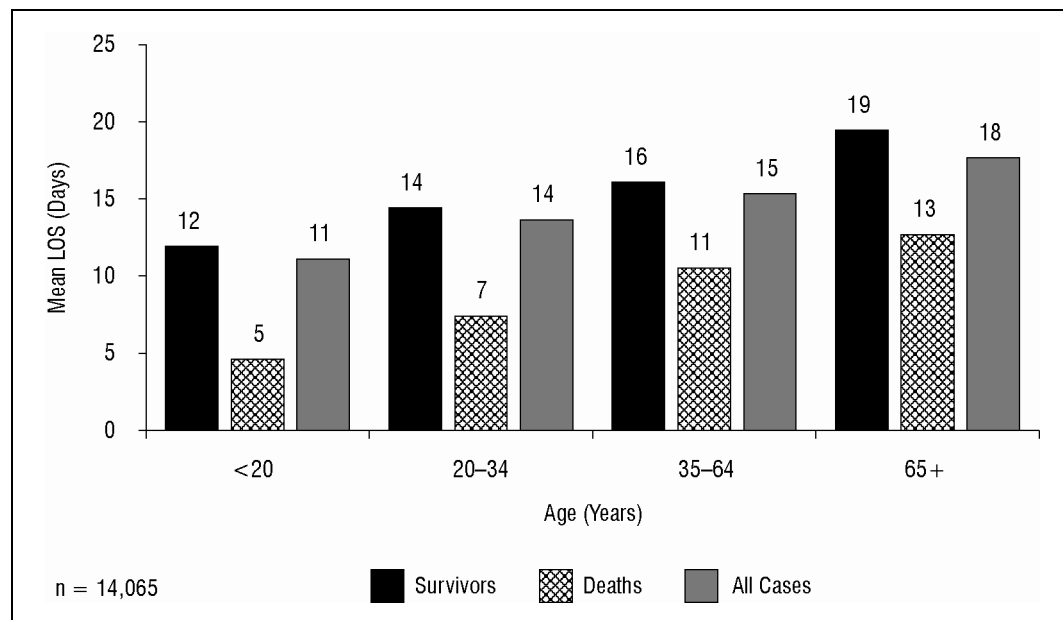
6.5 Length of Stay

LOS is defined as the total number of hospital days as calculated from date of admission to date of discharge or death. LOS was reported for 13,697 patients (97%).

Injury cases accounted for 212,098 hospital days in 2008–2009. Individual cases had a mean LOS of 15 days (median = 8 days). Among survivors, the mean LOS was 16 days (median = 8 days), whereas among deaths the mean LOS was 11 days (median = 3 days).

Figure 26 shows mean LOS by outcome and age group. Among survivors, deaths and all cases, the highest mean LOS was observed among those age 65 and older (LOS = 19, 13 and 18 days, respectively). In all categories, LOS increased with age.

Figure 26: Mean Length of Stay for All Major Injury Hospitalizations in Canada, by Outcome and Age Group, 2008–2009*



Notes

* The figure excludes cases with unspecified age and/or LOS.

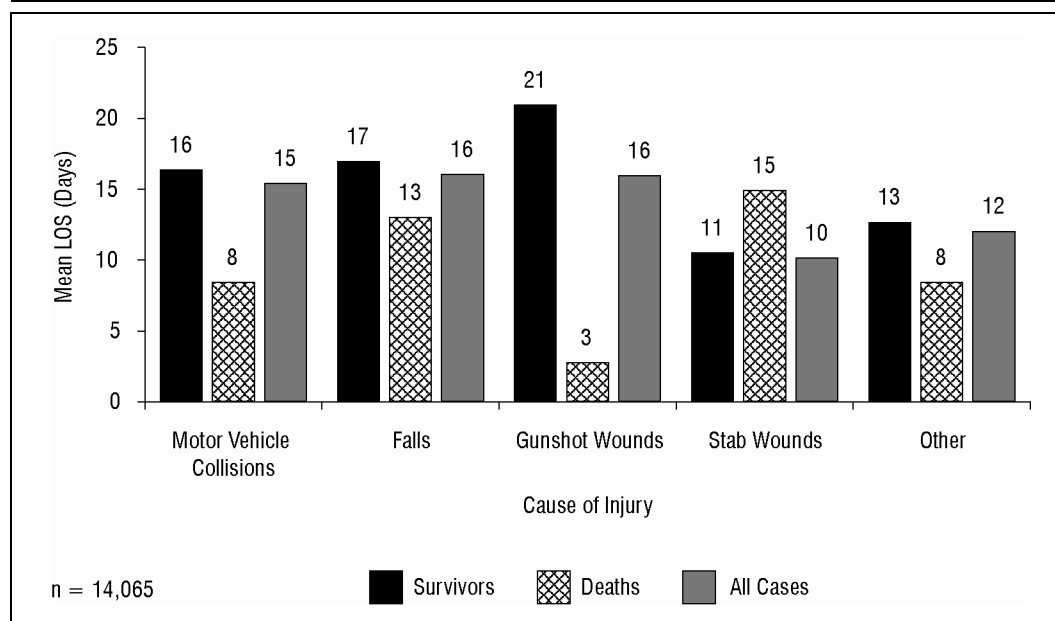
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 27 shows mean LOS by outcome and leading cause of major injury. Among survivors, the highest mean LOS by specified cause was among patients with gunshot wounds (LOS = 21 days). Among deaths, the highest mean LOS was among patients injured as a result of a stab wound (LOS = 15 days).

Figure 27: Mean Length of Stay for All Major Injury Hospitalizations in Canada, by Outcome and Cause of Major Injury, 2008–2009*



Notes

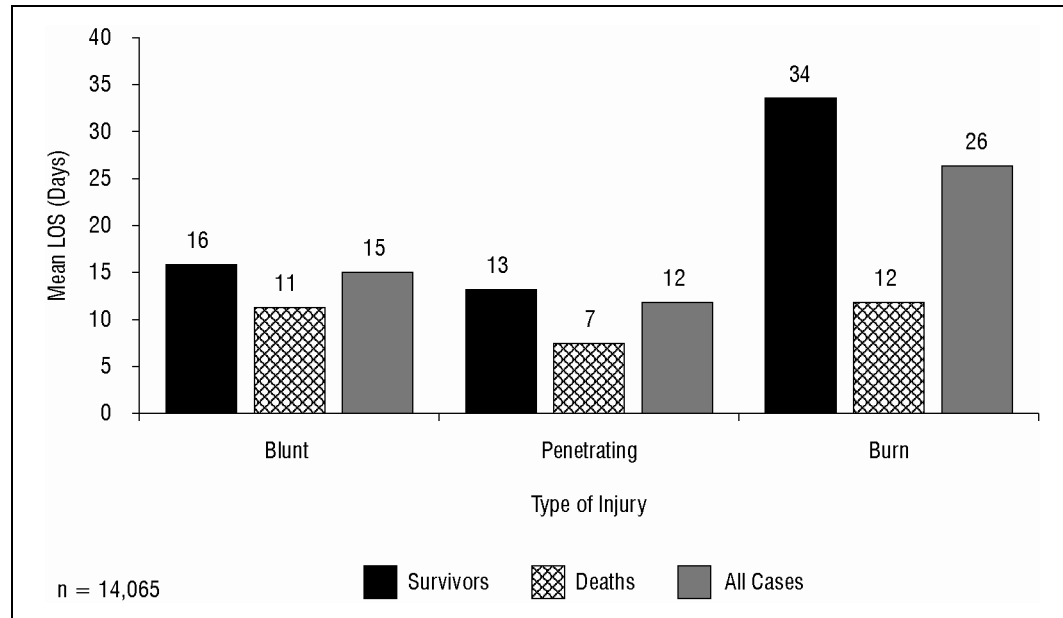
* The figure excludes cases with unspecified cause of injury and/or LOS.
The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Figure 28 shows mean LOS by outcome and type of injury. Among survivors, deaths and all cases, the highest mean LOS was among cases with a burn injury (LOS = 34, 12 and 26 days, respectively).

Figure 28: Mean Length of Stay for All Major Injury Hospitalizations in Canada, by Outcome and Type of Injury, 2008–2009*



Notes

* The figure excludes cases with unspecified type of injury and/or LOS.

The figure includes data from 107 hospitals across 8 jurisdictions.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Appendix A—Data Elements

NTR CDS Data Elements and Definitions

Data Element Name	Definition
Institution Number	Unique institution identifier
Trauma Number	Unique identifier within the institution
Fiscal Year	Fiscal year of data submitted
Province	Submitting province identification
Unique Personal Identifier	A unique identifier to identify the record and for potential record linkage studies
Age	The patient's age in years at the time of admission
Sex	The patient's sex
Date of Injury	The date the patient was injured
Place of Incident	The ICD-9-CM or ICD-10-CA code for place of injury category that describes the place of injury for the patient's most serious injuries
Date of Admission	Date the patient is admitted to the trauma centre
Direct Admission	Indicates whether the patient was admitted directly to the trauma centre from the scene (that is, not seen at another hospital)
Length of Stay (LOS)	Total number of hospital days from date of admission to date of discharge or death
Date of Discharge	The date the patient was discharged from hospital or the emergency department or the date the patient died in hospital
Separation Status	The status of the patient at discharge from the trauma centre
Injury Type	An indication of the patient's most serious injury
Injury Etiology	The ICD-9-CM or ICD-10-CA external cause of injury code that reflects the cause of the patient's most serious injuries
Injury Severity Score (ISS)	The patient's Injury Severity Score as calculated at discharge
Number of Days Ventilated	The number of days the patient was intubated and mechanically ventilated intermittently or continuously, excluding non-intubated patients on BIPAP and intubated patients on CPAP at the hospital
Blood Alcohol Concentration (BAC)	The patient's BAC (mmol/L) at the trauma centre
Patient's Postal Code	The postal code of the patient's usual residence
Discharge Disposition	The location to which the patient was discharged or the service arranged for the patient immediately upon discharge from hospital
Date of Arrival at Trauma Centre	Date the patient arrived at the trauma centre
Time of Injury	The time the patient was injured using the 24-hour clock
Mode of Transport From Scene	Indicates the type of vehicle used to first transport the patient directly from the scene
Transported by Land Ambulance	Indicates whether any portion of the patient's transfer to the trauma centre was by land ambulance
Transported by Air Ambulance	Indicates whether any portion of the patient's transfer to the trauma centre was by air ambulance
Regional Identifier of Incident Location (Geocode)	A unique code used to describe the geographic location of where the patient was injured; may be a province-specific coding system or a geographic reference (Statistics Canada's Census Division's Geocode)

Data Element Name	Definition
Sports/Recreational Activity Code	If the person was injured while participating in or observing any sports or recreational activity, regardless of whether the person was being paid to participate; the appropriate activity is selected from a list
Work-Related Code	Code indicating the occurrence of an injury while the person was being paid for services (excludes travel to and from work)
Protective Devices (up to Four Can Be Listed)	Any protective device in use or not in use by the injured patient at the time of the incident
Systolic Blood Pressure on Arrival at Trauma Centre	Patient's first recorded systolic blood pressure at the trauma centre
Intubation Code on Arrival at Trauma Centre	Code indicating whether patient was intubated at the time the Glasgow Coma Scale score was calculated at the trauma centre
Unassisted Respiratory Rate on Arrival at Trauma Centre	Patient's first unassisted respiratory rate per minute
Paralytic Agents in Effect on Arrival at Trauma Centre	Paralytic agents in effect when the Glasgow Coma Scale score was calculated at the trauma centre
GCS—Eye Opening on Arrival at Trauma Centre	Patient's best eye-opening response for the Glasgow Coma Scale score at the trauma centre
GCS—Verbal Response on Arrival at Trauma Centre	Patient's best verbal response for the Glasgow Coma Scale score at the trauma centre
GCS—Motor Response on Arrival at Trauma Centre	Patient's best motor response for the Glasgow Coma Scale score at the trauma centre
Total GCS on Arrival at Trauma Centre	Glasgow Coma Scale score—Calculated field based on eye opening, verbal and motor responses at the trauma centre
Total RTS on Arrival at Trauma Centre	Revised Trauma Score at the time of admission to the submitting hospital; calculated field based on Glasgow Coma Scale score, systolic blood pressure and respiratory rate
Predot Injury Codes (up to 27)	Abbreviated Injury Scale (AIS-90) predot codes that reflect the patient's injuries
Severity Codes (up to 27)	AIS severity and body region codes that reflect the patient's injuries
AIS Code by ISS Body Region (6 Regions)	Calculated field based on the highest AIS recorded for the six body regions
Operative Procedures (up to 10)	ICD-9-CM or ICD-10-CA/CCI operative procedures performed on the patient; procedures must be related to the injury
Nature of Injury Codes (up to 27)	ICD-9-CM or ICD-10-CA diagnosis codes that reflect the patient's injuries
Complications (up to 10)	ICD-9-CM or ICD-10-CA diagnosis codes describing a condition arising after the beginning of the hospital observation or treatment that usually has a significant influence on the patient's hospitalization or significantly influences the management of treatment of the patient

Appendix B—Trauma Definition: External Cause of Injury Code Inclusions and Exclusions

Trauma Definition: External Cause Code Inclusions

The conceptual definition of trauma as *injury resulting from the transfer of energy* has been approved by the National Trauma Registry Advisory Committee.

The following table lists the external cause of injury code categories used for reporting purposes based on the trauma definition. “Incident” and “unintentional” were substituted for the terms “accident” and “accidental” used in the ICD definitions.

