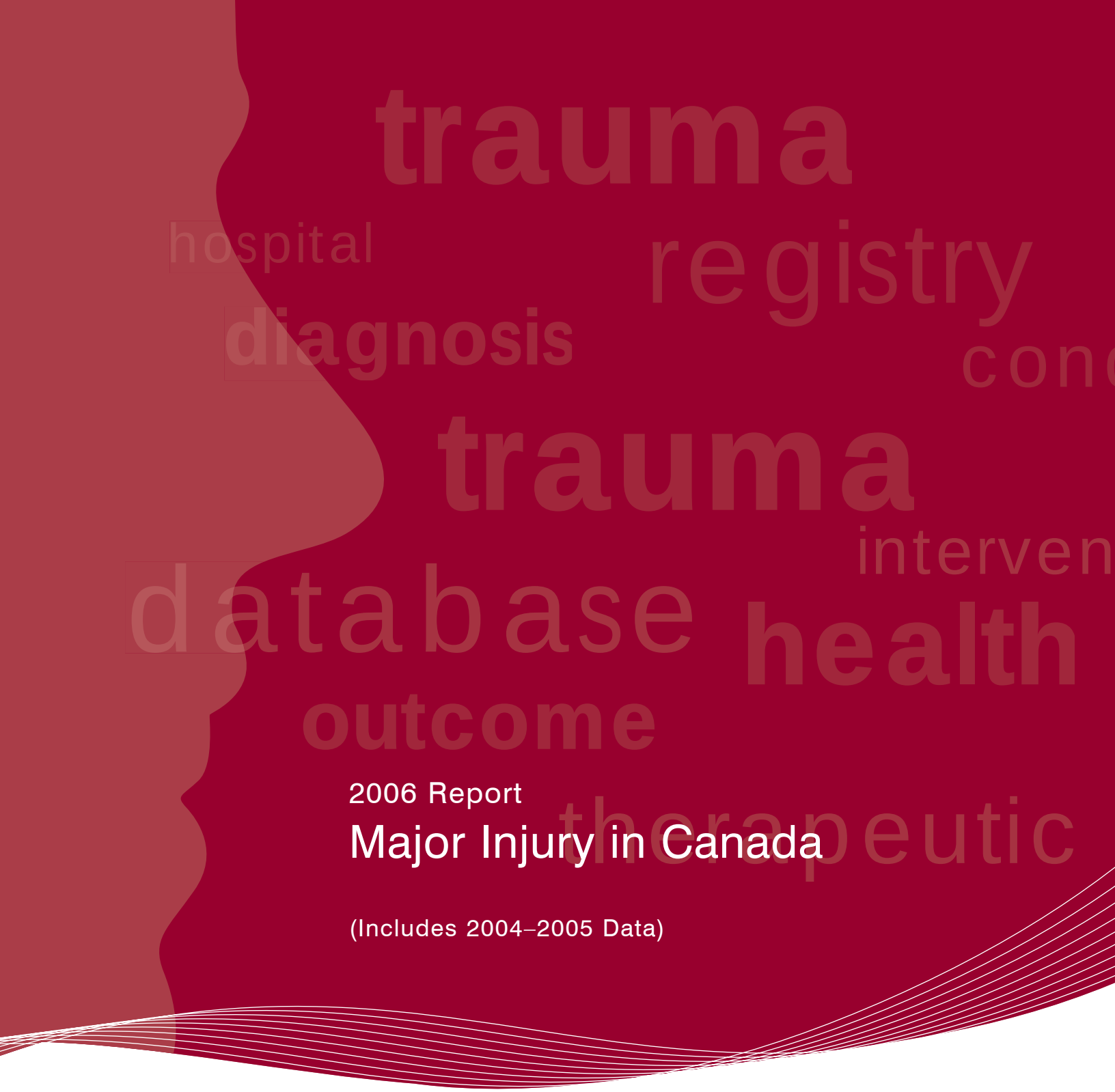

2006 Report

Major Injury in Canada

(Includes 2004–2005 Data)

National Trauma Registry

Canadian Institute for Health Information
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Executive Summary

Introduction

The purpose of the 2006 National Trauma Registry Major Injury in Canada report is to provide descriptive analyses of patients hospitalized with major trauma in participating facilities in Canada for the 2004–2005 fiscal year (April 1, 2004 to March 31, 2005). 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. Data for the 2004–2005 NTR CDS were obtained from 46 participating facilities in eight provinces (British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, and Newfoundland and Labrador). It is estimated that over 90% of all major trauma cases are captured in the NTR CDS.

Trauma cases were selected based on an Injury Severity Score (ISS) > 12 and the presence of specific External Cause of Injury codes that meet the definition of trauma. Examples of causes of injury that are excluded from this definition are poisonings by drugs and gases, adverse effects of drugs, medicinal and biological substances, and late effects. 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 (not admitted); or
- died in the Emergency Department of a participating hospital after treatment was initiated (not admitted).

2004–2005 Highlights

In 2004–2005, there were 11,112 major injury cases with an ISS > 12 in the NTR CDS. These injury cases accounted for 172,790 hospital days in participating facilities, with an average length of stay (LOS) of 16 days (median = 9).

Most of these major injury patients were males (72%). The mean age for all cases was 44 years (median = 42). Among all cases, the average ISS was 24 (median = 22). The most common type of injury was an internal organ injury (76%), followed by musculoskeletal (74%) and superficial (33%) injuries. Most cases had a blunt injury (94%), 4.5% had a penetrating injury, and 2% had a burn injury.

Of the 11,112 major injury cases, 13% died, either in the Emergency Department (n = 339) or after admission to hospital (n = 1,089).

Causes of Injury

Overall

The leading causes of injury among all major injury cases in the 2004–2005 NTR CDS were motor vehicle collisions, which were responsible for almost half of the cases (45%, n = 4,955), followed by unintentional falls (32%, n = 3,561). Homicide and injury purposely inflicted (excluding poisoning) was the third leading cause (9%, n = 1,032), followed by the "Other Incidents" category (5%, n = 585). Top causes in this latter category were being unintentionally struck by or against an object or person (n = 329), and incidents caused by machinery (n = 78).

By Age Group

When cause of major injury hospitalization was analyzed by various age groups (<20, 20–34, 35–64, 65+ years), some differences were evident, particularly among those 65 years of age and over. Motor vehicle collisions were the leading cause of injury for all age groups except among seniors (65 years and older). In this group, unintentional falls (67%, n = 1,713), followed by motor vehicle collisions (24%, n = 620) were the leading causes of major injury. Homicide and injury purposely inflicted by another person was among the top five leading causes in all age groups under the age of 65 years. However, it did not appear among the top five causes of injury among those 65 years of age and over.

Motor Vehicle Collisions

Nearly half (45%, n = 4,955) of all major injury hospitalizations were due to motor vehicle collisions. Over one-half of the injured persons in motor vehicle collision injury cases were drivers (57%, n = 2,826), and nearly one-quarter (22%, n = 1,014) were passengers. Fifteen percent (n = 738) were pedestrians. Eleven percent (n = 548) were motorcycle drivers or passengers. Three percent (n = 167) were pedal cyclists.

Unintentional Falls

Thirty percent (n = 3,561) of all major injury hospitalizations were due to unintentional falls. Overall, the most common specified types of falls were falls on the same level from slipping, tripping, or stumbling (22%, n = 784) and falls on or from stairs/steps (19%, n = 677). The most common types of falls among those under 20 years of age were falls from one level to another (30%, n = 92), including falls from playground equipment. Among those 20 to 34 years of age, falling from buildings and other structures was the most common type of fall (28%, n = 83). The most frequently reported fall among those 35 to 64 years were falls on or from stairs and steps (22%, n = 274). Among those 65 years and over, falls on the same level from slipping, tripping and stumbling were the most common types (29%, n = 505).

Context of Injury

Nearly one-half (46%, n = 5,065) of the major injury cases were reported to have occurred on the street or highway, 23% (n = 2,554) at home, 5% (n = 578) in a recreational or sport setting, 3% (n = 319) in an industrial setting, and 23% (n = 2,557) in other settings. Less than one percent (0.4%, n = 39) of cases were missing place of occurrence information.

Overall, 9.5% (n = 1,055) of major injury cases were reported to be sports/recreationally related. The proportion of sports and recreational injury cases in participating provinces ranged from 6% in New Brunswick to 14% in British Columbia. Sports/recreation related injury information was not available from Quebec.

Seven percent (n = 741) of all injury cases were reported to be work-related. The proportion of work-related injury cases by participating province ranged from 5% in New Brunswick and Nova Scotia to 9% in Alberta.

Nine percent (n = 1,040) of all major injury cases were documented to have a positive blood alcohol concentration (BAC) (BAC≥17.4 mmol/L, equivalent to 80 mg/100mL, which corresponds to the legal limit for driving) and 15% (n=1,713) had a recorded BAC of greater than zero. The proportion of positive BAC injury cases by participating province ranged from 11% in British Columbia to 18% in New Brunswick. BAC information was provided for Quebec, but lacked the specificity required to determine if the concentration was over 17.4 mmol/L.

Clinical Aspects of Injury

Deaths

Thirteen percent (n = 1,428) of the 11,112 major injury cases died either in the Emergency Department or in hospital. The three leading causes of major injury in hospital deaths were motor vehicle collisions (39%, n = 559), followed by unintentional falls (37%, n = 528), and homicide and injury purposely inflicted by another person (excluding poisoning) (9%, n = 131).