B.1 NTR CDS ICD-10-CA Inclusions

External Cause Code Category	Definition
V01–V99	Transport incidents
V01–V06, V09–V90	Land transport incidents
V91–V94	Water transport incidents
V95–V97	Air and space transport incidents
V98, V99	Other and unspecified transport incidents
W00–W19	Unintentional falls
W20–W45, W49	Exposure to inanimate mechanical forces
W50–W60, W64	Exposure to animate mechanical forces
W65–W70, W73, W74	Unintentional drowning and submersion
W75–W77, W81, W83, W84	Other unintentional threats to breathing except due to inhalation of gastric contents, food or other objects
W85–W94, W99	Exposure to electric current, radiation and extreme ambient air temperature and pressure
X00–X06, X08, X09	Exposure to smoke, fire and flames
X10–X19	Contact with heat and hot substances
X30–X39	Exposure to forces of nature
X50	Overexertion and strenuous or repetitive movements
X52	Prolonged stay in weightless environment
X58, X59	Unintentional exposure to other and unspecified factors
X70–X84	Intentional self-harm, excluding poisoning
X86, X91–X99, Y00–Y05, Y07–Y09	Assault, excluding poisoning
Y20–Y34	Event of undetermined intent, excluding poisoning
Y35, Y36	Legal intervention and operations of war

B.2 NTR CDS ICD-9 Inclusions

E Code Category	Definition
E800–E807	Railway incidents
E810–E819	Motor vehicle traffic incidents
E820–E825	Motor vehicle non-traffic incidents
E826	Pedal cycles
E827–E829	Other road vehicle incidents
E830–E838	Water transport incidents
E840–E845	Air and space transport incidents
E846–E848	Vehicle incidents not elsewhere classifiable
E880–E888	Unintentional falls
E890–E899	Incidents caused by fire and flame
E900–E902, E906–E909	Incidents due to natural and environmental factors
E910, E913	Incidents caused by drowning and suffocation
E914, E915	Foreign bodies (excluding choking)
E916–E928	Other incidents
E953–E958	Suicide and self-inflicted injury (excluding poisoning)
E960, E961, E963–E968	Homicide and injury purposely inflicted by other persons (excluding poisoning)
E970–E976, E978	Legal intervention
E983–E988	Injury undetermined whether unintentionally or purposely inflicted
E990–E998	Injury resulting from operations of war

The following lists the ICD-9 and ICD-10-CA external cause code categories that are *excluded* from the National Trauma Registry definition of trauma.

ICD-10-CA Code Exclusions	Definition	ICD-9 E Code Exclusions	Definition
W78–W80	W78 Inhalation of gastric contents; W79 Inhalation and ingestion of food causing obstruction of respiratory tract; W80 Inhalation and ingestion of other objects causing obstruction of respiratory tract	E911, E912	Inhalation and ingestion of food and other objects causing obstruction
X20–X29	Contact with venomous animals and plants	E905	Venomous animals and plants
X40–X49	Unintentional poisoning and exposure to noxious substances	E850–E858, E860–E869	Poisoning by drugs or gases
X51	Travel and motion	E903	Travel and motion
X53, X54, X57, Y06	X53 Lack of food; X54 Lack of water; X57 Unspecified privation; Y06 Neglect and abandonment	E904	Hunger, thirst, exposure, neglect
X60–X69	Intentional self-harm by poisoning	E950–E952	Suicide and self-inflicted injury (poisoning)
X85, X87–X90	Assault by poisoning	E962	Assault by poisoning
Y10–Y19	Poisoning of undetermined intent	E980–E982	Poisoning undetermined whether unintentionally or purposely inflicted
Y40–Y59	Drugs, medicaments and biological substances causing adverse effects in therapeutic use	E930–E949	Drugs, medicinal and biological substances causing adverse effects
Y60–Y69	Misadventures to patients during surgical and medical care	E870–E876	Misadventures
Y70–Y82	Medical devices associated with adverse incidents in diagnostic and therapeutic use	New Category— No ICD-9 Equivalent	
Y83, Y84	Surgical and other medical procedures as the cause of abnormal reaction of the patient; or of later complication, without mention of misadventure at the time of the procedures	E878, E879	Complications
Y85–Y89	Sequelae of external causes of morbidity and mortality	E929, E959, E969, E977, E989, E999	Late effects
Y90–Y98	Supplementary factors related to causes of morbidity and mortality classified elsewhere	New Category— No ICD-9 Equivalent	

Appendix C—National Trauma Registry Advisory Committee, 2010–2011

Member	Affiliation
Dr. Natalie L. Yanchar (Chair)	IWK Health Centre, Nova Scotia
Ms. Maureen Brennan (Co-Chair)	Children's Hospital of Eastern Ontario, Ontario
Dr. Richard Simons	Vancouver General Hospital, British Columbia
Dr. Matt Bowes	Chief Medical Examiner, Nova Scotia
Dr. André Lavoie	Hôpital de l'Enfant-Jésus, Quebec
Dr. Betty Jean Hancock	Children's Hospital/Health Sciences Centre, Manitoba
Dr. Darrell D. Boone	St. John's General Hospital, Newfoundland and Labrador
Dr. Mary M. vanWijngaarden-Stephens	University Hospital, Alberta
Ms. Beth Sealy	TRISC Representative, Nova Scotia
Ms. Elsie Galbraith	ITNC Representative, Ontario
Ms. Norma Jones	ITNC Representative, British Columbia
Dr. Avery Nathens	St. Michael's Hospital, Ontario
Dr. S. Morad Hameed	Vancouver General Hospital, British Columbia
Dr. David C. Evans	Vancouver General Hospital, British Columbia
Dr. Paul Hayes	Saskatoon Health Region (RHA 6), Saskatchewan
Ms. Robin Skinner	Public Health Agency of Canada
Dr. H. Tom Stelfox	Critical Care Medicine, University of Calgary, Alberta
Dr. Marcel Martin	Trauma Registry, New Brunswick

Appendix D—Injury Types

The following provides information on the specific diagnosis codes for the injury types described in this report.

Description	ICD-10 Code Range	ICD-9 Code Range
Superficial	S00, S05.0, S05.1, S05.8, S05.9, S10, S20, S30, S40, S50, S60, S70, S80, S90, T00, T09.0, T11.0, T13.0, T14.0	910–924
Musculoskeletal	S02, S12, S22, S32, S42, S52, S62, S72, S82, S92, T02, T08, T10, T12, T14.2, S03, S13, S23, S33, S43, S53, S63, S73, S83, S93, T03, T11.2, T13.2, T14.3, S09.10, S09.18, S16, S29.00, S29.08, S39.00, S39.08, S46, S56, S66, S76, S86, S96, T06.4, T09.5, T11.5, T13.5, T14.6	800–848
Burns and Corrosion	T20–T32	940–949
Internal Organ	S06, S09.7, S09.8, S09.9, S26, S27, S36, S37, S39.6, T06.5	850–854, 860–869
Crushing	S07, S17, S28.0, S38.0, S38.1, S47, S57, S67, S77, S87, S97, T04	925–929
Open Wound, Including Traumatic Amputation	S01, S05.2–S05.7, S09.2, S11, S21, S31, S41, S51, S61, S71, S81, S91, T01, T09.1, T11.1, T13.1, T14.1, S08, S18, S28.1, S38.2, S38.3, S48, S58, S68, S78, S88, S98, T05, T11.6, T13.6, T14.7	870–887, 890–897
Blood Vessels	S09.0, S15, S25, S35, S45, S55, S65, S75, S85, S95, T06.3, T11.4, T13.4, T14.5	900–904
Nerves and Spinal Cord	S04, S14, S24, S34, S44, S54, S64, S74, S84, S94, T06.0, T06.1, T06.2, T11.3, T13.3, T14.4	950–957
Other and Unspecified	S19, S29.7, S29.8, S29.9, S39.7, S39.8, S39.9, S49, S59, S69, S79, S89, S99, T06.8, T07, T09.8, T09.9, T11.8, T11.9, T13.8, T13.9, T14.8, T14.9, T15, T16, T18, T19, T33, T34, T35, T66, T67, T68, T69, T70, T71, T73 (excludes T73.0, T73.1), T75 (excludes T75.3)	930–939, 959, 990–994 (excluding 933.1, 994.2, 994.3, 994.6)

Appendix E—External Cause of Injury Reporting Categories

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
Motor Vehicle Traffic—Driver	V30.5, V31.5, V32.5, V33.5, V34.5, V35.5, V36.5, V37.5, V38.5, V39.4, V40.5, V41.5, V42.5, V43.5, V44.5, V45.5, V46.5, V47.5, V48.5, V49.4, V50.5, V51.5, V52.5, V53.5, V54.5, V55.5, V56.5, V57.5, V58.5, V59.4, V60.5, V61.5, V62.5, V63.5, V64.5, V65.5, V66.5, V67.5, V68.5, V69.4, V70.5, V71.5, V72.5, V73.5, V74.5, V75.5, V76.5, V77.5, V78.5, V79.4, V83.0, V84.0, V85.0, V86.00, V86.08	E810–E816, E818–E819 (.0)
Motor Vehicle Traffic—Passenger	V30.6, V31.6, V32.6, V33.6, V34.6, V35.6, V36.6, V37.6, V38.6, V39.5, V40.6, V41.6, V42.6, V43.6, V44.6, V45.6, V46.6, V47.6, V48.6, V49.5, V50.6, V51.6, V52.6, V53.6, V54.6, V55.6, V56.6, V57.6, V58.6, V59.5, V60.6, V61.6, V62.6, V63.6, V64.6, V65.6, V66.6, V67.6, V68.6, V69.5, V70.6, V71.6, V72.6, V73.6, V74.6, V75.6, V76.6, V77.6, V78.6, V79.5, V83.1, V84.1, V85.1, V86.10, V86.18	E810–E816, E818–E819 (.1)
Motor Vehicle Traffic—Motorcycle Driver	V20.4, V21.4, V22.4, V23.4, V24.4, V25.4, V26.4, V27.4, V28.4, V29.4	E810–E816, E818–E819 (.2)
Motor Vehicle Traffic—Motorcycle Passenger	V20.5, V21.5, V22.5, V23.5, V24.5, V25.5, V26.5, V27.5, V28.5, V29.5	E810–E816, E818–E819 (.3)
Motor Vehicle Traffic—Pedestrian	V02.1, V02.9, V03.1, V03.9, V04.1, V04.9, V09.2	E810–E816, E818–E819 (.7)
Motor Vehicle Traffic—Pedal Cyclist	V12 (.4, .5, .9), V13 (.4, .5, .9), V14 (.4, .5, .9), V19 (.4, .5, .6)	E810–E816, E818–E819 (.6)
Motor Vehicle Traffic—Other/Unspecified	V20.9, V21.9, V22.9, V23.9, V24.9, V25.9, V26.9, V27.9, V28.9, V29.6, V29.8, V29.9, V30.7, V30.9, V31.7, V31.9, V32.7, V32.9, V33.7, V33.9, V34.7, V34.9, V35.7, V35.9, V36.7, V36.9, V37.7, V37.9, V38.7, V38.9, V39.6, V39.8, V39.9, V40.7, V40.9, V41.7, V41.9, V42.7, V42.9, V43.7, V43.9, V44.7, V44.9, V45.7, V45.9, V46.7, V46.9, V47.7, V47.9, V48.7, V48.9, V49.6, V49.8, V49.9, V50.7, V50.9, V51.7, V51.9, V52.7, V52.9, V53.7, V53.9, V54.7, V54.9, V55.7, V55.9, V56.7, V56.9, V57.7, V57.9, V58.7, V58.9, V59.6, V59.8, V59.9, V60.7, V60.9, V61.7, V61.9, V62.7, V62.9, V63.7, V63.9, V64.7, V64.9, V65.7, V65.9, V66.7, V66.9, V67.7, V67.9, V68.7, V68.9, V69.6, V69.8, V69.9, V70.7, V70.9, V71.7, V71.9, V72.7, V72.9, V73.7, V73.9, V74.7, V74.9, V75.7, V75.9, V76.7, V76.9, V77.7, V77.9, V78.7, V78.9, V79.6, V79.8, V79.9, V82.1, V83.2, V83.3, V84.2, V84.3, V85.2, V85.3, V86 (.2, .30, .38), V87 (.0, .1, .2, .3, .4, .5, .6, .7, .8), V89.2	E810–E816, E818–E819 (.4, .5, .8, .9)
Motor Vehicle Non-Traffic—Driver	V30.0, V31.0, V32.0, V33.0, V34.0, V35.0, V36.0, V37.0, V38.0, V39.0, V40.0, V41.0, V42.0, V43.0, V44.0, V45.0, V46.0, V47.0, V48.0, V49.0, V50.0, V51.0, V52.0, V53.0, V54.0, V55.0, V56.0, V57.0, V58.0, V59.0, V60.0, V61.0, V62.0, V63.0, V64.0, V65.0, V66.0, V67.0, V68.0, V69.0, V70.0, V71.0, V72.0, V73.0, V74.0, V75.0, V76.0, V77.0, V78.0, V79.0, V83.5, V84.5, V85.5, V86.50, V86.51, V86.58	E820–E823, E825 (.0)

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
Motor Vehicle Non-Traffic—Passenger	V30.1, V31.1, V32.1, V33.1, V34.1, V35.1, V36.1, V37.1, V38.1, V39.1, V40.1, V41.1, V42.1, V43.1, V44.1, V45.1, V46.1, V47.1, V48.1, V49.1, V50.1, V51.1, V52.1, V53.1, V54.1, V55.1, V56.1, V57.1, V58.1, V59.1, V60.1, V61.1, V62.1, V63.1, V64.1, V65.1, V66.1, V67.1, V68.1, V69.1, V70.1, V71.1, V72.1, V73.1, V74.1, V75.1, V76.1, V77.1, V78.1, V79.1, V83.6, V84.6, V85.6, V86.60, V86.61, V86.68	E820–E823, E825 (.1)
Motor Vehicle Non-Traffic—Motorcycle Driver	V20.0, V21.0, V22.0, V23.0, V24.0, V25.0, V26.0, V27.0, V28.0, V29.0	E820–E823, E825 (.2)
Motor Vehicle Non-Traffic—Motorcycle Passenger	V20.1, V21.1, V22.1, V23.1, V24.1, V25.1, V26.1, V27.1, V28.1, V29.1	E820–E823, E825 (.3)
Motor Vehicle Non-Traffic—Pedestrian	V02.0, V03.0, V04.0, V09.0	E820–E823, E825 (.7)
Motor Vehicle Non-Traffic—Pedal Cyclist	V12 (.0, .1, .2), V13 (.0, .1, .2), V14 (.0, .1, .2), V19 (.0, .1, .2)	E820–E823, E825 (.6)
Motor Vehicle Non-Traffic—Other/Unspecified	V20.2, V21.2, V22.2, V23.2, V24.2, V25.2, V26.2, V27.2, V28.2, V29.2, V29.3, V30.2, V30.3, V31.2, V31.3, V32.2, V32.3, V33.2, V33.3, V34.2, V34.3, V35.2, V35.3, V36.2, V36.3, V37.2, V37.3, V38.2, V38.3, V39.2, V39.3, V40.2, V40.3, V41.2, V41.3, V42.2, V42.3, V43.2, V43.3, V44.2, V44.3, V45.2, V45.3, V46.2, V46.3, V47.2, V47.3, V48.2, V48.3, V49.2, V49.3, V50.2, V50.3, V51.2, V51.3, V52.2, V52.3, V53.2, V53.3, V54.2, V54.3, V55.2, V55.3, V56.2, V56.3, V57.2, V57.3, V58.2, V58.3, V59.2, V59.3, V60.2, V60.3, V61.2, V61.3, V62.2, V62.3, V63.2, V63.3, V64.2, V64.3, V65.2, V65.3, V66.2, V66.3, V67.2, V67.3, V68.2, V68.3, V69.2, V69.3, V70.2, V70.3, V71.2, V71.3, V72.2, V72.3, V73.2, V73.3, V74.2, V74.3, V75.2, V75.3, V76.2, V76.3, V77.2, V77.3, V78.2, V78.3, V79.2, V79.3, V80 (.3, .4, .5), V82.0, V83.7, V83.9, V84.7, V84.9, V85.7, V85.9, V86.7, V86.90, V86.91, V86.98, V88 (.0, .1, .2, .3, .4, .5, .6, .7, .8), V89.0	E820–E823, E825 (.4, .5, .8, .9)
Motor Vehicle—Boarding or Alighting	V20.3, V21.3, V22.3, V23.3, V24.3, V25.3, V26.3, V27.3, V28.3, V30.4, V31.4, V32.4, V33.4, V34.4, V35.4, V36.4, V37.4, V38.4, V40.4, V41.4, V42.4, V43.4, V44.4, V45.4, V46.4, V47.4, V48.4, V50.4, V51.4, V52.4, V53.4, V54.4, V55.4, V56.4, V57.4, V58.4, V60.4, V61.4, V62.4, V63.4, V64.4, V65.4, V66.4, V67.4, V68.4, V70.4, V71.4, V72.4, V73.4, V74.4, V75.4, V76.4, V77.4, V78.4, V83.4, V84.4, V85.4, V86.4	E817 (all fourth digits), E824 (all fourth digits)
Railway—Occupant	V81 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9)	E800–E807 (.0, .1)
Railway—Pedestrian	V05 (.0, .1, .9)	E800–E807 (.2)
Railway—Pedal Cyclist	V15 (.0, .1, .2, .3, .4, .5, .9)	E800–E807 (.3)
Railway—Other	V80.6	E800–E807 (.8, .9)
Other Road Vehicle—Pedestrian	V01 (.0, .1, .9), V06 (.0, .1, .9), V09.1, V09.3, V09.9	E826–E829 (.0)

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
Other Road Vehicle— Pedal Cyclist	V10 (.0, .1, .2, .3, .4, .5, .9), V11 (.0, .1, .2, .3, .4, .5, .9), V12.3, V13.3, V14.3, V16 (.0, .1, .2, .3, .4, .5, .9), V17 (.0, .1, .2, .3, .4, .5, .9), V18 (.0, .1, .2, .3, .4, .5, .9), V19 (.3, .8, .9)	E826–E829 (.1)
Other Road Vehicle— Animal Rider/Occupant of Animal-Drawn Vehicle	V80 .0, V80.1, V80.2, V80.7, V80.8, V80.9	E826–E829 (.2, .3)
Other Road Vehicle— Occupant of Streetcar	V82 (.2, .3, .4, .5, .6, .7, .8, .9)	E826–E829 (.4)
Other Road Vehicle— Other	V87.9, V88.9, V89 (.1, .3)	E826–E829 (.8, .9)
Water Transport— Involving Drowning/ Submersion	V90 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9), V92 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9)	E830, E832 (.0, .1, .2, .3, .4, .5, .6, .8, .9)
Water Transport— Incident to/on Watercraft Not Causing Drowning and Submersion	V91 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9), V93 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9)	E831, E833, E834, E835, E836, E837 (.0, .1, .2, .3, .4, .5, .6, .8, .9)
Water Transport— Other/Unspecified	V94 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9)	E838 (.0, .1, .2, .3, .4, .5, .6, . 8, .9)
Air and Space Transport	V95 (.0, .1, .2, .3, .4, .8, .9), V96 (.0, .1, .2, .8, .9), V97 (.0, .1, .2, .3, .8)	E840–E845 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9)
Vehicle Incidents Not Elsewhere Classified	V89.9, V98, V99	E846–E848
Unintentional Falls— Slipping, Tripping and Stumbling	W01	E885
Unintentional Falls— Collision With/Pushed by Another Person	W03	E886
Unintentional Falls— Fall on/From Stairs and Steps	W10	E880
Unintentional Falls— Fall on/From Ladder or Scaffolding	W11, W12	E881
Unintentional Falls—Fall From, Out of or Through Building or Structure	W13	E882
Unintentional Falls— Other Fall From One Level to Another	W06, W07, W08, W09, W14, W15, W16, W17	E883, E884
Unintentional Falls— Other/ Unspecified Fall	W00, W02, W04, W05, W18, W19	E888
Fire and Flames	X00–X06, X08, X09	E890–E899
Drowning	W65–W70, W73, W74	E910
Operations of War	Y36	E990–E998

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
Legal Intervention	Y35	E970–E976, E978
Attempted Suicide and Self-Inflicted Injury (Excluding Poisoning)	X70–X84	E953–E958
Undetermined Whether Unintentionally or Purposely Inflicted (Excluding Poisoning)	Y20–Y34	E983–E988
Assault and Injury Purposely Inflicted (Excluding Poisoning)	X86, X91–X99, Y00–Y05, Y07–Y09	E960, E961, E963–E968
Suffocation	W75, W76, W77, W81, W83, W84	E913
Foreign Bodies (Excluding Choking)	W44, W45	E914, E915
Cutting and Piercing	W25, W26, W27, W28, W29, W60	E920
Unintentional Firearm Injuries	W32, W33, W34	E922
Machinery-Related Injuries	W24, W30, W31	E919
Overexertion And Strenuous/Repetitive Movements	X50	E927
Struck by or Against Objects and Persons	W20, W21, W22, W50, W51, W52	E916, E917
Explosive Material	W39, W40	E923
Hot Substances	X10–X19	E924
Electric Current	W85–W87	E925
Caught, Crushed, Jammed or Pinched in or Between Objects	W23	E918
Explosion of Pressure Vessel	W35, W36, W37, W38	E921
Exposure to Radiation	W88–W91, X32	E926
Other/Unspecified	W41, W42, W43, W49, X58–X59	E887, E928
Natural and Environmental Factors	W53, W54, W55, W56, W57, W58, W59, W64, W92, W93, W94, W99, X30–X31, X33–X39, X52	E900, E901, E902, E906, E907, E908, E909

Appendix F—Definition of Terms

Note: The terms “accident” and “accidentally” used in the International Classification of Diseases have been replaced in this document with “incident” and “unintentionally.”

Acute Care Hospital

A hospital in which active treatment is received.

Admission

An admission to a participating acute care hospital in Canada as a result of injury defined by an appropriate external cause of injury code and an ISS greater than 12. Admissions include hospital deaths.

Admission Day

The day of the week the patient is admitted to hospital.

Age Groups

The age groups used by the National Trauma Registry for reporting were selected for comparability to other sources of information and to report on specific trends, such as injury in children, young adults and the elderly.

Generally, the age groups reported on are as follows: younger than 1, 1 to 4, 5 to 9, 10 to 14, 15 to 19, 20 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 to 84 and 85 and older.

Aircraft

Any device for transporting passengers or goods in the air, including airplanes, balloons, bombers, gliders, parachutes and military aircraft.

Abbreviated Injury Scale

The Abbreviated Injury Scale (AIS) was developed to provide researchers with a simple numerical method for ranking and comparing injuries by severity and to standardize the terminology used to describe injuries. The AIS is a consensus-derived anatomically based system that classifies individual injuries by body region on a six-point ordinal severity scale ranging from AIS 1 (minor) to AIS 6 (currently untreatable).

Blood Alcohol Concentration

A positive blood alcohol concentration (BAC) is greater than or equal to 17.4 mmol/L (or 0.08%).

Blunt Injury Type

Injury type reflects the cause of injury (such as a motor vehicle collision or a blow to the head). Blunt injury may include deep lacerations but does not include any injury in which a missile such as a knife or bullet enters the body.

Burn Injury Type

Isolated burns with an ISS greater than 12 or burns with an AIS = 1 are documented as a burn injury. A burn injury with another injury AIS greater than 1 should be documented as a blunt or penetrating injury type, depending on the other injury.

Case

A case in the Comprehensive Data Set is any patient who has an ISS greater than 12 and an appropriate E code treated at a participating hospital.

Canadian Institute for Health Information

The Canadian Institute for Health Information (CIHI) is an independent, national, not-for-profit organization working to improve the health of Canadians and the health care system by providing quality health information.

Collector

Specialized software from Digital Innovation, Inc. and Tri-Analytics, Inc. used by most participating trauma registries to collect pre-hospital, demographic, nature and cause of injury, and follow-up information on severely injured patients.

Comprehensive Data Set

One of three major data sets of the National Trauma Registry, which includes data on severely injured patients treated at participating hospitals. See the Methodological Notes section of this report.

Cyclist

Any person riding on a pedal cycle or in sidecar or trailer attached to such a vehicle.

Death Data Set

One of three major data sets of the National Trauma Registry, which will include data on all injury deaths in Canada (currently under development).

Deaths

All deaths occurring in participating hospitals with an ISS greater than 12. Patients who are dead on arrival are excluded.

Direct Admission

A direct admission is defined as a patient whose first contact with a hospital is at a participating hospital (not referred).

Discharged Alive

An admitted patient who is discharged from hospital alive, including those patients who sign themselves out against medical advice.

Driver

A driver of a motor vehicle is the occupant of the motor vehicle operating it or intending to operate it.

External Cause of Injury Codes

The external cause of injury codes in the ICD coding system allow for the classification and analysis of environmental events, circumstances and conditions as the cause of injury. External cause of injury codes vary depending on the coding system (for example, unintentional falls are coded as E880 to E888 in the ICD-9 coding system and as W00 to W19 in ICD-10-CA). All reports are based on the first-documented external cause of injury code recorded unless otherwise specified. External cause of injury codes that are included in and excluded from the trauma definition are found in Appendix B. Note that external cause codes are termed “external causes of morbidity and mortality” (V01 to Y98) in the ICD-10-CA coding system.

Homicide

Injuries inflicted by another person with intent to injure or kill by any means.

International Classification of Diseases

The International Classification of Diseases (ICD) is a World Health Organization publication that classifies morbidity and mortality information for statistical purposes and for the indexing of hospital records by disease and operations for data storage and retrieval. ICD manuals may be found in hospital health record departments or in public libraries.

ICD-9

The International Classification of Diseases, 9th Revision, is based on the official version of the World Health Organization.

ICD-9-CM

In 1977, a steering committee was convened by the National Centre for Health Statistics to provide advice on the development of a clinical modification of the ICD-9 with increased detail necessary for medical research. ICD-9-CM is totally compatible with ICD-9, meeting the need for comparability of morbidity and mortality statistics at the international level.

ICD-10-CA

The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada, is based on the World Health Organization's ICD-10 and is wholly comparable with that classification. ICD-10 is the official classification used for reporting mortality data in Canada; ICD-10-CA is the Canadian national standard for reporting morbidity statistics.

Injured Person

An injured person is identified by a subdivision of the external cause of injury codes. Injured persons include drivers, passengers, pedestrians, cyclists and other specified persons.

Injury Resulting From Operations of War

An E code category used to classify injuries to military personnel and civilians caused by war and civil insurrection and occurring during time of war and insurrection.

Injury Severity Score

The Injury Severity Score (ISS) is an internationally recognized scoring system developed to assign a level of severity to injury. ISS scores range from 1 (minor) to 75 (fatal).

Injury Type

Refers to the patient's most serious injury and may be classified as blunt, penetrating or burn. In determining the type of injury, the cause of injury is considered. Also see definitions for penetrating injury type, blunt injury type and burn injury type.

Injury Type (Nature of Injury)

Injury diagnosis codes have been divided into the following broad categories of injuries to accommodate the reporting of both ICD-9 and ICD-10-CA codes: superficial, musculoskeletal, burns and corrosion, internal organs, crushing, open wound (including traumatic amputation), blood vessels, nerves and spinal cord, other and unspecified.

The specific diagnosis codes that define these categories are found in Appendix E—External Cause of Injury Reporting Categories.

Injury Undetermined Whether Unintentionally or Purposely Inflicted

An E code category used when, after a thorough investigation by the medical examiner, coroner or other legal authority, it cannot be determined whether the injuries are unintentional, suicidal or intentional.