Discharge Disposition

The vast majority of cases were discharged alive (87%, n = 9,684), and of these 58% (n = 5,702) were discharged home, including 1,007 who were sent home with support services. Eighteen percent (n = 1,747) were discharged to a rehabilitation facility. The remaining cases were discharged to another acute care facility (16%, n = 1,524) or other types of facilities (7%, n = 707).

Injury Severity Score (ISS)

The overall mean ISS was 24. The mean ISS of patients who died was 33, compared to a mean ISS of 23 for survivors. The mean ISS was higher among cases in the 20 to 34 year old age group (ISS = 25) compared to the others (ISS = 24 for those under 20 years and those aged 35 to 64 years, ISS = 23 for 65 years and over). Motor vehicle collision injury cases had the highest mean ISS (ISS = 26) followed by intentional injury cases (i.e. homicide and suicide) (ISS = 23) and unintentional fall cases (ISS = 22). All other causes combined had a mean ISS of 22. Note that only cases with ISS>12 are included in this report.

Length of Stay (LOS)

The overall mean LOS was 16 days. The mean LOS among survivors was 17 days, compared to a mean LOS of 9 days for patients who died in hospital. Mean LOS appeared to increase with increasing age. Cases 65 years of age and over had a mean LOS of 18 days, whereas cases under 20 years had a mean LOS of 12 days. Motor vehicle collision cases had the highest mean LOS (LOS = 17) followed by intentional injury cases (homicide and suicide) (LOS = 16) and unintentional falls (LOS = 15).

Electronic copies of the 2006 National Trauma Registry Major Injury in Canada *report 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 ntr@cihi.ca.*

About the Canadian Institute for Health Information (CIHI)

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.

The Institute'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.

The Institute'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 analysis 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 wellbeing of Canadians, and can represent a significant burden in terms of mortality and morbidity on individuals, as well as 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. Over the last 5 years, there were an average of 196,238 admissions to Canadian hospitals each year due to traumatic injury. The mean length of stay of these admissions has averaged approximately 10 days, resulting in almost 2 million patient hospital days per year (Mean number of annual patient days in the last 5 years was 1,925,330).[i]

Trauma is increasingly recognized as a national and global public health concern. Injuries are considered one of the most preventable of major health problems and it has been estimated that 90% of injuries are preventable.[ii] Trauma has been referred to as the "invisible epidemic' and has been found to be the leading cause of death in Canada among those under the age of 45 years.[i, ii.] Injuries can be a cause of long-term disability and the more serious the injury the greater the likelihood of resulting personal and social impact.

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 (ex. home safety, helmet use, sports and recreation). Interventions, programs and policies that are targeted towards the prevention of 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 at the Canadian Institute for Health Information play an important role in the provision of such information by disseminating accurate and comprehensive information and analyses on all admissions to Canadian hospitals due to injury, as well as providing more in-depth information on the subset of patients with what are defined as major injuries. As such the National Trauma Registries act as essential tools to protect and promote the health of the Canadian public.

A. 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 the 2004–2005 fiscal year. The data source for this report is the National Trauma Registry Comprehensive Data Set (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) > 12 and the presence of specific External Cause of Injury codes that meet the definition of trauma (see Appendix B).

i. National Trauma Registry, Minimal Data Set; Canadian Institute for Health Information; Fiscal Year 1999 to 2003 data.
ii. SMARTRISK. How to Host HEROES Guide. SMARTRISK; Toronto, Ontario, 1996.

B. About the National Trauma Registry

i. 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 which will allow 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.

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

The NTR Advisory Committee (NTRAC) is chaired by Dr. Mary vanWijngaarden-Stephens. 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.

ii. 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 Hospital Medical Records Institute (HMRI), one of CIHI's founding organizations.

iii. Structure

The National Trauma Registry is comprised of 3 datasets:

1. The **Minimal Data Set (MDS)** contains demographic, diagnostic and procedural information about hospitalizations due to trauma from all acute care hospitals in Canada. Hospitalization data are obtained from the Hospital Morbidity Database at CIHI. The source of data for the Hospital Morbidity Database is CIHI's Discharge Abstract Database (DAD) for all provinces with the exception of Manitoba and Quebec. For these latter provinces, data are submitted from the hospitals to CIHI via the provincial Ministries of Health. Selection of trauma cases is based on specific External Cause of Injury Codes within the International Classification of Disease coding system, 9th revision, (ICD-9) and the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Canada (ICD-10-CA). A list of the External Cause Codes that are included and excluded in the definition of trauma is located in Appendix B. Examples of External Cause Codes that are *not* included in this definition are poisonings by drugs or gases, suicide and self-inflicted injury using poisonings, adverse effects of drugs and medicines, misadventures, and complications.

2. The **Death Data Set (DDS**) is under development. The purpose of this data set will be to report nationally on all injury deaths regardless of hospitalization. The NTR DDS will be derived from a new national death set on all deaths and is being developed by CIHI, Statistics Canada, Public Health Agency of Canada and the Provincial/Territorial Coroners/Medical Examiners.

3. The **Comprehensive Data Set (CDS),** the data source for this report, is described in detail in the next chapter.

iv. Working Group

The NTR CDS Working Group provides advice and recommendations to the National Trauma Registry Advisory Committee (NTRAC) regarding issues relating to the NTR CDS dataset.

Provincial/Regional Representatives

Tanya Charyk-Stewart	London Health Sciences Centre, ON
Michael Hoppensack	Trauma Registry, Health Sciences Centre, MB
Josée Lalancette	Régie de l'assurance maladie du Québec, QC
Eileen MacGibbon	Atlantic Health Sciences Corporation, NB
Heather Oakley	Atlantic Health Sciences Corporation, NB
Beth Sealy	QEII Health Sciences Centre, NS
John Tallon	QEII Health Sciences Centre, NS
Irma Brown	Trauma Registry, University of Alberta Hospital, AB
Shirley Roche	Health Care Corporation of St. John's, NL

CIHI Staff

Ali Moses McKeag	Senior Analyst, Clinical Registries, CIHI, ON

2. Methodological Notes

A. Data Source

The NTR CDS consists of information on patients hospitalized with major trauma in participating hospitals in Canada. Many participating provinces use specialized trauma software (e.g. COLLECTOR from Digital Innovation and TRI-CODE from Tri-Analytics, Inc.) to collect the data on the injury cases. NTR CDS data are a subset of participating provincial trauma registries and are electronically submitted to CIHI.

B. Data Elements

Data elements collected in the NTR CDS are listed in Appendix A. Because other provincial registries may collect data differently from the NTR CDS, data elements have been mapped to a common definition when necessary. In some cases, complete data are not provided because they are not collected in a particular province or facility, or because of resource limitations on obtaining the information.

The number of data elements in the NTR CDS was expanded from 17 to 45 in 1999–2000 data, as approved by members of the NTR CDS Working Group and as part of CIHI's Roadmap initiative. Elements added include: sports/recreational injury code, work related code, protective device codes, Revised Trauma Score (RTS), vital statistics upon arrival at the trauma hospital, and Abbreviated Injury Scale (AIS) codes by body region.

C. Data Quality

CIHI performs various validity checks on the data submitted by the provinces, such as checking that the diagnosis codes are valid and for completeness of the data. If data do 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 E. Reporting Guidelines.

D. Inclusion/Exclusion Criteria

i. Definition of Trauma Case

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

- has an ISS > 12, which is based on an international scoring system created to calculate the severity of injury;
- has an International Classification of Disease External Cause of Injury Code that meets the definition of trauma (see Appendix B for more detail); and
- meets one of the following criteria:
  - admitted to a participating hospital; or
  - treated in the Emergency Department of a participating hospital (not admitted); or
  - died in the Emergency Department of a participating hospital after treatment is initiated (not admitted).

ii. Participating Facilities

The 2004–2005 NTR CDS is comprised of data from 46 facilities across eight provinces in Canada.

Table 1. Participating Facilities and Provinces, NTR CDS 2004–2005

Province	Name
British Columbia	Vancouver General Hospital
	Children's & Women's Health Centre of BC
	Royal Columbian Hospital
	St. Paul's Hospital
	Lions Gate Hospital
	Victoria General Hospital
	Prince George Regional Hospital
	Kelowna General Hospital
	Royal Inland Hospital
Alberta	Foothills Medical Centre
	Royal Alexandra Hospital
	Alberta Children's Hospital
	University of Alberta Hospital (includes Stollery Children's Hospital)
Manitoba	Health Sciences Centre
Ontario	Hamilton Health Sciences Corporation
	Hospital for Sick Children
	Hotel Dieu-Grace Hospital
	Kingston General Hospital
	London Health Sciences Centre
	Ottawa Hospital
	St. Michael's Hospital
	St. Joseph's Health Centre
	Sunnybrook and Women's College Health Science Centre
	Thunder Bay Regional Health Sciences Centre
	Children's Hospital of Eastern Ontario

Province	Name
Quebec	Hôpital Charles-Lemoyne
	Hôpital de Montréal pour enfants
	Hôpital du Sacré-Cœur de Montréal
	Hôpital Général de Montréal
	Hôpital Ste-Justine
	CHA Pavillon Enfant-Jésus
New Brunswick	Atlantic Health Sciences Corporation
Nova Scotia	IWK Health Centre
	Queen Elizabeth II Health Sciences Centre
	Aberdeen Hospital
	Cape Breton Health Care Complex
	Colchester Regional Hospital
	Health Services Association of the South Shore
	St. Martha's Regional Hospital
	Valley Regional Hospital
	Yarmouth Regional Hospital
	Cumberland Regional Health Care Centre
Newfoundland	Health Sciences Centre
	St. Clare's Mercy Hospital
	Dr. Charles A. Janeway Child Health Center

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. Table 2 lists participating provincial/regional trauma registries by fiscal year of data.