Intentional Injury

Intentional injury refers to injury purposely inflicted by another person or by the patient.

Late Effects

Conditions reported as such or occurring as sequelae one year or more after injury. Late effects are excluded from the definition of trauma.

Legal Intervention

An E code category used to classify injuries inflicted by the police or other law-enforcing agents, including military on duty, in the course of arresting or attempting to arrest lawbreakers, suppressing disturbances, maintaining order and performing other legal actions.

Length of Stay

Total number of hospital days as calculated from date of admission to date of discharge or death.

Mean

A measure of central tendency of a set of observations; the average.

Median

A measure of central tendency of a set of observations; 50th percentile (the point above and below which 50% of data falls).

Minimum Data Set

One of three major data sets of the National Trauma Registry, which includes data from CIHI's Discharge Abstract Database and provincial ministries of health on acute care injury hospitalizations in Canada.

Motor Vehicle

Any mechanically or electrically powered device not operated on rails upon which any person or property may be transported or drawn upon a highway. Any object such as a trailer, coaster, sled or wagon being towed by a motor vehicle is considered a part of the motor vehicle. This category includes automobiles, buses, fire engines, motorcycles, mopeds or scooters, vans, trucks, construction machinery, farm and industrial machinery, steam rollers, tractors, army tanks, highway graders, snowmobiles, ATVs and similar vehicles on wheels or treads while in transport under their own power.

Motor Vehicle Incident

A transport incident involving a motor vehicle. It is defined as a motor vehicle traffic incident or as a motor vehicle non-traffic incident according to whether the incident occurs on a public highway or elsewhere.

Motor Vehicle Non-Traffic Incident

Any motor vehicle incident which occurs entirely in any place other than a public highway.

Motor Vehicle Traffic Incident

Any motor vehicle incident occurring on a public highway (for example, originating or terminating on a public highway or involving a vehicle partially on the highway). A motor vehicle incident is assumed to have occurred on the highway unless another place is specified, except in the case of incidents involving only off-road motor vehicles; these are classified as non-traffic incidents unless the contrary is stated.

Motorcycle

A two-wheeled motor vehicle having one or two riding saddles and sometimes having a third wheel for the support of a sidecar. The sidecar is considered part of the motorcycle.

National Trauma Registry Advisory Committee

The multidisciplinary group responsible for guiding the implementation and operation of the National Trauma Registry.

Off-Road Motor Vehicle

A motor vehicle of special design to enable it to negotiate rough or soft terrain or snow. Examples of special design are high construction, special wheels and tires, driven by treads, or support on a cushion of air. This category includes all-terrain vehicles, army tanks, hovercraft and snowmobiles.

Other Road Vehicle

Any device except a motor vehicle in, on or by which any person or property may be transported on a highway. This category includes pedal cycles, animals carrying persons or goods, animal-drawn vehicles, animals harnessed to conveyances and streetcars.

Outcome

Refers to whether the patient lived or died.

Participating Hospital

An acute care facility that contributes data on severely injured patients to the National Trauma Registry Comprehensive Data Set.

Patient Days

The number of days a patient is hospitalized.

Pedal Cycle

Any road transport vehicle operated solely by pedals, including bicycles, pedal cycles and tricycles.

Pedal Cyclist

Any person riding on a pedal cycle or in a sidecar attached to such a vehicle. Also see definition for cyclist.

Pedestrian

Any person involved in an incident who was not at the time of the incident riding in or on a motor vehicle, railroad train, streetcar, animal-drawn or other vehicle, bicycle or animal. The pedestrian category includes a person changing a tire on a vehicle, in or operating a pedestrian conveyance, making adjustments to the motor of a vehicle or on foot.

Pedestrian Conveyance

Any human-powered device by which a pedestrian may move other than by walking or by which a walking person may move another pedestrian, including baby carriages, wagons, ice skates, roller skates, scooters, skateboards, skis, sleds and wheelchairs.

Penetrating Injury Type

Refers to an injury caused by a missile entering the body. Missiles include bullets, knives and items such as pieces of sharp glass or metal.

Public Highway

A public highway or traffic way is the entire width between property lines of every way or place, of which any part is open to the use of the public for purposes of vehicular traffic as a matter of right or custom. This category excludes private driveways, parking lots and roads in airfields, farms, industrial premises, mines, private grounds or quarries.

Railway Incident

A transport incident involving a railway train or other railway vehicle operated on rails, whether in motion or not.

Roadway

That part of the public highway designed, improved and ordinarily used for vehicular travel. This excludes driveways, parking lots, ramps and roads in farms, airfields, industrial premises, private grounds, mines and quarries.

Single Year of Age

Individual values for ages younger than 1 year through 100 years that may be used rather than age groups.

Small Boat

Any watercraft propelled by paddle, oars or a small motor with a passenger capacity of fewer than 10.

Suicide

Self-inflicted injuries specified as intentional, excluding admissions that result from poisoning.

Survivors

Refers to those patients who are discharged alive.

Total Admissions

Total number of patients admitted to hospital, excluding those who are dead on arrival, died in emergency and discharged from the emergency department.

Total Patient Days

Sum of length of stay for all admissions.

Transfers

A transferred patient is one whose first contact with a hospital is with a non-participating hospital and who is subsequently transferred to a participating hospital.

Transport Incident

Any incident (ICD-9 codes E800 to E848 and ICD-10-CA codes V01 to V99) involving a device designed primarily for, or being used at the time primarily for, conveying persons or goods from one place to another. In classifying incidents that involve more than one kind of transport, the following order of precedence of transport incidents should be used: aircraft and spacecraft, watercraft, motor vehicle, railway and other road vehicles.

Incidents involving agricultural and construction machines, such as tractors, cranes and bulldozers, are regarded as transport incidents only when these vehicles are under their own power on a highway; otherwise, the vehicles are regarded as machinery. Vehicles that can travel on land or water, such as hovercraft and other amphibious vehicles, are regarded as watercraft when on the water, as motor vehicles when on the highway and as off-road vehicles when on land but off the highway.

Trauma

Injury resulting from the transfer of energy, such as kinetic or thermal. See Appendix B for external cause of injury codes used to define trauma for the purposes of the National Trauma Registry.

Ventilator Days

The number of days the patient was intubated and mechanically ventilated intermittently or continuously, excluding non-intubated patients on BIPAP and intubated patients on CPAP. Ventilator days include any part of one day up to midnight, including the day the ventilator is discontinued and excluding the day the ventilator is begun. A ventilator day is counted if a ventilated patient is admitted and discharged on the same day or if the ventilation is started and discontinued on the same day. Routine intubation for the operating room is not included.

Watercraft

Any device for transporting passengers or goods on the water.

Appendix G—List of Facilities Contributing to the NTR CDS 2008–2009, by Province and by Trauma Centre Level Designation*

Province	Facilities		
	Level 1 Trauma Centres	Level 2 Trauma Centres	Other Designations (for Example, Level 3 Trauma Centres, Regional Centres)
British Columbia (12)	<ul style="list-style-type: none"> • Vancouver General Hospital • B.C. Children's Hospital 	<ul style="list-style-type: none"> • Royal Columbian Hospital • Victoria General Hospital • Royal Jubilee Hospital • Royal Inland Hospital • Kelowna General Hospital 	<ul style="list-style-type: none"> • St. Paul's Hospital • Lions Gate Hospital • Nanaimo Regional General Hospital • Abbotsford Regional Hospital • Prince George Regional Hospital
Alberta (9)	<ul style="list-style-type: none"> • University of Alberta Hospital Site • Foothills Medical Centre 	<ul style="list-style-type: none"> • Royal Alexandra Hospital 	<ul style="list-style-type: none"> • Alberta Children's Hospital • Queen Elizabeth II Hospital • Red Deer Regional Hospital Centre • Northern Lights Regional Health Centre • Rockyview General Hospital • Peter Lougheed Centre
Manitoba (1)	<ul style="list-style-type: none"> • Health Sciences Centre, Winnipeg 		
Ontario (13)	<ul style="list-style-type: none"> • Hamilton Health Sciences Corporation: <ul style="list-style-type: none"> – Hamilton Division – McMaster Division • London Health Sciences Centre • The Ottawa Hospital: <ul style="list-style-type: none"> – Civic Site – General Campus • St. Michael's Hospital • Sunnybrook Health Sciences Centre • Hotel Dieu-Grace Hospital • Hospital for Sick Children • Children's Hospital of Eastern Ontario 	<ul style="list-style-type: none"> • Kingston General Hospital • St. Joseph's Health Centre, Sudbury • Thunder Bay Regional Health Sciences Centre 	

Province	Facilities		
	Level 1 Trauma Centres	Level 2 Trauma Centres	Other Designations (for Example, Level 3 Trauma Centres, Regional Centres)
Quebec† (58 + 1)	<u>Tertiary:</u> <ul style="list-style-type: none"> Hôp. du Sacré-Coeur Hôp. Général de Montréal Hôp. de l'Enfant-Jésus (C.H.A.) Hôp. de Montréal pour enfants CHU Sainte-Justine Hôp. Charles Lemoyne (<i>became Level 2 in August 2009</i>) 	<u>Secondary and Secondary Regional:</u> <ul style="list-style-type: none"> Centre le Jeannois – Pav. l'Hôtel-Dieu d'Alma C.H. Anna-Laberge C.H. Beauce-Etchemin C.H. de Granby C.H. des Vallées de l'Outaouais C.H. Pierre Le Gardeur C.H. Régional de Lanaudière C.H. Régional de Rimouski C.H. Régional de Sept-Îles C.H. Régional de Trois-Rivières C.H. Régional du Grand-Portage C.H. Saint-Eustache C.H.A. Hôtel-Dieu de Lévis Complexe Hosp. de la Sagamie Hôp. Brome-Missisquoi-Perkins Hôp. du Haut-Richelieu Hôp. Jean-Talon Hôp. Sainte-Croix Hôp. Santa Cabrini Hôtel-Dieu d'Arthabaska Hôtel-Dieu de Roberval Hôtel-Dieu de Saint-Jérôme Réseau Santé Richelieu-Yamaska – Pav. Honoré Mercier 	<u>Primary:</u> <ul style="list-style-type: none"> C.H. Baie-des-Chaleurs C.H. d'Amqui C.H. de Chandler C.H. de Charlevoix C.H. de Dolbeau (Centre Maria-Chapdelaine) C.H. de Gaspé – Pav. Hôtel-Dieu C.H. de la Région de l'Amiante C.H. de L'Archipel de Cap-aux-Meules C.H. de Matane C.H. de Val d'Or C.H. lac Mégantic (Carrefour de santé du Granit) C.H. Laurentien C.H. Régional de Baie-Comeau – Pav. le Royer C.H. Régional du Suroit C.H. Rouyn-Noranda C.H. Saint-Joseph de la Malbaie C.H.R.C. Antoine-labelle – Centre de Mont-Laurier Centre de Santé de Chibougamau (CRSSS Baie-James) Centre de Santé de la Haute-Gaspésie (Denis-Riverin) Centre de Santé Sainte-Famille Centre de Santé Vallée-de-la-Gatineau (Maniwaki) CSSS de la Saint-Mauricie Hôp. Fleurimont (C.H. universitaire de Sherbrooke) Hôp. Communautaire du Pontiac Inc. Hôp. Notre-Dame de Fatima Hôtel-Dieu de Montmagny Hôtel-Dieu de Sorel Réseau de la Santé Témiscouata – Hôp. Notre-Dame du Lac Réseau SSS des Aurores Boréales
New Brunswick (1)	<ul style="list-style-type: none"> Saint John Regional Hospital 		

Province	Facilities		
	Level 1 Trauma Centres	Level 2 Trauma Centres	Other Designations (for Example, Level 3 Trauma Centres, Regional Centres)
Nova Scotia (10)	<ul style="list-style-type: none"> • Queen Elizabeth II Health Sciences Centre • IWK Health Centre 		<ul style="list-style-type: none"> • Aberdeen Hospital • Cape Breton Health Care Complex (previously Cape Breton Regional Hospital) • Colchester Regional Hospital • Southshore Regional Hospital • Cumberland Regional Health Care Centre • St. Martha's Regional Hospital • Valley Regional Hospital • Yarmouth Regional Hospital
Newfoundland and Labrador (3)	<ul style="list-style-type: none"> • St. John's Health Sciences Centre • St. John's Health Sciences Centre—Janeway Child Health Sciences • St. John's Health Sciences Centre—St. Claire's Hospital 		

Notes

* As reported by the provinces. See S. M. Hameed et al., "Access to Trauma Systems in Canada," *The Journal of Trauma—Injury, Infection, and Critical Care* (September 9, 2010): doi: 10.1097/TA.0b013e3181e751f7. There are significant variations in trauma system configuration across provinces. Certain provinces include only lead trauma centres capable of providing tertiary care in their trauma system. Provincial trauma registries in these provinces include data from lead trauma centres only. Other provincial trauma systems formally integrate major trauma from *all* hospitals that provide initial care to patients; although these centres may transfer more severely injured patients to more specialized trauma centres, they contribute data to the provincial trauma registry.

† Ministère de la Santé et des Services sociaux du Québec, *Cadre normatif - Registre des traumatismes du Québec (RTQ)*, 2007, accessed from <<http://msssa4.msss.gouv.qc.ca/fr/document/publication.nsf/961885cb24e4e9fd85256b1e00641a29/c6842167d8acb8a785256f1900479d3c?OpenDocument>>. As per RTQ documentation, 59 institutions contribute to the RTQ, but only 58 of these had data in the NTR CDS in 2008–2009. Due to institution coding differences between the NTR and the RTQ, it is not possible to identify the institution which has no data in the NTR in 2008–2009.

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Data Table 1: Trend Analysis Report, 2004–2005 to 2008–2009

		2004–2005	2005–2006	2006–2007	2007–2008	2008–2009
Number of Cases		11,112	13,139	13,603	14,303	14,065
In-Hospital Deaths		1,428	1,659	1,591	1,585	1,605
Males		7,981	9,461	9,734	10,165	10,014
Age Groups (Years)						
	<20	1,796	2,101	2,087	2,044	1,871
	20–34	2,603	2,825	2,987	3,059	2,966
	35–64	4,168	5,027	5,176	5,422	5,254
	65 +	2,543	3,182	3,351	3,776	3,969
Type of Injury*						
	Blunt	10,418	8,633	9,153	9,858	9,609
	Penetrating	499	544	538	537	562
	Burn	195	206	196	176	199
	Burns	173	165	167	164	169
External Cause of Injury†						
	Motor Vehicle Collisions	4,773	4,227	6,220	6,165	5,797
	Falls	3,648	3,019	4,562	5,106	5,348
	Transport Incidents	592	180	346	355	366
	Stab Wounds	340	296	407	395	382
	Gunshot Wounds	195	207	219	237	245
	Other Blunt Injuries	987	922	1,260	1,349	1,263
	Other	271	271	285	364	339
	Unspecified	123	96	135	167	156
Ventilation Days						
	Number of Cases	3,848	4,214	4,233	4,276	4,123
	Mean	7	7	7	7	7
	SD	15	13	11	16	21
	Median	3	3	3	3	3
Number of Positive BAC (≥ 17.4 mmol/L or 0.08%)‡		1,085	1,167	1,247	1,411	1,432
Injury Severity Score						
	Mean	24	24	24	24	23
	SD	10	10	10	10	9
	Median	22	21	21	22	21
Revised Trauma Score						
	Mean	8	7	7	8	7
	SD	1	1	1	1	1
	Median	8	8	8	8	8

Data Table 1: Trend Analysis Report, 2004–2005 to 2008–2009 (cont'd)

		2004–2005	2005–2006	2006–2007	2007–2008	2008–2009
Age (Years)	Mean	44	45	46	47	48
	SD	23	23	23	24	24
	Median	42	44	45	46	47
Length of Stay (Days)	Mean	16	15	16	16	15
	SD	25	21	22	26	27
	Median	9	8	8	8	8

Notes

* Injury type not available for Quebec for 2005–2006, 2006–2007, 2007–2008 and 2008–2009.

† External cause of injury data not available for Quebec for 2005–2006.

‡ Positive BAC excludes Quebec and Newfoundland and Labrador. Numbers include only those cases older than age 15.

SD: standard deviation.

For jurisdictions included, refer to Table 2 in the main report.

Source

National Trauma Registry Comprehensive Data Set, 2004–2005 to 2008–2009, Canadian Institute for Health Information.

Data Table 2: Patient Days, Mean and Median Length of Stay by Sex and Age, 2008–2009

Number of Cases	Female	Count	<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Unknown	Total
			Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Length of Hospital Stay	Male	Count	67	83	123	269	770	990	1,369	1,255	1,537	1,186	977	956	430	2	10,014
	Male	Percentage	0.7	0.8	1.2	2.7	7.7	9.9	13.7	12.5	15.3	11.8	9.8	9.5	4.3	0.0	100
	Total	Count	119	156	181	361	1,054	1,264	1,702	1,598	2,033	1,623	1,414	1,642	913	5	14,065
	Total	Percentage	0.8	1.1	1.3	2.6	7.5	9.0	12.1	11.4	14.5	11.5	10.1	11.7	6.5	0.0	100
	Female	Number of Days	551	950	605	953	3,791	4,492	5,104	4,511	7,945	7,073	7,529	12,943	8,477	N/A	64,924
	Female	Percentage	0.8	1.5	0.9	1.5	5.8	6.9	7.9	6.9	12.2	10.9	11.6	19.9	13.1	N/A	100
	Female	Mean	10.6	13.0	10.6	10.7	13.8	16.8	15.7	13.4	16.4	16.6	18.1	19.6	18.0	N/A	17
	Female	SD	21.7	24.9	15.5	14.0	19.3	26.5	21.5	14.1	26.3	28.7	23.8	27.2	21.3	N/A	24
	Female	Median	4.0	3.0	5.0	5.0	7.0	8.0	9.0	9.0	8.0	10.0	11.0	11.5	10.0	N/A	9
	Male	Number of Days	542	582	1,384	2,574	8,868	12,182	18,721	18,838	22,747	19,516	16,840	16,512	7,868	N/A	147,174
	Male	Percentage	0.4	0.4	0.9	1.7	6.0	8.3	12.7	12.8	15.5	13.3	11.4	11.2	5.3	N/A	100
	Male	Mean	8.5	7.0	11.4	9.8	11.9	12.7	14.0	15.3	15.1	17.0	17.7	17.8	19.2	N/A	15
	Male	SD	12.1	8.1	26.1	17.5	18.8	19.0	26.5	37.2	27.7	37.3	29.0	26.8	28.4	N/A	29
	Male	Median	3.0	4.0	4.0	5.0	6.0	7.0	7.0	8.0	8.0	8.0	9.0	9.0	10.0	N/A	7
	Total	Number of Days	1,093	1,532	1,989	3,527	12,659	16,674	23,825	23,349	30,692	26,589	24,369	29,455	16,345	N/A	212,098
	Total	Percentage	0.5	0.7	0.9	1.7	6.0	7.9	11.2	11.0	14.5	12.5	11.5	13.9	7.7	N/A	100
	Total	Mean	9.4	9.8	11.2	10.0	12.4	13.6	14.4	14.9	15.4	16.9	17.8	18.5	18.6	N/A	15
	Total	SD	17.0	18.2	23.2	16.7	18.9	20.9	25.6	33.6	27.3	35.2	27.5	27.0	24.8	N/A	27
	Total	Median	4.0	4.0	5.0	5.0	7.0	7.0	7.0	8.0	8.0	8.0	9.0	10.0	10.0	N/A	8

Notes

SD: standard deviation.

N/A: not applicable.

Cases with no length of stay recorded or with unknown sex are excluded from calculations.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 3: Patient Days, Mean and Median Length of Stay by Sex and Age for Deaths, 2008–2009

Number of Cases		Age Group															Total
		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Unknown		
Female	Count	N/R	5	6	N/R	31	23	15	23	45	33	56	128	135	N/R	507	
	Percentage	0.2	1.0	1.2	0.6	6.1	4.5	3.0	4.5	8.9	6.5	11.0	25.2	26.6	0.6	100	
	Count	7	8	10	12	75	87	97	78	121	143	114	200	144	N/R	1,098	
	Percentage	0.6	0.7	0.9	1.1	6.8	7.9	8.8	7.1	11.0	13.0	10.4	18.2	13.1	0.2	100	
	Count	8	13	16	15	106	110	112	101	166	176	170	328	279	5	1,605	
Length of Hospital Stay	Percentage	0.5	0.8	1.0	0.9	6.6	6.9	7.0	6.3	10.3	11.0	10.6	20.4	17.4	0.3	100	
	Number of Days	27	7	17	12	54	278	15	160	283	179	439	1,203	1,097	N/A	3,771	
	Percentage	0.7	0.2	0.5	0.3	1.4	7.4	0.4	4.2	7.5	4.7	11.6	31.9	29.1	N/A	100	
	Mean	27.0	1.4	3.4	6.0	2.3	15.4	1.7	8.9	7.3	8.1	10.7	11.7	8.9	N/A	9	
	SD	N/A	0.9	4.3	7.1	3.4	46.3	1.7	18.0	11.0	18.3	16.2	23.2	12.0	N/A	19	
Male	Median	27.0	1.0	1.0	6.0	1.0	1.0	1.0	1.5	1.0	2.5	6.0	4.0	5.0	N/A	3	
	Number of Days	14	23	117	33	275	386	501	329	988	1,717	1,386	2,705	1,599	N/A	10,073	
	Percentage	0.1	0.2	1.2	0.3	2.7	3.8	5.0	3.3	9.8	17.0	13.8	26.9	15.9	N/A	100	
	Mean	2.3	2.9	13.0	3.7	4.7	6.3	7.1	5.8	10.2	15.1	14.7	15.4	12.6	N/A	11	
	SD	1.5	4.2	33.1	5.0	16.0	13.0	16.5	8.7	39.3	74.1	42.7	30.8	21.1	N/A	37	
Total	Median	2.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	3.0	3.0	5.0	6.0	N/A	3	
	Number of Days	41	30	134	45	329	664	516	489	1,271	1,896	1,825	3,908	2,696	N/A	13,844	
	Percentage	0.3	0.2	1.0	0.3	2.4	4.8	3.7	3.5	9.2	13.7	13.2	28.2	19.5	N/A	100	
	Mean	5.9	2.3	9.6	4.1	4.1	8.4	6.5	6.5	9.3	13.9	13.5	14.0	10.8	N/A	11	
	SD	9.4	3.3	26.5	5.1	13.6	24.7	15.6	11.6	33.6	68.2	36.7	28.3	17.3	N/A	33	
Total	Median	2.0	1.0	1.0	1.0	1.0	1.0	1.5	2.0	2.0	3.0	4.0	4.0	5.0	N/A	3	

Notes

SD: standard deviation.

N/A: not applicable.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Cases with no length of stay recorded or with unknown sex are excluded from calculations.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 4: External Causes of Injury by Age Group, 2008–2009

		<5	5–14	15–24	25–44	45–64	65–84	85+	Unknown	Total	Percentage
Number of Cases		275	542	2,318	3,300	3,656	3,056	913	5	14,065	100
Percentage of Cases		2	3.9	16.5	23.5	26	21.7	6.5	0	100	0
Motor Vehicle Non-Traffic	Driver	N/R	33	136	219	171	28	N/R	0	594	4.2
	Passenger	N/R	17	26	33	17	N/R	N/R	0	102	0.7
	Pedestrian	N/R	6	12	8	20	10	N/R	0	64	0.5
	Motorcycle Driver	0	6	17	34	13	N/R	N/R	0	71	0.5
	Motorcycle Passenger	0	0	N/R	0	N/R	0	0	0	N/R	—
	Pedal Cyclist	0	N/R	N/R	0	0	0	0	0	N/R	—
	Other/Unspecified	N/R	6	10	15	16	N/R	0	0	53	0.4
Subtotal		11	71	202	309	238	47	11	0	889	6.3
Motor Vehicle Traffic	Driver	0	8	516	698	534	263	37	0	2,056	14.6
	Passenger	17	98	392	233	145	131	16	0	1,032	7.3
	Pedestrian	11	49	142	142	218	157	25	2	746	5.3
	Motorcycle Driver	0	6	77	230	270	31	N/R	N/R	615	4.4
	Motorcycle Passenger	0	N/R	10	16	33	N/R	0	0	64	0.5
	Pedal Cyclist	N/R	34	28	50	62	21	N/R	0	199	1.4
	Other/Unspecified	N/R	N/R	37	31	28	13	N/R	0	118	0.8
Subtotal		32	203	1,202	1,400	1,290	617	84	N/R	4,830	34.3
Motor Vehicle Boarding or Alighting		0	N/R	15	11	10	10	N/R	0	50	0.4
Other Road Vehicle	Animal Rider/Occupant of Animal-Drawn Vehicle	N/R	7	11	16	58	6	N/R	0	99	0.7
	Occupant of Streetcar	0	0	0	0	0	0	0	0	0	0
	Pedal Cyclist	N/R	46	49	84	112	31	N/R	0	323	2.3
	Pedestrian	0	N/R	N/R	0	10	N/R	N/R	0	19	0.1
	Other/Unspecified	0	0	N/R	0	N/R	N/R	0	0	N/R	—
Air and Space Transport		0	0	N/R	13	13	N/R	0	0	32	0.2
Assault and Injury Purposely Inflicted (Excluding Poisoning)		64	16	363	525	220	25	N/R	N/R	1,217	8.7
Attempted Suicide and Self-Inflicted Injury (Excluding Poisoning)		0	N/R	62	103	91	23	N/R	N/R	285	2
Burns		14	8	19	50	39	21	N/R	0	152	0.9

Data Table 4: External Causes of Injury by Age Group, 2008–2009 (cont'd)

	<5	5–14	15–24	25–44	45–64	65–84	85+	Unknown	Total	Percentage
Caught, Crushed, Jammed or Pinched in or Between Objects	N/R	N/R	6	18	20	5	0	0	50	0.4
Cutting and Piercing	N/R	N/R	N/R	N/R	6	N/R	0	0	17	0.1
Drowning	N/R	5	N/R	N/R	N/R	N/R	0	0	13	0.1
Foreign Bodies (Excluding Choking)	N/R	0	N/R	N/R	N/R	0	0	0	8	0.1
Legal Intervention	0	0	5	8	N/R	N/R	0	0	15	0.1
Machinery-Related Injuries	N/R	0	N/R	15	19	11	0	0	49	0.3
Natural and Environmental Factors	7	N/R	N/R	15	29	9	0	0	66	0.5
Operations of War	0	0	N/R	N/R	0	0	0	0	6	0
Railway	0	N/R	N/R	13	5	N/R	0	N/R	24	0.2
Struck by or Against Objects and Persons	23	60	82	89	114	57	N/R	N/R	427	3
Suffocation	0	N/R	0	0	0	0	N/R	0	N/R	—
Unintentional Falls	109	106	240	547	1,298	2,137	796	0	5,233	37.2
Unintentional Firearm Injuries	0	N/R	5	6	N/R	0	0	0	16	0.1
Water Transport	0	N/R	10	19	18	N/R	0	0	52	0.4
Other/Unspecified	9	N/R	22	49	54	44	6	N/R	187	1.3

Notes

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Cases involving motor vehicle collisions and either assault/injury purposely inflicted or attempted suicide/self-inflicted injury are categorized as motor vehicle collisions in figures 1 to 11, 20, 24 and 27 and in tables 1 and 13.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 5: External Causes of Injury by Age Group for Deaths, 2008–2009