Table 2. Participating Provinces, NTR CDS 1996–1997 through 2004–2005

Year	Participating Provinces
1996–1997	BC, AB, ON, QC, NS, NL
1997–1998	BC, AB, ON, QC, NS, NL
1998–1999	BC, AB, ON, NS, NL
1999–2000	BC, AB, MB, ON, NS
2000–2001	BC, AB, MB, ON, QC, NB, NS
2001–2002	BC, AB, MB, ON, QC, NB, NS
2002–2003	BC, AB, MB, ON, QC, NB, NS
2003–2004	BC, AB, MB, ON, QC, NB, NS, NL
2004–2005	BC, AB, MB, ON, QC, NB, NS, NL

E. Reporting Guidelines

- This report provides data from 46 participating facilities across eight provinces, submitted and uploaded to the NTR CDS database as of September 28, 2006.
- Cases are included in this report based on fiscal year of discharge date from April 1, 2004–March 31, 2005.
- 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.
- Cause of injury reports are based on the first documented external cause code only, which is the primary cause of injury.
- Reporting of causes and nature of injury diagnoses is based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, 10th Revision, Canada (ICD-10-CA) and the Canadian Classification of Health Interventions (CCI).
- Diagnostic information from British Columbia, Nova Scotia, Ontario, New Brunswick, Newfoundland and Manitoba were coded to the International Classification of Diseases, 10th Revision, Canada (ICD-10-CA). Data from Quebec and Alberta were coded in International Classification of Diseases, 9th Revision, Canada, Clinical Modification (ICD-9-CM).
- In order to report on data coded in both the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) and the International Classification of Diseases, 10th Revision, Canada (ICD-10-CA), Injury Code Groupings were used (see Appendix D).
- Tables and Figures incorporate both ICD-9-CM and ICD-10-CA by utilizing Injury Code Groupings. Table 6, figure 16 and figure 18 reported on ICD-10-CA data only.
- Discharges rather than individuals are reported. Therefore, 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 is initiated at the hospital are not included, as this data is not available in the NTR CDS.
- Cases from Quebec may be under reported due to a minimum length of stay requirement in the Quebec Trauma Registry that differs from that used in the NTR CDS.
- For Quebec cases over age 85, only the median age of the age group was provided in lieu of the exact age.
- Cases from British Columbia do not have the injury diagnosis available.

- Number of cases with ventilation days in Table 1 may not match with previous reports as British Columbia is excluded from calculation in Fiscal Year 2003–2004 and 2004–2005 due to inconsistency in defining the data provided.
- Percentages may not add to 100% due to rounding.
- Reports on positive blood alcohol concentration, defined as greater than or eqial to 17.4 mmol/L (to reflect legal positive blood alcohol limit) as opposed to 17.0 mmol/L in previous years.

3. Overview

A. 2004–2005 Highlights

Highlight statistics from the 2004–2005 NTR CDS include:

- 11,112 major injury cases included with an Injury Severity Score (ISS) > 12;
- Mean Injury Severity Score (ISS) was 24 (median = 22);
- Mean Length of Stay (LOS) was 16 days (median = 9);
- 1,428 deaths, including 1,089 in hospital deaths and 339 Deaths in the Emergency Department (DIEs);
- 7,981 (72%) were males;
- Mean age for all cases was 44 years (median = 42);
- 4,399 (40%) cases were less than 35 years of age;
- 3,077 (28%) patients had ventilator days documented; the mean number of ventilator days was 7 days (median = 2);
- 1,040 (9%) had a positive Blood Alcohol Concentration (BAC≥17.4 mmol/L) documented;
- Most common type of injury was an internal organ injury (76%), followed by musculoskeletal (74%) and superficial (33%) injuries;
- 741 (7%) were documented as work-related;
- 1,055 (9%) injuries occurred while engaged in a sports and recreation-related activity; and
- 46% (n = 5,065) of injuries occurred on the street or highway, 23% (n = 2,554) occurred at home, 5% (n = 578) occurred in a recreational or sport setting, 3% (n = 319) occurred in an industrial setting, and 23% (n = 2,557) occurred in other settings. There were 39 cases missing place of occurrence information.

Annual highlight statistics from 2000–2001 to 2004–2005 are shown in Appendix F, Table 1. An analysis of trends over time is not presented due to the variation in provincial/regional trauma registry participation each year.

B. Demographic Analysis

Figure 1 shows major injury hospitalizations by age group. Cases 35 to 64 years of age accounted for the greatest proportion of cases (38%, n = 4,168), followed by the 20 to 34 year age group (23%, n = 2,603) and those aged 65 years and over (23%, n = 2,543). Cases under 20 years of age accounted for 16% (n = 1,796) of all injury hospitalizations.

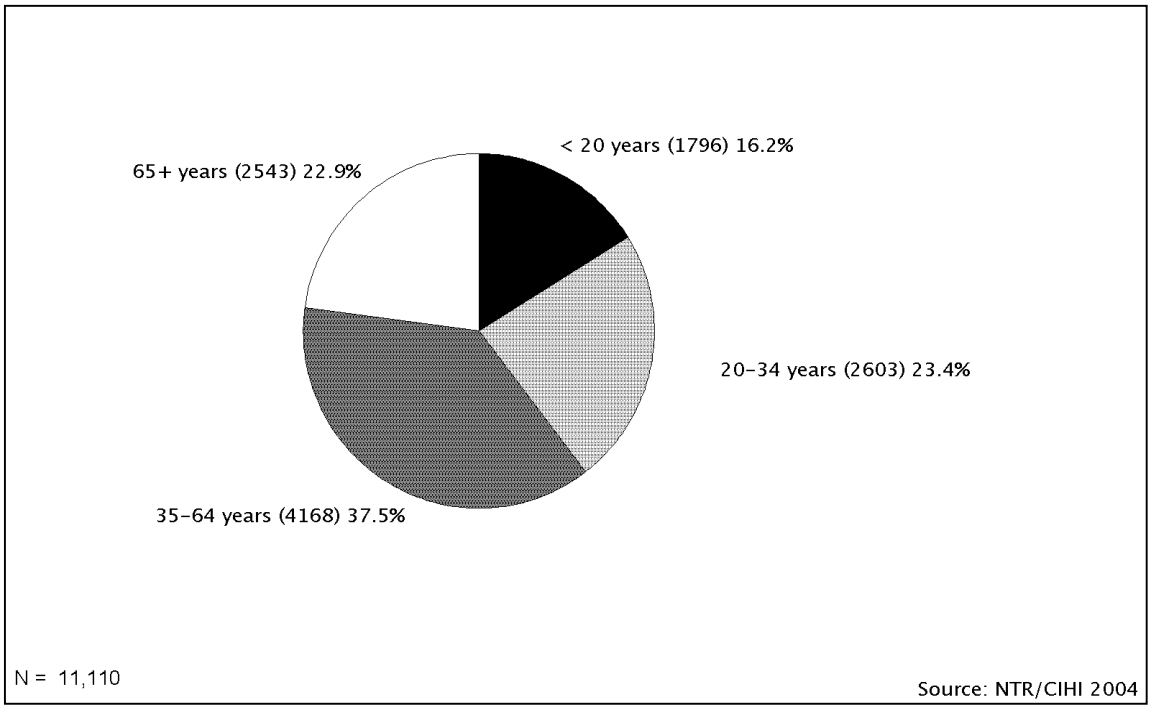

Figure 1. Major Injury Cases by Age Group, 2004–2005*

*Note: 2 cases with unknown age

Figure 2 shows that when analyzed by sex and single year of age, the highest numbers of cases were among females and males in their late teenage years. Males comprised 72% (n = 7,981) of all major injury cases.