		<5	5–14	15–24	25–44	45–64	65–84	85+	Unknown	Total	Percentage
Number of Cases		21	31	216	213	342	498	279	5	1,603	100
Percentage of Cases		1.3	1.9	13.5	13.3	21.3	31	17.4	0.3	100	0
Motor Vehicle Non-Traffic	Driver	0	N/R	N/R	9	N/R	N/R	N/R	0	22	1.4
	Passenger	0	N/R	N/R	N/R	N/R	0	0	0	7	0.4
	Pedestrian	N/R	0	0	0	0	N/R	N/R	0	N/R	0.2
	Motorcycle Driver	0	0	N/R	0	0	0	0	0	N/R	0.1
	Motorcycle Passenger	0	0	0	0	0	0	0	0	0	0
	Pedal Cyclist	0	0	0	0	0	0	0	0	0	0
	Other/Unspecified	0	0	0	N/R	N/R	0	0	0	N/R	0.2
	Subtotal	N/R	N/R	7	13	8	N/R	N/R	0	38	2.4
	Driver	N/R	N/R	51	46	40	37	15	0	190	11.8
	Passenger	N/R	5	32	6	9	16	N/R	0	72	4.5
Motor Vehicle Traffic	Pedestrian	N/R	N/R	22	21	37	32	10	2	130	8.1
	Motorcycle Driver	0	N/R	11	16	21	5	N/R	0	54	3.4
	Motorcycle Passenger	0	0	0	N/R	N/R	0	0	0	N/R	0.1
	Pedal Cyclist	0	N/R	N/R	N/R	8	N/R	0	0	17	1.1
	Other/Unspecified	0	0	7	N/R	N/R	N/R	0	0	14	0.9
	Subtotal	5	12	125	94	120	94	27	2	477	29.8
Motor Vehicle Boarding or Alighting		0	0	0	0	0	N/R	N/R	0	N/R	—
Other Road Vehicle	Animal Rider/Occupant of Animal-Drawn Vehicle	0	0	0	0	N/R	N/R	0	0	N/R	—
	Occupant of Streetcar	0	0	0	0	0	0	0	0	0	0
	Pedal Cyclist	0	N/R	0	N/R	6	5	0	0	14	0.9
	Pedestrian	0	0	0	0	N/R	N/R	N/R	0	N/R	—
	Other/Unspecified	0	0	0	0	0	0	0	0	0	0
	Subtotal	0	N/R	0	N/R	7	7	N/R	0	18	1.1
Air and Space Transport		0	0	N/R	N/R	N/R	0	0	0	N/R	—
Assault and Injury Purposely Inflicted (Excluding Poisoning)		8	N/R	38	36	19	N/R	0	1	107	6.7
Attempted Suicide and Self-Inflicted Injury (Excluding Poisoning)		0	N/R	15	18	22	11	N/R	1	70	4.4

Data Table 5: External Causes of Injury by Age Group for Deaths, 2008–2009 (cont'd)

	<5	5–14	15–24	25–44	45–64	65–84	85+	Unknown	Total	Percentage
Burns	0	N/R	6	5	15	10	N/R	0	39	2.2
Caught, Crushed, Jammed or Pinched in or Between Objects	0	0	0	N/R	N/R	N/R	0	0	5	0.3
Cutting and Piercing	0	0	0	0	0	0	0	0	0	0
Drowning	N/R	5	N/R	0	N/R	N/R	0	0	10	0.6
Foreign Bodies (Excluding Choking)	0	0	0	0	0	0	0	0	0	0
Legal Intervention	0	0	N/R	N/R	0	0	0	0	N/R	—
Machinery-Related Injuries	0	0	0	0	N/R	0	0	0	N/R	—
Natural and Environmental Factors	0	0	0	N/R	N/R	N/R	0	0	5	0.3
Operations of War	0	0	N/R	0	0	0	0	0	N/R	—
Railway	0	N/R	N/R	N/R	0	0	0	1	6	0.4
Struck by or Against Objects and Persons	0	N/R	6	N/R	11	6	0	0	26	1.6
Suffocation	0	N/R	0	0	0	0	N/R	0	N/R	—
Unintentional Falls	N/R	N/R	11	31	120	352	242	0	761	47.4
Unintentional Firearm Injuries	0	0	N/R	N/R	0	0	0	0	N/R	—
Water Transport	0	N/R	0	0	0	N/R	0	0	N/R	—
Other/Unspecified	N/R	0	N/R	N/R	11	7	N/R	0	23	1.5

Notes

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Cases involving motor vehicle collisions and either assault/injury purposely inflicted or attempted suicide/self-inflicted injury are categorized as motor vehicle collisions in figures 1 to 11, 20, 24 and 27 and in tables 1 and 13.

Totals exclude small cell sizes, when inclusion would permit residual disclosure.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 6: External Causes of Injury* by Age Group for Falls, 2008–2009

	<5	5–14	15–24	25–44	45–64	65–84	85+	Total	Percentage
Number of Cases	109	106	240	547	1,298	2,137	796	5,233	100.0
Percentage of Cases	2.1	2.0	4.6	10.5	24.8	40.8	15.2	100.0	0
W00 Involving Ice and Snow	0	N/R	N/R	11	70	115	16	217	4.1
W01 Slipping, Tripping and Stumbling	N/R	8	N/R	33	151	371	176	749	14.3
W02 Involving Skates, Skis, Sport Boards and Rollerblades	0	N/R	N/R	N/R	11	5	0	21	0.4
Ice Skates	0	N/R	8	11	8	10	N/R	42	0.8
Skis	0	N/R	N/R	N/R	N/R	N/R	0	7	0.1
Roller Skates/Rollerblades	0	N/R	N/R	N/R	N/R	N/R	0	21	0.4
Skateboards	0	N/R	12	5	N/R	0	0	66	1.3
Snowboards	0	17	34	15	0	0	0	6	0.1
Other Specified	N/R	N/R	0	0	N/R	N/R	0	163	3.1
Subtotal	N/R	29	56	35	23	18	N/R	20	0.4
W03 Collision With/Pushed by Another Person	N/R	6	N/R	N/R	N/R	N/R	N/R	32	0.6
W04 While Being Carried or Supported by Other Persons	24	0	N/R	N/R	0	N/R	N/R	88	1.7
W05 Involving Wheelchair and Other Types of Walking Devices	N/R	N/R	N/R	N/R	7	36	36		
W06 Involving Bed	11	N/R	0	N/R	15	47	40	118	2.2
W07 Involving Chair	7	N/R	0	N/R	5	23	13	50	1.0
W08 Involving Other Furniture	11	0	0	N/R	N/R	11	N/R	31	0.6
W09 Playground Equipment	N/R	10	N/R	N/R	N/R	0	0	14	0.3
W10 On/From Stairs/Steps	N/R	N/R	24	111	277	452	125	1,004	19.2
W11 On/From Ladder	N/R	N/R	10	50	163	152	10	389	7.4
W12 On/From Scaffolding	0	N/R	N/R	24	48	12	0	88	1.7
W13 From, Out of or Through Building or Structure	10	12	69	127	160	81	5	464	8.9
W14 From Tree	N/R	12	7	11	14	9	N/R	55	1.0
W15 From Cliff	0	0	12	5	N/R	N/R	0	22	0.4
W16 Diving/Jumping Into Water	0	N/R	5	8	N/R	0	0	16	0.3
W17 Other Fall From One Level to Another	20	9	19	47	76	40	6	217	4.1

Data Table 6: External Causes of Injury* by Age Group for Falls, 2008–2009 (cont'd)

	<5	5–14	15–24	25–44	45–64	65–84	85+	Total	Percentage
W18 Other Fall on Same Level	N/R	N/R	12	40	142	400	180	781	14.9
W19 Unspecified Fall	0	0	7	31	133	364	180	715	13.7

Notes

* Only cases with ICD-10-CA external cause of injury codes are included (ICD-10-CA W00 to W19).

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 7: Total Injuries and Injury Type by Five-Year Age Groups, 2008–2009

	<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Unknown	Total	Percentage [†]
Total*	273	381	469	939	3,038	3,600	4,715	4,355	5,413	3,984	3,051	3,309	1,821	9	35,357	
Percentage of Total[†]	0.8	1.1	1.3	2.7	8.6	10.2	13.3	12.3	15.3	11.3	8.6	9.4	5.2	0.0	100.0	
Superficial	63	93	91	164	461	518	758	654	822	611	436	512	282	0	5465	15.5
Musculoskeletal	85	112	120	272	902	1,107	1,499	1,425	1,807	1,332	937	910	511	4	11,023	31.2
Burns and Corrosion	N/R	9	5	N/R	12	19	53	50	40	21	17	14	N/R	N/R	254	0.7
Internal Organ	115	143	180	348	994	1,140	1,393	1,299	1,689	1,339	1,166	1,391	768	N/R	11,968	33.8
Crushing	0	0	N/R	N/R	8	14	9	16	16	11	7	0	N/R	N/R	87	0.2
Open Wound, Including Traumatic Amputation	N/R	19	43	87	422	527	687	561	701	456	331	364	213	N/R	4,416	12.5
Blood Vessels	0	N/R	N/R	11	88	93	120	118	103	67	32	26	13	0	676	1.9
Nerves and Spinal Cord	N/R	N/R	13	18	105	136	163	178	175	110	101	72	21	0	1,097	3.1
Other and Unspecified	N/R	N/R	13	28	46	46	33	54	60	37	24	20	8	0	371	1.0

Notes

* Total refers to the total number of injury types.

† The denominator for the percentage calculations is the total number of cases for the year.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

If an admission has injuries that fall into several of the injury types above, each type will be counted once. If a case has several injuries that all fall into one type, the case will be counted only once.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 8: Denominators by Province/Territory, 2008–2009

	Province/Territory										Total
	B.C.	Alta.	Sask.	Man.*	Ont.	Que.	N.B.*	N.S.	P.E.I.	N.L.	
Number of Cases	2,446	2,584	N/A	327	4,293	3,692	100	531	N/A	92	14,065
Number of Cases With External Cause Code	2,446	2,584	N/A	327	4,293	3,692	100	531	N/A	92	14,065
Number of Cases Discharged Alive	2,186	2,294	N/A	296	3,753	3,312	83	460	N/A	76	12,460
Number of Deaths[†]	260	290	N/A	31	540	380	17	71	N/A	16	1,605
Number Who Died in Emergency Room	64	77	N/A	N/R	85	72	N/A	19	N/A	N/R	319
Number of Pediatric Cases (Age <18)	223	254	N/A	55	483	263	6	49	N/A	12	1,345
Number of Cases Age >15[‡]	2,289	2,399	N/A	286	3,946	3,519	97	495	N/A	85	13,116
Number of Cases Age <20	315	367	N/A	64	650	390	9	62	N/A	14	1,871
Number of Cases Age 20–64	1,513	1,722	N/A	207	2,377	1,998	72	271	N/A	56	8,216
Number of Cases Age 65+	618	493	N/A	56	1,263	1,304	19	198	N/A	22	3,973

Notes

* Data for New Brunswick and Manitoba is from one facility per province only.

† Deaths refer to in-hospital deaths and cases who died in the emergency department. Deaths occurring at the scene are excluded.

‡ Number of cases older than age 15 can be used for BAC calculation.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Five cases have missing age information and were excluded.

This table provides denominators to allow calculation of percentages.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 9: Demographics by Province/Territory, 2008–2009

		Province/Territory											
		B.C.	Alta.	Sask.	Man.*	Ont.	Que.	N.B.*	N.S.	P.E.I.	N.L.	Terr.	Total
Total Number of Cases	Number	2,446	2,584	N/A	327	4,293	3,692	100	531	N/A	92	N/A	14,065
	Percentage	100.0	100.0	N/A	100.0	100.0	100.0	100.0	100.0	N/A	100.0	N/A	100.0
	Number	1,753	1,932	N/A	234	3,052	2,522	83	363	N/A	75	N/A	10,014
	Percentage	71.7	74.8	N/A	71.6	71.1	68.3	83.0	68.4	N/A	81.5	N/A	71.2
Age <20	Number	315	367	N/A	64	650	390	9	62	N/A	14	N/A	1,871
	Percentage	12.9	14.2	N/A	19.6	15.1	10.6	9.0	11.7	N/A	15.2	N/A	13.3
Age 65+	Number	618	493	N/A	52	1,263	1,304	19	198	N/A	22	N/A	3,969
	Percentage	25.3	19.1	N/A	15.9	29.4	35.3	19.0	37.3	N/A	23.9	N/A	28.2
Positive BAC (≥17.4 mmol/L or 0.08%) [†]	Number	297	483	N/A	24	542	N/A	16	70	N/A	N/A	N/A	1,432
	Percentage	12.1	18.7	N/A	7.3	12.6	N/A	16.0	13.2	N/A	N/A	N/A	10.2

Notes

* Data for New Brunswick and Manitoba is from one facility per province only.

† BAC information from Quebec and Newfoundland and Labrador was not available.

N/A: did not submit to NTR CDS.