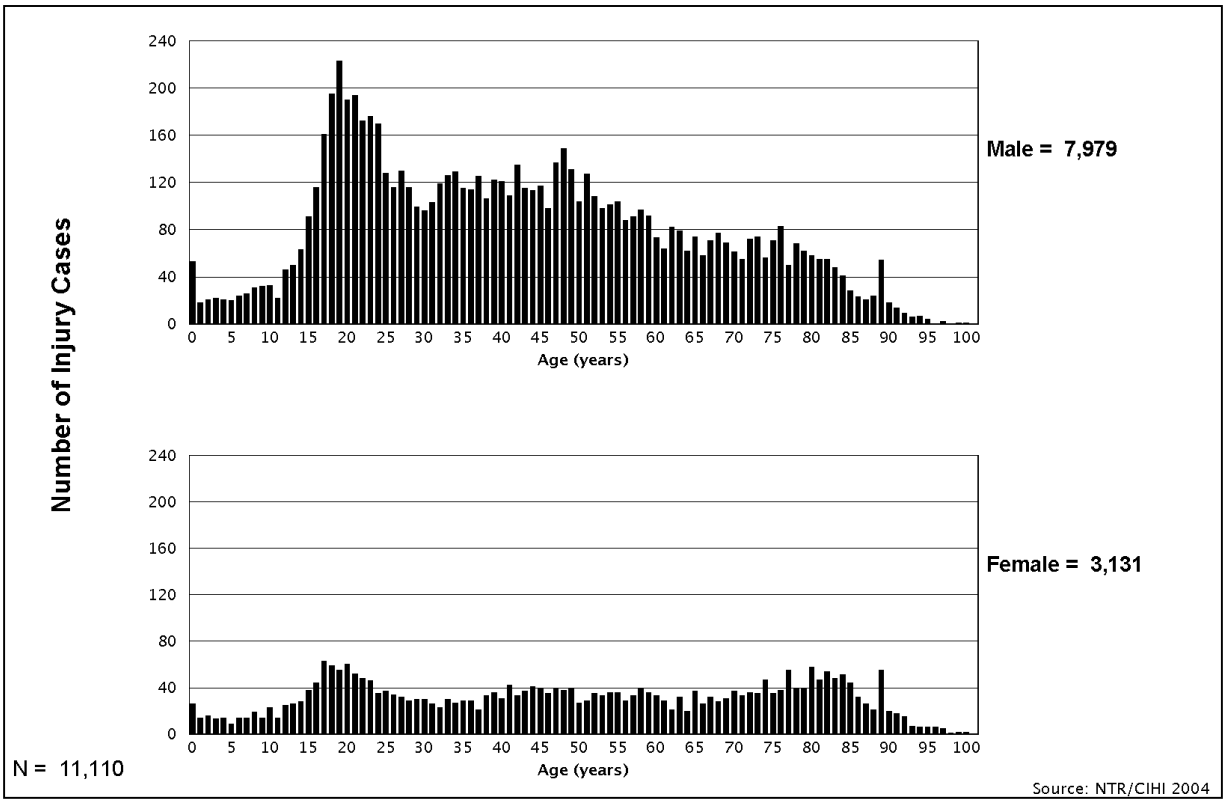

Figure 2. Major Injuries by Single Year of Age and Sex—All Cases, 2004–2005*

*Note: the total excludes 2 cases with unknown age

4. Causes of Major Injury

A. Overall Causes

Figure 3 shows the causes of major injury for the 11,112 cases in the 2004–2005 NTR CDS. The leading *specified* causes of major injury were motor vehicle collisions, which were responsible for just under one-half of all cases (45%, n = 4,955), followed by unintentional falls (32%, n = 3,561). Homicide and injury purposely inflicted (excluding poisoning) (9%, n = 1,032) was the third leading cause, followed by the "Other Incidents" category (5%, n = 585). Leading causes in the latter category were being unintentionally struck by or against objects and persons (n = 329), and incidents caused by machinery (n = 78).

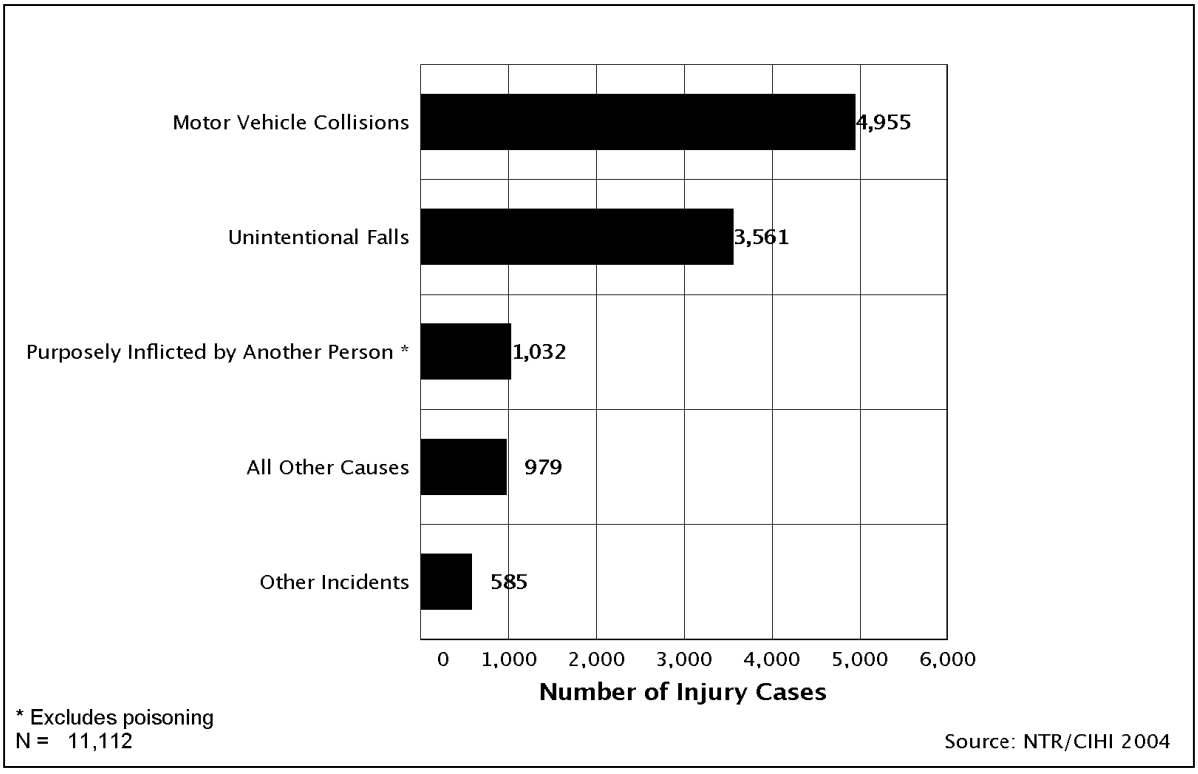

Figure 3. Causes of Major Injury—All Cases, 2004–2005

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

- Motor vehicle collisions: mean = 38 years (median = 35);
- Unintentional falls: mean = 59 years (median = 63);
- Homicide or injury purposely inflicted by another person: mean = 32 years (median = 29); and
- Other incidents category: mean = 39 years (median = 39).

B. Causes by Age Group

i. Cases Under 20 Years of Age

Figure 4 shows the causes of major injury for the 2004–2005 cases under the age of 20 years (n = 1,796). The leading causes of major injury were motor vehicle collisions *excluding* those involving cyclists (50%, n = 903), followed by unintentional falls (17%, n = 302). Homicide and injury purposely inflicted by another person (excluding poisoning) comprised 11% (n = 196) of the injury cases. Cycling incidents were responsible for 8% (n = 140) of the injury cases under the age of 20 years. Cyclists were reported separately from motor vehicle collisions in this age group only.

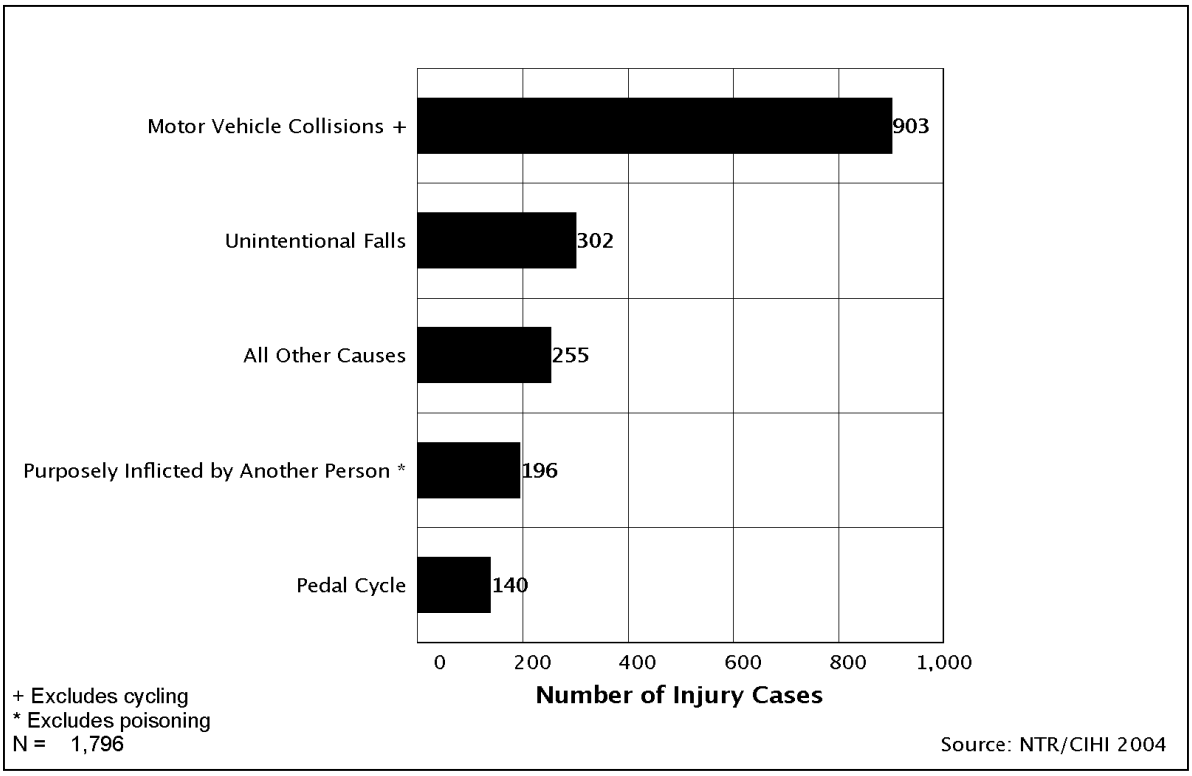

Figure 4. Causes of Major Injury—Cases Under 20 Years of Age, 2004–2005

ii. Cases Aged 20 to 34 Years

Figure 5 shows the causes of major injury for cases aged 20 to 34 years (n = 2,603). The leading cause of major injury were motor vehicle collisions including those involving cyclists (57%, n = 1,494). The next leading causes were homicide and injury purposely inflicted by another person (excluding poisoning) (16%, n = 429) and unintentional falls (11%, n = 299). The fourth leading cause of major injury was those included in the external cause codes grouped under the "Other Incidents" category (5%, n = 124). The top causes in this category were being unintentionally struck by or against objects and persons (n = 66), and incidents caused by machinery (n = 18).