		Province/Territory											
		B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	N.L.	Terr.	Total
Age (Years)	Mean	46.5	43.1	N/A	41.2	47.9	52.0	44.9	51.3	N/A	44.7	N/A	47.8
	SD	23.4	22.4	N/A	22.8	24.6	23.6	20.4	25.5	N/A	22.9	N/A	23.9
	Median	45.0	41.0	N/A	40.9	48.0	53.0	46.0	54.0	N/A	43.0	N/A	47.0

Note

SD: standard deviation.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 10: Injury Severity Score by Province/Territory, 2008–2009

		Province/Territory											
		B.C.	Alta.	Sask.	Man.*	Ont.	Que.	N.B.*	N.S.	P.E.I.	N.L.	Terr.	Total
ISS—All Cases	Mean	23.9	23.1	N/A	20.5	24.2	22.4	24.0	21.6	N/A	20.5	N/A	23.3
	SD	10.0	9.3	N/A	7.5	9.6	8.8	11.5	8.0	N/A	7.2	N/A	9.4
	Median	22.0	21.0	N/A	17.0	24.0	20.0	22.0	19.0	N/A	17.0	N/A	21.0
ISS—Survivors	Mean	23.1	22.2	N/A	19.7	23.3	21.8	21.5	20.7	N/A	20.1	N/A	22.4
	SD	9.3	8.6	N/A	6.3	8.8	8.2	7.9	6.8	N/A	7.1	N/A	8.6
	Median	21.0	20.0	N/A	17.0	22.0	19.0	20.0	18.0	N/A	17.0	N/A	20.0
ISS—Deaths	Mean	30.9	30.1	N/A	28.4	30.8	27.6	36.1	27.5	N/A	22.6	N/A	29.7
	SD	12.6	11.7	N/A	12.3	12.3	11.2	17.7	11.7	N/A	7.5	N/A	12.1
	Median	26.0	26.0	N/A	25.0	26.0	25.0	29.0	25.0	N/A	25.0	N/A	25.0

Notes

* Data for New Brunswick and Manitoba is from one facility per province only.

ISS: Injury Severity Score.

SD: standard deviation.

N/A: not applicable.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 11: Type of Injury by Province/Territory, 2008–2009

		Province/Territory											
		B.C.	Alta.	Sask.	Man.*	Ont.	Que.†	N.B.*	N.S.	P.E.I.	N.L.	Terr.	Total
Blunt	Number	2,267	2,394	N/A	303	3,967	N/A	90	499	N/A	89	N/A	9,609
	Percentage	92.7	92.6	N/A	92.7	92.4	N/A	90.0	94.0	N/A	96.7	N/A	68.3
Penetrating	Number	126	157	N/A	16	238	N/A	5	20	N/A	N/A	N/A	562
	Percentage	5.2	6.1	N/A	4.9	5.5	N/A	5.0	3.8	N/A	N/A	N/A	4.0
Burn	Number	53	33	N/A	8	87	N/A	N/R	10	N/A	N/R	N/A	199
	Percentage	2.2	1.3	N/A	2.4	2.0	N/A	5.0	1.9	N/A	3.3	N/A	1.4
Work-Related	Number	160	183	N/A	31	219	188	7	20	N/A	5	N/A	813
	Percentage	6.5	7.1	N/A	9.5	5.1	5.1	7.0	3.8	N/A	5.4	N/A	5.8
Sports/Recreational	Number	347	392	N/A	61	373	566	15	59	N/A	14	N/A	1,827
	Percentage	14.2	15.2	N/A	18.7	8.7	15.3	15.0	11.1	N/A	15.2	N/A	13.0

Notes

* Data for New Brunswick and Manitoba is from one facility per province only.

† Data for type of injury was not available from Quebec.

N/A: not available or not applicable.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 12: Place of Injury by Province/Territory, 2008–2009

		Province/Territory											
		B.C.	Alta.	Sask.	Man.*	Ont.	Que.†	N.B.*	N.S.	P.E.I.	N.L.	Terr.	Total
Home	Number	616	535	N/A	74	1,181	N/A	21	175	N/A	0	N/A	2,602
	Percentage	25.2	20.7	N/A	22.6	27.5	N/A	21.0	33.0	N/A	N/A	N/A	18.5
Industrial	Number	79	83	N/A	15	121	N/A	5	7	N/A	0	N/A	310
	Percentage	3.2	3.2	N/A	4.6	2.8	N/A	5.0	1.3	N/A	N/A	N/A	2.2
Sport/Recreational	Number	48	81	N/A	N/R	107	N/A	N/R	12	N/A	0	N/A	256
	Percentage	2.0	3.1	N/A	1.5	2.5	N/A	3.0	2.3	N/A	N/A	N/A	1.8
Street/Highway	Number	1,035	1,166	N/A	125	1,739	N/A	38	189	N/A	43	N/A	4,335
	Percentage	42.3	45.1	N/A	38.2	40.5	N/A	38.0	35.6	N/A	46.7	N/A	30.8
Other	Number	659	719	N/A	108	1,144	N/A	32	148	N/A	49	N/A	2,859
	Percentage	26.9	27.8	N/A	33.0	26.6	N/A	32.0	27.9	N/A	53.3	N/A	20.3

Notes

* Data for New Brunswick and Manitoba is from one facility per province only.

† Data for place of injury was not available from Quebec.

N/A: not applicable or not available.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Place of injury is documented for all cases using ICD categories.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 13: External Cause of Injury by Province/Territory, 2008–2009

Province/Territory														
		B.C.	Alta.	Sask.	Man. [†]	Ont.	Que.	N.B. [†]	N.S.	P.E.I.	N.L.	Terr.	Total	
Falls	Survivors	Number	756	662	N/A	87	1,457	1,386	17	187	N/A	20	N/A	4,572
		Percentage	30.9	25.6	N/A	26.6	33.9	37.5	17.0	35.2	N/A	21.7	N/A	32.5
	Deaths	Number	137	115	N/A	11	251	207	8	41	N/A	6	N/A	776
		Percentage	5.6	4.5	N/A	3.4	5.8	5.6	8.0	7.7	N/A	6.5	N/A	5.5
Motor Vehicle Collisions	All	Number	893	777	N/A	98	1,708	1,593	25	228	N/A	26	N/A	5,348
		Percentage	36.5	30.1	N/A	30.0	39.8	43.1	25.0	42.9	N/A	28.3	N/A	38.0
	Survivors	Number	897	1,052	N/A	128	1,488	1,439	46	183	N/A	44	N/A	5,277
		Percentage	36.7	40.7	N/A	39.1	34.7	39.0	46.0	34.5	N/A	47.8	N/A	37.5
	Deaths	Number	66	111	N/A	10	185	120	5	16	N/A	7	N/A	520
		Percentage	2.7	4.3	N/A	3.1	4.3	3.3	5.0	3.0	N/A	7.6	N/A	3.7
	All	Number	963	1,163	N/A	138	1,673	1,559	51	199	N/A	51	N/A	5,797
		Percentage	39.4	45.0	N/A	42.2	39.0	42.2	51.0	37.5	N/A	55.4	N/A	41.2
Other Causes of Blunt Injuries	Survivors	Number	234	314	N/A	39	322	238	10	33	N/A	9	N/A	1,199
		Percentage	9.6	12.2	N/A	11.9	7.5	6.4	10.0	6.2	N/A	9.8	N/A	8.5
	Deaths	Number	13	11	N/A	N/R	20	14	N/R	N/R	N/A	0	N/A	64
		Percentage	0.5	0.4	N/A	—	0.5	0.4	—	—	N/A	0	N/A	0.5
	All	Number	247	325	N/A	39*	342	252	10*	33*	N/A	9	N/A	1,263
		Percentage	10.1	12.6	N/A	11.9*	8.0	6.8	10.0*	6.2*	N/A	9.8	N/A	9.0
	Survivors	Number	95	52	N/A	6	94	87	0	8	N/A	N/R	N/A	342*
		Percentage	3.9	2.0	N/A	1.8	2.2	2.4	N/A	1.5	N/A	—	N/A	2.4*
Other Cyclist, Pedestrian or Land Transport Incidents	Deaths	Number	N/R	N/R	N/A	0	6	9	0	0	N/A	0	N/A	22
		Percentage	—	—	N/A	0	0.1	0.2	0	0	N/A	0	N/A	0.2
	All	Number	95*	52*	N/A	6	100	96	0	8	N/A	N/R	N/A	364*
		Percentage	3.9*	2.0*	N/A	1.8	2.3	2.6	N/A	1.5	N/A	—	N/A	2.6*

Data Table 13: External Cause of Injury by Province/Territory, 2008–2009 (cont'd)

		Province/Territory												
		B.C.	Alta.	Sask.	Man. [†]	Ont.	Que.	N.B. [†]	N.S.	P.E.I.	N.L.	Terr.	Total	
Gunshot Wounds	Survivors	Number	34	42	N/A	6	63	24	N/R	11	N/A	0	N/A	180*
		Percentage	1.4	1.6	N/A	1.8	1.5	0.7	—	2.1	N/A	0	N/A	1.3*
	Deaths	Number	13	12	N/A	1	19	16	0	N/R	N/A	0	N/A	64
		Percentage	0.5	0.5	N/A	0.3	0.4	0.4	0	—	N/A	0	N/A	0.5
	All	Number	47	54	N/A	7	82	40	N/R	11*	N/A	0	N/A	244*
Stab Wounds		Percentage	1.9	2.1	N/A	2.1	1.9	1.1	—	2.1*	N/A	0	N/A	1.7*
	Survivors	Number	71	78	N/A	9	127	52	N/R	5	N/A	0	N/A	342*
		Percentage	2.9	3.0	N/A	2.8	3.0	1.4	—	0.9	N/A	0	N/A	2.4*
	Deaths	Number	5	14	N/A	N/A	15	N/R	0	N/A	N/A	0	N/A	36
		Percentage	0.2	0.5	N/A	N/A	0.3	—	0	N/A	N/A	0	N/A	0.3
All Other		Number	76	92	N/A	9	142	52*	N/R	5	N/A	0	N/A	378*
		Percentage	3.1	3.6	N/A	2.8	3.3	1.4*	—	0.9	N/A	0	N/A	2.7*
	Survivors	Number	99	94	N/A	21	202	86	5	33	N/A	N/R	N/A	540*
		Percentage	4.0	3.6	N/A	6.4	4.7	2.3	5.0	6.2	N/A	—	N/A	3.8*
	Deaths	Number	23	23	N/A	7	44	12	N/R	9	N/A	N/R	N/A	123
All		Percentage	0.9	0.9	N/A	2.1	1.0	0.3	2.0	1.7	N/A	—	N/A	0.9
		Number	122	117	N/A	28	246	98	5*	42	N/A	N/R	N/A	663*
		Percentage	5.0	4.5	N/A	8.6	5.7	2.7	5.0*	7.9	N/A	—	N/A	4.7*

Notes

* Totals excluding suppressed cells.

† Data for New Brunswick and Manitoba is from one facility per province only.

N/A: not applicable.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 14: Participating Hospital Care by Province/Territory, 2008–2009

	Province/Territory											Total
	B.C.	Alta.	Sask.	Man.*	Ont.	Que.	N.B.*	N.S.	P.E.I.	N.L.	Terr.	
Length of Hospital Stay (Days)	All Cases—Mean	15.0	15.2	N/A	16.5	15.0	15.3	27.7	21.0	N/A	21.7	15.5
	All Cases—SD	26.4	26.5	N/A	34.3	23.1	20.0	86.5	62.9	N/A	27.3	27.4
	All Cases—Median	8.0	7.0	N/A	7.0	8.0	9.0	12.5	8.5	N/A	10.5	8.0
	Survivors—Mean	15.6	15.4	N/A	17.2	15.7	15.9	18.1	22.2	N/A	25.0	16.0
	Deaths—Mean	8.5	13.3	N/A	9.5	9.4	9.3	74.3	10.1	N/A	5.8	10.7
	Survivors—SD	27.2	25.1	N/A	35.6	23.5	20.0	16.2	66.1	N/A	28.7	26.8
	Deaths—SD	13.8	38.5	N/A	17.2	18.1	18.7	205.2	15.6	N/A	8.7	32.6
	Survivors—Median	8.0	7.0	N/A	7.0	8.0	9.0	13.0	9.0	N/A	12.5	8.0
	Deaths—Median	3.0	3.0	N/A	4.0	3.0	3.0	5.0	4.0	N/A	1.5	3.0
	Number	721	786	N/A	92	1,357	934	45	141	N/A	47	4,123
Cases With Ventilation Days	Percentage	29.5	30.4	N/A	28.1	31.6	25.3	45.0	26.6	N/A	51.1	29.3
	Mean	6.9	6.6	N/A	6.6	5.9	7.5	23.5	6.1	N/A	8.4	6.8
	SD	14.3	12.3	N/A	14.2	9.9	29.5	117.0	8.0	N/A	9.6	21.2
	Median	3.0	3.0	N/A	2.0	2.0	2.0	5.0	2.0	N/A	6.0	3.0

Notes

* Data for New Brunswick and Manitoba is from one facility per province only.

SD: standard deviation.

N/A: not applicable.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 15: Total Injuries and Deaths by External Causes of Injury and Sex, 2008–2009

		Female				Male				Total			
		Injuries		Deaths		Injuries		Deaths		Injuries		Deaths	
		Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Total		4,051	100	507	100	10,014	100	1,098	100	14,065	100	1,605	100
Motor Vehicle Non-Traffic	Driver	74	1.8	N/R	—	520	5.2	19	1.7	594	4.2	19*	1.2*
	Passenger	59	1.5	N/R	—	43	0.4	N/R	—	102	0.7	7	0.4
	Pedestrian	24	0.6	N/R	—	40	0.4	N/R	—	64	0.5	N/R	—
	Motorcycle Driver	6	0.1	N/R	—	65	0.6	N/R	—	71	0.5	N/R	—
	Motorcycle Passenger	N/R	—	0	0	N/R	—	0	0	N/R	—	0	0
	Pedal Cyclist	N/R	—	0	0	N/R	—	0	0	N/R	—	0	0
	Other/Unspecified	9	0.2	N/R	—	44	0.4	N/R	—	53	0.4	N/R	—
	Subtotal	173	4.3	9	1.8	716	7.1	29	2.6	889	6.3	38	2.4
Motor Vehicle Traffic	Driver	570	14.1	47	9.3	1,486	14.8	143	13	2,056	14.6	190	11.8
	Passenger	522	12.9	42	8.3	510	5.1	30	2.7	1,032	7.3	72	4.5
	Pedestrian	322	7.9	60	11.8	424	4.2	70	6.4	746	5.3	130	8.1
	Motorcycle Driver	55	1.4	N/R	—	560	5.6	53	4.8	615	4.4	53*	3.3*
	Motorcycle Passenger	52	1.3	N/R	—	12	0.1	N/R	—	64	0.5	N/R	—
	Pedal Cyclist	34	0.8	N/R	—	165	1.6	15	1.4	199	1.4	15*	0.9*
	Other/Unspecified	34	0.8	N/R	—	84	0.8	11	1	118	0.8	11*	0.7*
	Subtotal	1,589	39.2	157	31	3,241	32.4	322	29.3	4,830	34.3	479	29.8
Motor Vehicle Boarding or Alighting		20	0.5	0	0	30	0.3	N/R	—	50	0.4	N/R	—

Data Table 15: Total Injuries and Deaths by External Causes of Injury and Sex, 2008–2009 (cont'd)

	Female						Male						Total					
	Injuries			Deaths			Injuries			Deaths			Injuries			Deaths		
	Number	Per-centage	Number	Per-centage	Number	Per-centage	Number	Per-centage	Number	Per-centage	Number	Per-centage	Number	Per-centage	Number	Per-centage	Number	Per-centage
Other Road Vehicle																		
Other/Unspecified	N/R	—	0	0	0	0	N/R	—	0	0	0	0	N/R	—	0	0	0	0
Animal Rider/	60	1.5	N/R	—			39	0.4	N/R	—			99	0.7	N/R	—		—
Occupant of																		
Animal-Drawn																		
Vehicle																		
Occupant of	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Streetcar																		
Pedal Cyclist	43	1.1	0	0	0	0	280	2.8	14	1.3	14	1.3	323	2.3	14	0.9	14	0.9
Pedestrian	10	0.2	N/R	—			9	0.1	N/R	—			19	0.1	N/R	—		—
Subtotal	114	2.8	N/R	—			330	3.3	17	1.5	17	1.5	444	3.2	17*	1.1*	17*	1.1*
Air and Space Transport																		
Assault and Injury Purposely	N/R	—	0	0	0	0	31	0.3	N/R	—			32	0.2	N/R	—		—
Inflicted (Excluding Poisoning)	105	2.6	9	1.8			1,112	11.1	98	8.9	98	8.9	1,217	8.7	107	6.7	107	6.7
Attempted Suicide and Self-Inflicted																		
Injury (Excluding Poisoning)	84	2.1	17	3.4			201	2	53	4.8	53	4.8	285	2	70	4.4	70	4.4
Burns	51	1.2	12	2.4			101	1	27	2.5	27	2.5	152	1	39	2.4	39	2.4
Caught, Crushed, Jammed or	5	0.1	0	0	0	0	45	0.4	5	0.5	5	0.5	50	0.4	5	0.3	5	0.3
Pinched in or Between Objects																		
Cutting and Piercing	N/R	—	0	0	0	0	16	0.2	0	0	0	0	16*	0.1*	0	0	0	0
Drowning	N/R	—	N/R	—			11	0.1	8	0.7	8	0.7	13	0.1	10	0.6	10	0.6
Foreign Bodies (Excluding																		
Choking)	N/R	—	0	0	0	0	6	0.1	0	0	0	0	6	0.1	0	0	0	0
Legal Intervention	0	0	N/R	—			15	0.1	N/R	—			15	0.1	N/R	—		—
Machinery-Related Injuries	N/R	—	0	0	0	0	46	0.5	N/R	—			46*	0.4*	N/R	—		—
Natural and Environmental Factors	20	0.5	0	0	0	0	46	0.5	5	0.5	5	0.5	66	0.5	5	0.3	5	0.3
Operations of War	0	0	0	0	0	0	6	0.1	N/R	—			6	0	N/R	—		—

Data Table 15: Total Injuries and Deaths by External Causes of Injury and Sex, 2008–2009 (cont'd)

	Female						Male						Total					
	Injuries			Deaths			Injuries			Deaths			Injuries			Deaths		
	Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage		Number	Percentage	
Railway																		
Other	0	0		0	0		0	0		0	0		0	0		0	0	
Occupant	N/R	—		N/R	—		N/R	—		0	0		N/R	—		N/R	—	
Pedal Cyclist	N/R	—		N/R	—		N/R	—		0	0		N/R	—		N/R	—	
Pedestrian	N/R	—		N/R	—		13	0.1		N/R	—		13*	0.1		N/R	—	
Subtotal	6	0.1		N/R	—		18	0.2		2	0.2		24	0.2		6	0.4	
Struck by or Against Objects and Persons	75	1.9		N/R	—		352	3.5		23	2.1		427	3		23*	1.4*	
Suffocation	0	0		0	0		N/R	—		N/R	—		N/R	—		N/R	—	
Unintentional Falls	1,752	43.2		285	56.2		3,481	34.8		476	43.4		5,233	37.2		761	47.4	
Unintentional Firearm Injuries	0	0		0	0		16	0.2		N/R	—		16	0.1		N/R	—	
Water Transport	9	0.2		N/R	—		43	0.4		N/R	—		52	0.4		N/R	—	
Other/Unspecified	39	1.1		7	1.4		148	1.5		16	1.4		187	1.3		23	1.5	

Notes

* Totals excluding suppressed cells.

N/R: not reportable—cells are suppressed to avoid residual disclosure of cell sizes smaller than 5.

Cases involving motor vehicle collisions and either assault/injury purposely inflicted or attempted suicide/self-inflicted injury are categorized as motor vehicle collisions in figures 1 to 11, 20, 24 and 27 and in tables 1 and 13.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

Data Table 16: Injury Case Summary by External Cause of Injury and Sex, 2008–2009

		Female						Male						Total															
		Mean			Median			SD			Mean			Median			SD			Mean			Median			SD			
		Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS
Total			53	23	16.5	9	23.9	45.7	23.4	15.1	7	28.7	47.8	23.3	15.5	8	27.4												
Motor Vehicle Non-Traffic	Driver	31.1	23.8	9.4	6.5	8.5	37.7	22.5	12	6	18.1	36.9	22.6	11.6	6	17.2													
	Passenger	30.3	21.3	14.7	8	25.3	32.3	21.1	10.6	6	13.4	31.1	21.2	13	6.5	21													
	Pedestrian	51.7	24.3	12.8	10	10.7	40.4	24.3	11.6	9	12.1	44.6	24.3	12	9	11.5													
	Motorcycle Driver	31.3	20.2	8.5	9	4.9	32.9	21.9	7.6	5	7.3	32.8	21.8	7.7	5	7.1													
	Motorcycle Passenger	49	35	50	50	0	15	17	1	1	0	32	26	25.5	25.5	34.6													
	Pedal Cyclist	0	0	0	0	0	8	21.7	7.7	8	2.5	8	21.7	7.7	8	2.5													
	Other/Unspecified	37.4	20	13.6	9.5	13	36.3	20.5	11.2	6	12.8	36.5	20.4	11.6	7	12.8													
Motor Vehicle Traffic	Subtotal	34.1	22.8	12.1	8	16.8	36.8	22.3	11.4	6	16.5	36.3	22.4	11.5	6	16.6													
	Driver	42.8	25.3	16.2	10	20.7	40.9	26.2	17.8	9	38.4	41.4	25.9	17.4	10	34.4													
	Passenger	38.8	25.8	15.9	11	17.1	29.2	26.3	15.3	9	21.6	34	26.1	15.6	10	19.5													
	Pedestrian	49.9	27.5	18.9	10.5	29.2	42.4	27.1	18.3	10	22.6	45.6	27.2	18.5	10	25.6													
	Motorcycle Driver	43.5	23.2	12	9	12.9	42.5	25.6	14.5	9	24.1	42.6	25.3	14.3	9	23.3													
	Motorcycle Passenger	44.7	24.4	14.6	11	12.2	26.9	24.9	26.9	16	29.6	41.4	24.5	16.9	11.5	17.2													
	Pedal Cyclist	35.6	24.5	11.6	6	13.3	38.9	26	13.9	7.5	18.2	38.4	25.7	13.5	7	17.5													
Motor Vehicle Boarding or Alighting	Other/Unspecified	38.5	32	23.1	10	28.6	39.5	24.8	12.1	5	19	39.2	26.8	15.3	7	22.6													
	Subtotal	42.8	25.9	16.5	10	21.3	39.4	26.2	16.6	9	30.8	40.5	26.1	16.6	9	28													
		42.3	22.1	14.1	14	11.5	46.4	24.5	20.4	8	43.4	44.7	23.5	17.9	9.5	34.4													

Data Table 16: Injury Case Summary by External Cause of Injury and Sex, 2008–2009 (cont'd)

	Female						Male						Total					
	Mean			Median			Mean			Median			Mean			Median		
	Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS	LOS	SD
Other Road Vehicle	Other/Unspecified	72	16	7	7	0	33.5	19.5	5	5	2.8	46.3	18.3	5.7	7	2.3		
	Animal Rider/ Occupant of Animal-Drawn Vehicle	39.4	20	8.9	6.5	8.9	51.8	20	7.3	5	6.3	44.3	20	8.3	6	8		
	Occupant of Streetcar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pedal Cyclist	42.5	20.4	10	6	11.3	38.6	21.7	8.4	5	11.3	39.1	21.5	8.7	5	11.3		
	Pedestrian	52.2	25.4	12.3	8	13.8	50.2	30.1	15.6	5	24.9	51.3	27.6	13.8	6	19.3		
Air and Space Transport	Subtotal	42	20.6	9.6	6	10.2	40.4	21.7	8.5	5	11.4	40.8	21.4	8.8	5	11.1		
		63	34	16	16	0	42.8	23.9	13.9	13	9.4	43.4	24.2	14	14	9.3		
	Assault and Injury Purposely Inflicted (Excluding Poisoning)	29.5	22.2	16	7	23.4	31.7	21.4	10.9	6	19.5	31.5	21.5	11.4	6	19.9		
	Attempted Suicide and Self-Inflicted Injury (Excluding Poisoning)	40.6	25.9	34.9	17	44.8	40.2	25.6	26.7	14	36	40.3	25.7	29.1	15	38.8		
	Burns	33.5	21.4	25.3	18	29.1	42.7	27.2	26.0	17	30.5	39.6	25.2	25.8	17	29.9		
Caught, Crushed, Jammed or Pinched in or Between Objects		41.2	34.6	52.4	28	65	42.8	22.8	10.3	7	12.3	42.7	23.9	14.6	8	25.6		
	Cutting and Piercing	5	17	24	24	0	40.9	17.8	6	5.5	4	38.8	17.8	7.1	6	5.8		
	Drowning	10	20.5	1	1	0	23.6	22.5	13.6	2.5	19.8	21.5	22.2	12.5	1	19.2		
	Foreign Bodies (Excluding Choking)	40	15	21	21	9.9	38.2	21.7	13.8	7.5	16.6	38.6	20	15.6	10.5	14.9		
	Legal Intervention	0	0	0	0	0	30.6	22.1	12.7	12	11.2	30.6	22.1	12.7	12	11.2		
Machinery-Related Injuries		51.3	22.3	21	10	24.4	49.7	20.1	17.3	7	23.9	49.8	20.2	17.5	7.5	23.7		
	Natural and Environmental Factors	39.7	21.9	11.2	6.5	9.8	43.6	23.3	11.9	7	15.4	42.4	22.9	11.7	7	13.8		
	Operations of War	0	0	0	0	0	29	21.8	14.2	7.5	15.3	29	21.8	14.2	7.5	15.3		
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Occupant	18	59	1	1	0	42.5	18.5	48.5	48.5	30.4	34.3	32	32.7	27	34.8		
Railway	Pedal Cyclist	10	29	1	1	0	39	38	5	1	6.9	31.8	35.8	4	1	6		
	Pedestrian	31.8	38.5	8	6.5	8.4	42.1	30.4	14.3	12	12.2	39.5	32.3	12.8	11.5	11.5		
	Subtotal	25.8	40.3	5.7	1	7.5	41.6	30.3	16.7	13	18	37.5	32.8	13.8	11	16.5		

Data Table 16: Injury Case Summary by External Cause of Injury and Sex, 2008–2009 (cont'd)

	Female						Male						Total					
	Mean			Median			Mean			Median			Mean			Median		
	Age	ISS	LOS	LOS	LOS	SD	Age	ISS	LOS	LOS	SD	Age	ISS	LOS	LOS	SD	Age	LOS
Struck by or Against Objects and Persons	33.6	19.6	10.2	5	12.2		38	21.3	10.4	6	15.9	37.2	21	10.3	6	15.3		
Suffocation	0	0	0	0	0		37.2	25.3	2	2	1.4	37.2	25.3	2	2	1.4		
Unintentional Falls	68.8	20.6	16.9	9	26		59.9	21.8	15.7	7	30	62.9	21.4	16.1	8	28.7		
Unintentional Firearm Injuries	0	0	0	0	0		32.4	23.9	17.5	9.5	25.1	32.4	23.9	17.5	9.5	25.1		
Water Transport	43.8	20.8	12.9	9	12		39.3	21.7	11.6	7	11.9	40.1	21.5	11.8	7	11.8		
Other/Unspecified	51.6	22.6	8.5	6	8.6		47.3	23.0	25.0	9	69.4	48.2	22.9	21.5	8	62.1		

Notes

SD: standard deviation.

ISS: Injury Severity Score.

LOS: length of stay.

Cases involving motor vehicle collisions and either assault/injury purposely inflicted or attempted suicide/self-inflicted injury are categorized as motor vehicle collisions in figures 1 to 11, 20, 24 and 27 and in tables 1 and 13.

Source

National Trauma Registry Comprehensive Data Set, 2008–2009, Canadian Institute for Health Information.

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