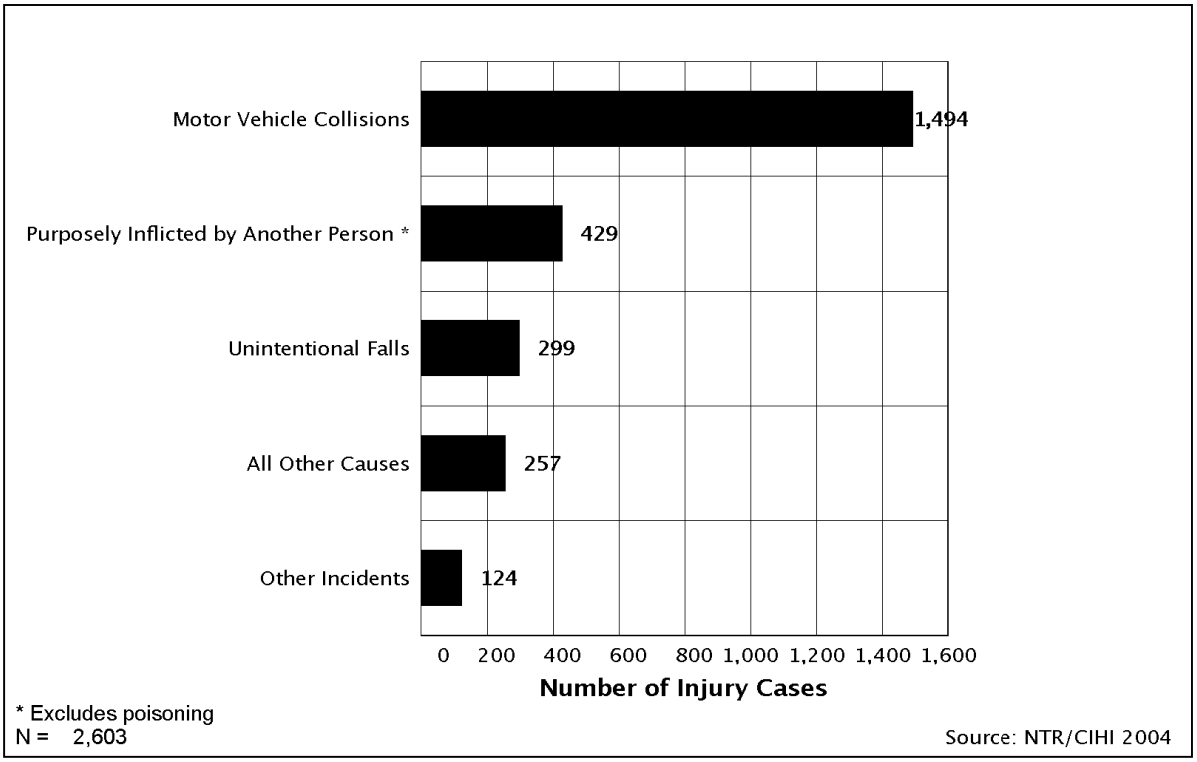

Figure 5. Causes of Major Injury—Cases Aged 20 to 34 Years, 2004–2005

iii. Cases Aged 35 to 64 Years

Figure 6 shows the causes of major injury for cases between 35 and 64 years of age (n = 4,168). The leading causes of major injury were motor vehicle collisions *including* those involving cyclists (45%, n = 1,885) followed by unintentional falls (30%, n = 1,247). Homicide and injury purposely inflicted (excluding poisoning) was the next leading *specified* cause (9%, n = 383), followed by external cause codes grouped under the "Other Incidents" category (6%, n = 240). Top causes of injury in the latter category were being unintentionally struck by or against objects and persons (n = 124), followed by incidents caused by machinery (n = 42), and being caught in or between objects (n = 13).

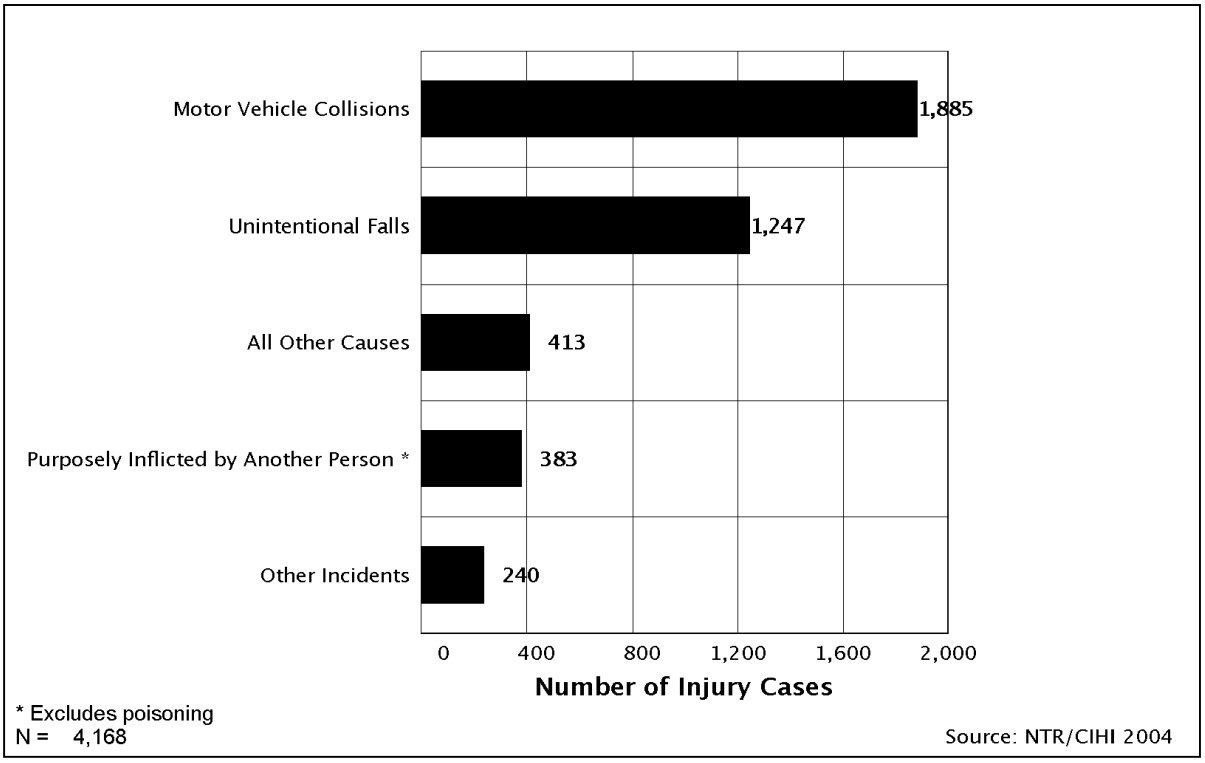

Figure 6. Causes of Major Injury—Cases Aged 35 to 64 Years, 2004–2005

iv. Cases Aged 65 Years and Over

Figure 7 shows the causes of major injury for cases aged 65 years and over (n = 2,543). Unintentional falls were responsible for the majority of cases (67%, n = 1,713), followed by motor vehicle collisions including those involving cyclists (24%, n = 620). Together, these two causes of injury were responsible for over 91% of the cases. The "Other Incidents" category was the third leading *specified* cause (3%, n = 84), with the top cause being unintentionally struck by or against objects and persons (n = 43), followed by incidents caused by machinery (n = 14).

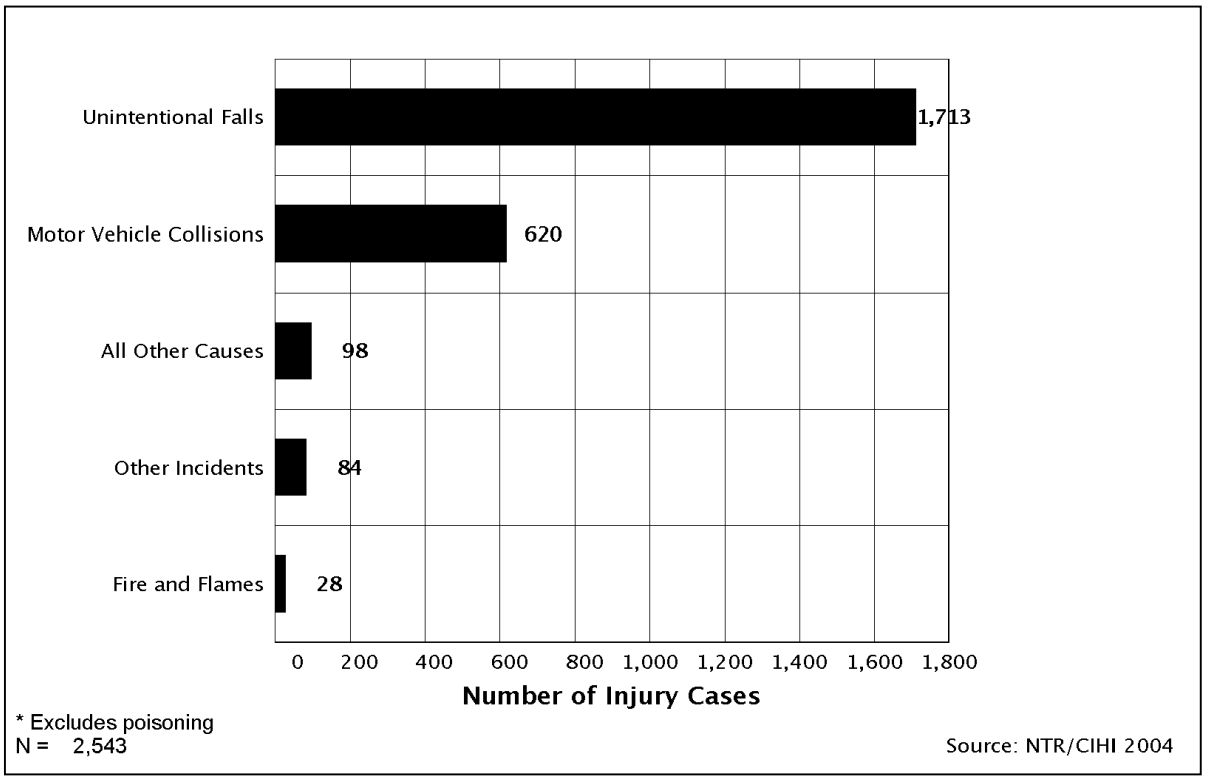

Figure 7. Causes of Major Injury—Cases Aged 65 Years and Over, 2004–2005

C. Motor Vehicle Collisions

i. Motor Vehicle Traffic and Non-Traffic Incidents

Highlight statistics from the motor vehicle traffic and non-traffic incident injury cases (Appendix F, Tables 4, 5, 15, and 16) include:

- 45% of all cases (n = 4,955);
- 39% of deaths (n = 559);
- 69% (n = 3,401) were males;
- Mean age was 38 years (median = 35);
- Mean LOS was 17 days (median = 10);
- Mean ISS was 26 (median = 24); and
- Almost 100% had a blunt injury as the most serious injury.

Figure 8 shows the motor vehicle traffic and non-traffic injury cases by age group. More than one-third of the cases were between the ages of 35 and 64 years of age (38%, n = 1,885).

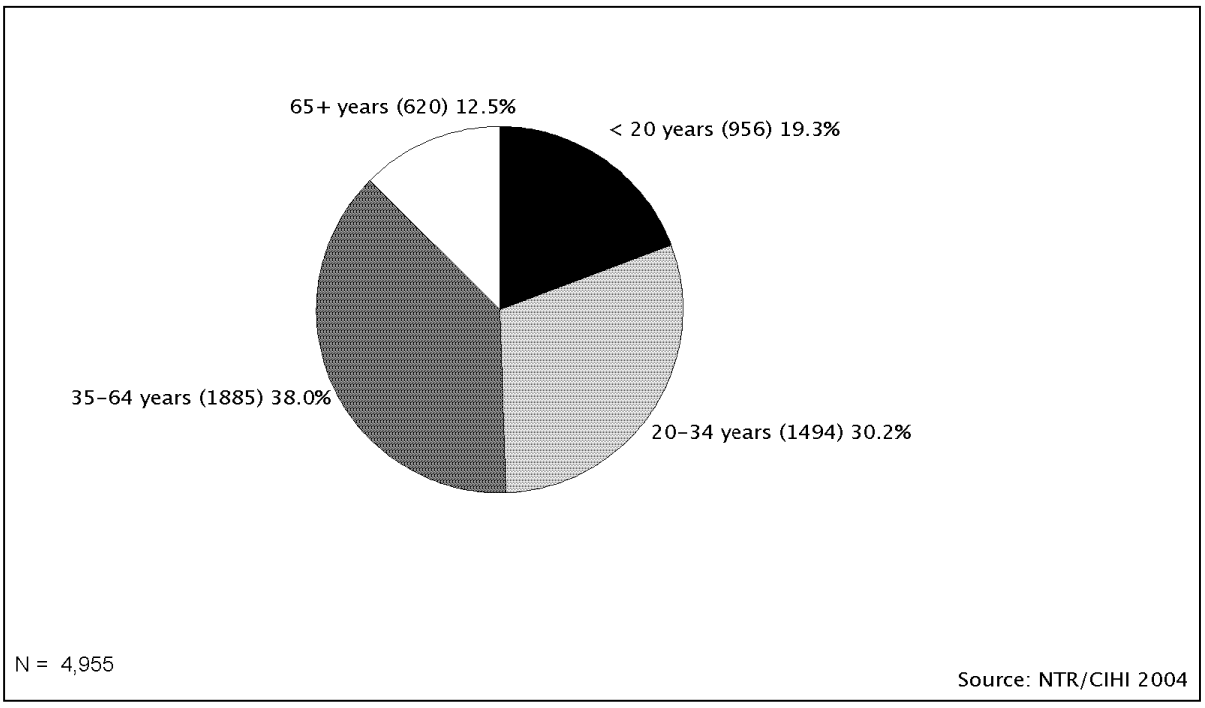

Figure 8. Motor Vehicle Traffic and Non-Traffic Incidents by Age Group, 2004–2005

Figure 9 shows that the highest number of motor vehicle traffic and non-traffic injury cases by single year of age and sex were among males and females in their late teenage years and early 20s.

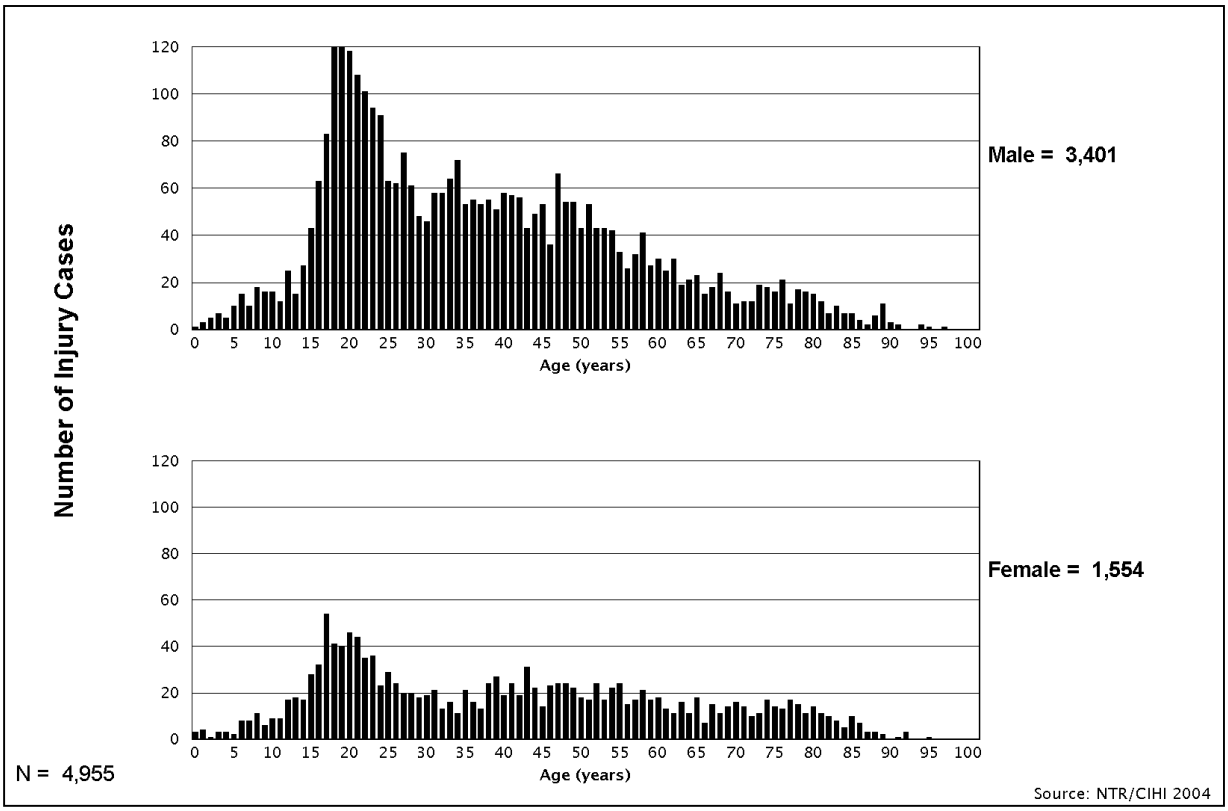

Figure 9. Motor Vehicle Traffic and Non-Traffic Incidents by Single Year of Age and Sex, 2004–2005

Highlight statistics from *deaths* among motor vehicle collision injury cases in the 2004–2005 NTR CDS (Appendix F, Table 5) include:

- 559 deaths (representing 39% of all injury deaths). These represented cases who died in the Emergency Department or who were admitted and later died in hospital;
- Mean age was 46 years (median = 44);
- Mean LOS was 8 days (median = 2);
- Mean ISS was 39 (median = 38); and
- Nearly all had a blunt injury as the most serious injury.

ii. Injured Person in Transport Incidents

Figure 10 shows the 4,955 motor vehicle traffic and non-traffic injury cases in the 2004–2005 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. Over half of the injured persons in motor vehicle collision injury cases were drivers (57%, n = 2,826), which included 511 motorcycle drivers. Passengers comprised nearly one-quarter (22%, n = 1,104) of the injured cases, of which 37 were motorcycle passengers. Fifteen percent (n = 738) were pedestrians.

Overall, 11% (n = 548) of the motor vehicle collision injury cases were motorcycle drivers or passengers. Three percent (n = 167) were pedal cyclists.

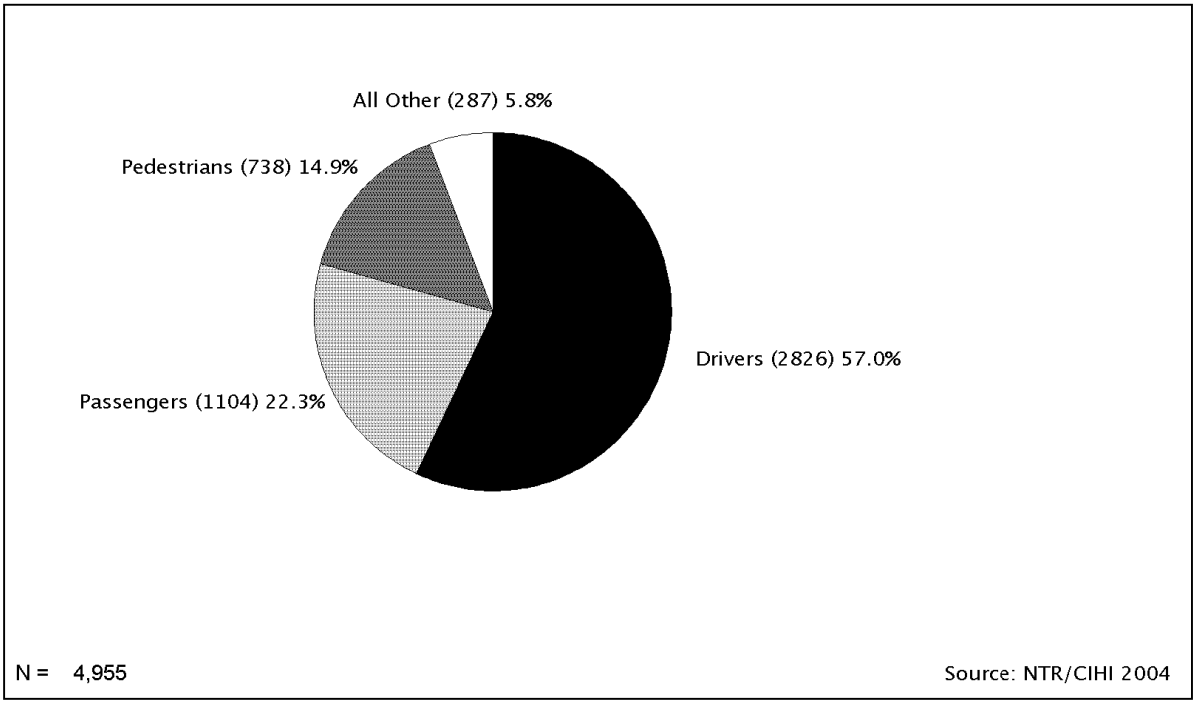

Figure 10. Motor Vehicle Collisions by Injured Person—All Cases, 2004–2005

Figure 11 shows the 559 *deaths* by injured person among the motor vehicle collision injury cases in the 2004–2005 NTR CDS. Nearly one-half were drivers (49%, n = 275), which included 39 motorcycle drivers. Twenty-seven percent (n = 153) were pedestrians and 18% (n = 101) were passengers.

Eight percent (n = 43) were motorcycle drivers or passengers, and 3% (n = 15) were pedal cyclists.

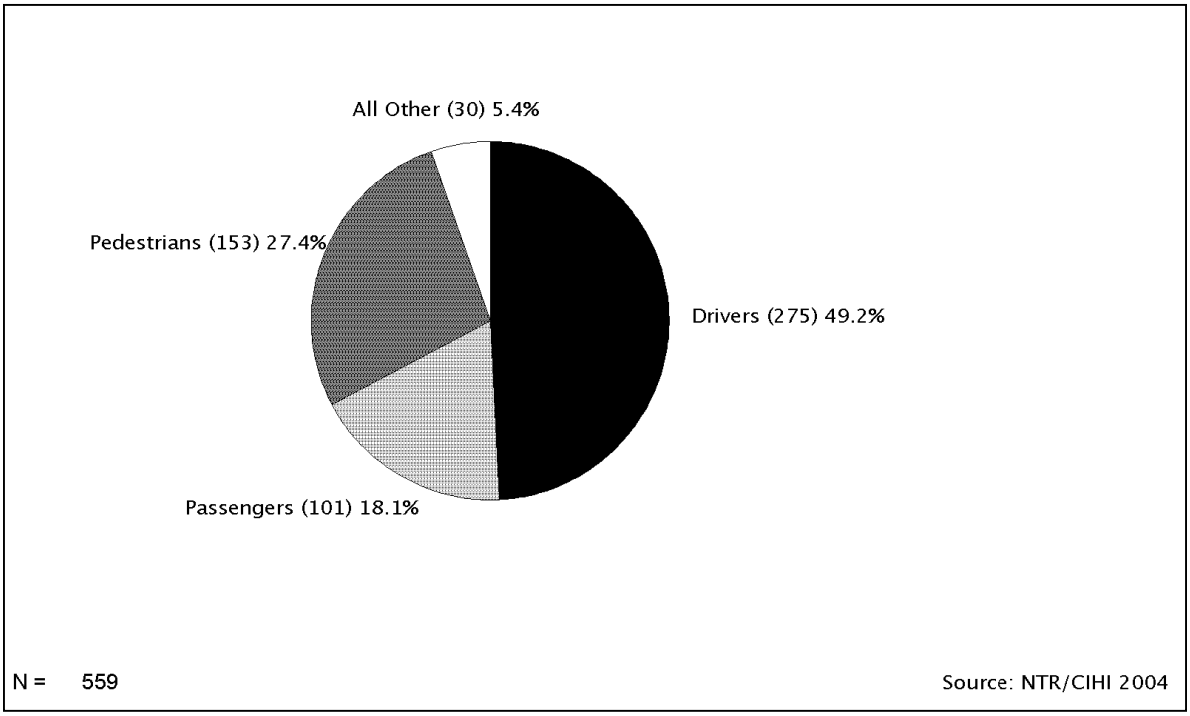

Figure 11. Motor Vehicle Collisions by Injured Person—Deaths, 2004–2005

D. Unintentional Falls

Highlight statistics from unintentional fall injury cases (Appendix F, Tables 4, 5, 6, 15, and 16) include:

- 3,561 cases (representing 32% of all cases);
- 528 deaths (representing 37% of all injury deaths);
- 68% (n = 2,437) were males;
- Mean age was 59 years (median = 63);
- Mean LOS was 15 days (median = 8);
- Mean ISS was 22 (median = 20); and
- Almost 100% had a blunt injury as the most serious injury.

Figure 12 shows the unintentional fall injury cases by age group. Nearly one-half (48%, n = 1,713) of the unintentional fall injury cases were aged 65 years and over. More than one-third (35%, n = 1,247) were aged 35 to 64 years.

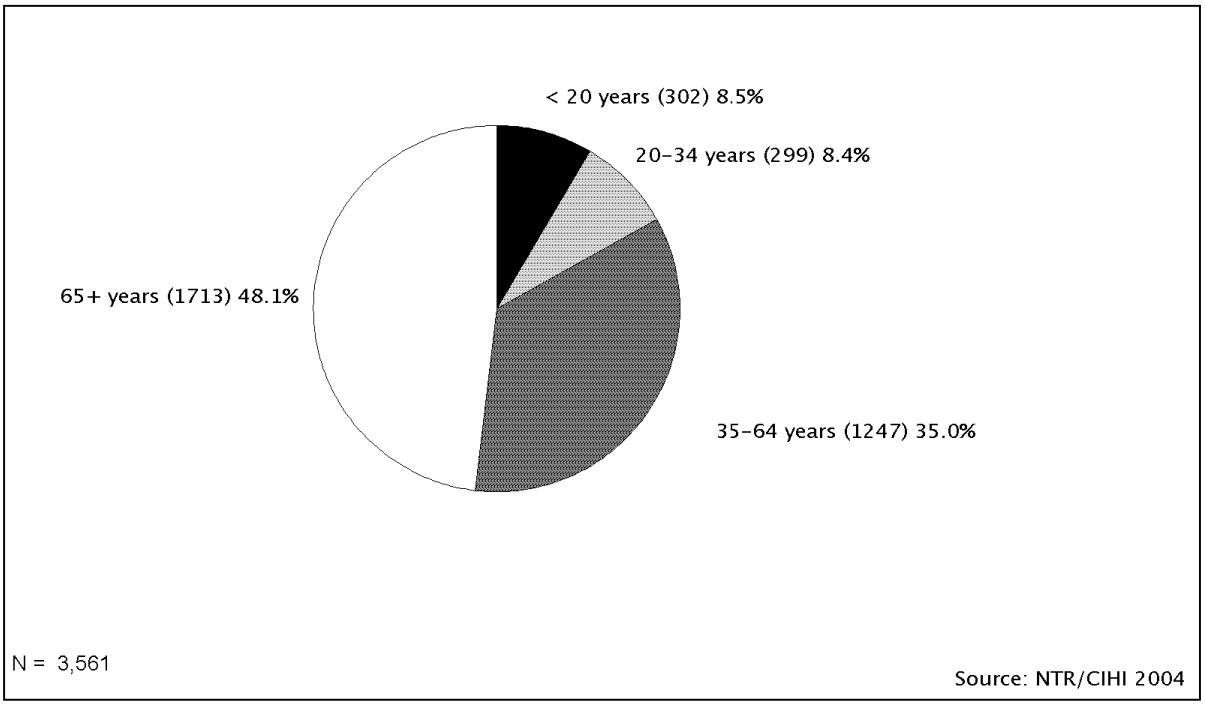

Figure 12. Unintentional Falls by Age Group, 2004–2005

Figure 13 shows that males comprised 68% (n = 2,437) of all unintentional fall cases resulting in a major injury. When analyzed by single year of age and sex, the number of males hospitalized remains high after age 45, while the number of women hospitalized due to falls increase over the age of 70.

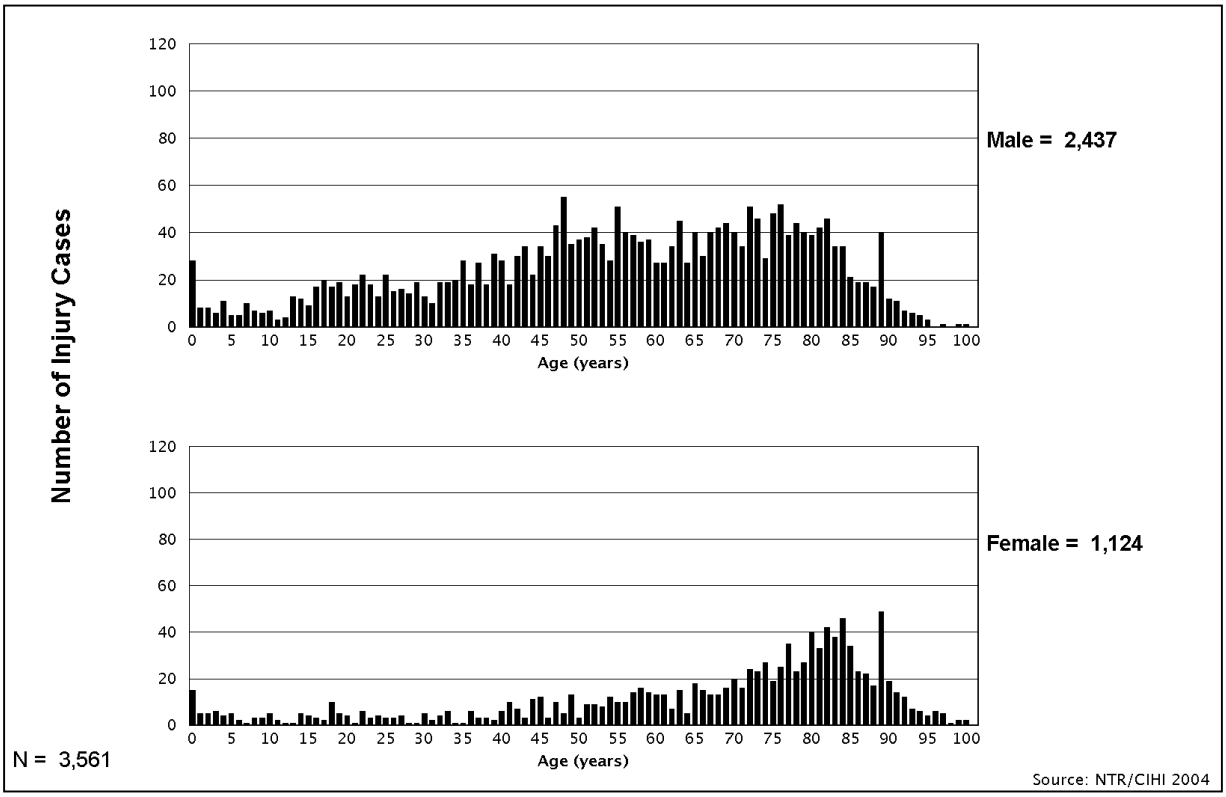

Figure 13. Unintentional Falls by Single Year of Age and Sex, 2004–2005

Figure 14 shows the types of falls experienced by major injury cases. The most common *specified* types of falls were falls on the same level from slipping, tripping, or stumbling (22%, n = 784) and falls on or from stairs/steps (19%, n = 677). The next most common types *specified* were falls from one level to another (12%, n = 426) and falls from ladder/scaffolding (10%, n = 370).

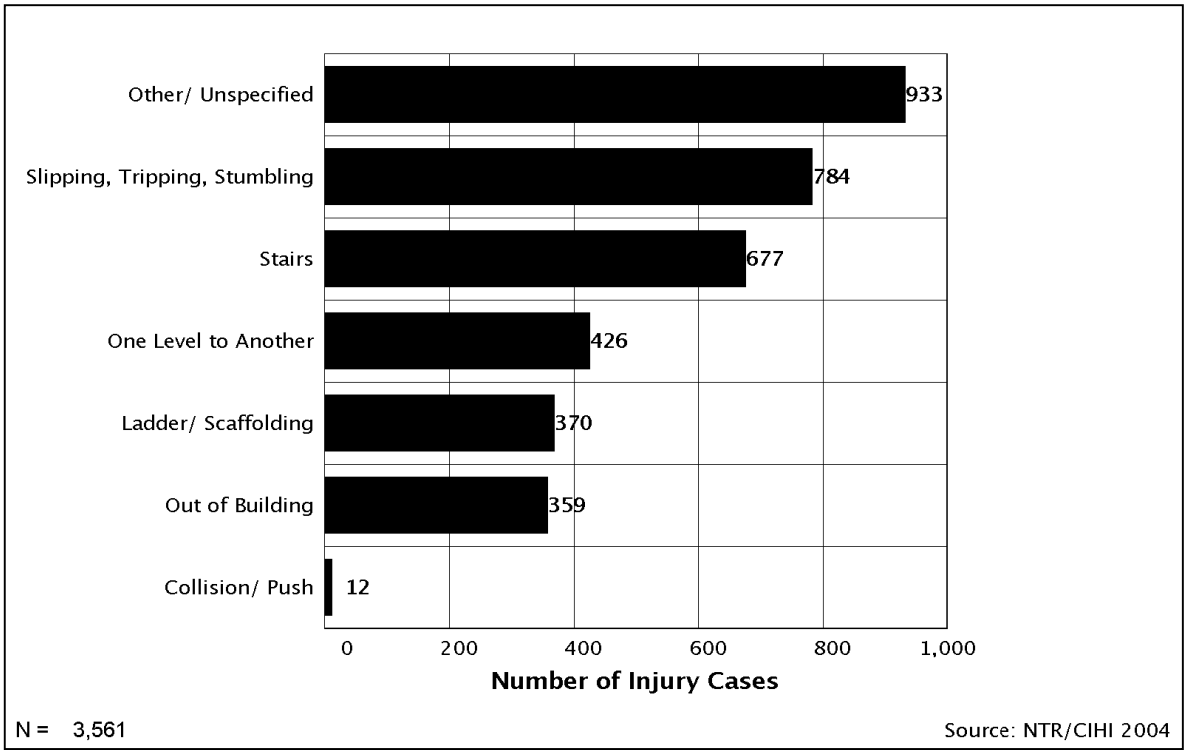

Figure 14. Unintentional Falls by External Causes of Injury, 2004–2005

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

- Age <20 years—Fall from one level to another (30%, n = 92);
- Age 20–34 years—Fall from/out of building or other structure (28%, n = 83);
- Age 35–64 years—Fall on or from stairs/steps (22%, n = 274); and
- Age 65 years and over—Fall on same level from slipping, tripping and stumbling (29%, n = 505).

Highlight statistics for *deaths* among unintentional fall injury cases in the 2003–2004 NTR CDS (Appendix F, Tables 5, 16) include:

- 528 deaths (representing 37% of all injury deaths);
- Mean age was 71 years (median = 76);
- Mean LOS was 11 days (median = 4);
- Mean ISS was 26 (median = 25); and
- Almost all had a blunt injury as the most serious injury.

E. Intentional Injuries

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

Highlight statistics from the injury cases caused by homicide and injury purposely inflicted by another person (Appendix F, Tables 4, 5, 15 and 16) include:

- 1,031 cases (representing 9% of all cases);
- 131 deaths (representing 9% of all injury deaths);
- 89% (n = 918) were males;
- Mean age was 32 years (median = 29);
- Mean LOS was 13 days (median = 6);
- Mean ISS was 22 (median = 19); and
- 65% (n = 675) had a blunt injury, 34% (n = 350) had a penetrating injury, and less than 1% (n = 7) had a burn as their most serious injury.

Figure 15 shows major injury cases caused by homicide and injury purposely inflicted by another person by age group. Forty-two percent of the cases (n = 429) were persons aged 20 to 34 years and 37% (n = 383) were persons aged 35 to 64 years.

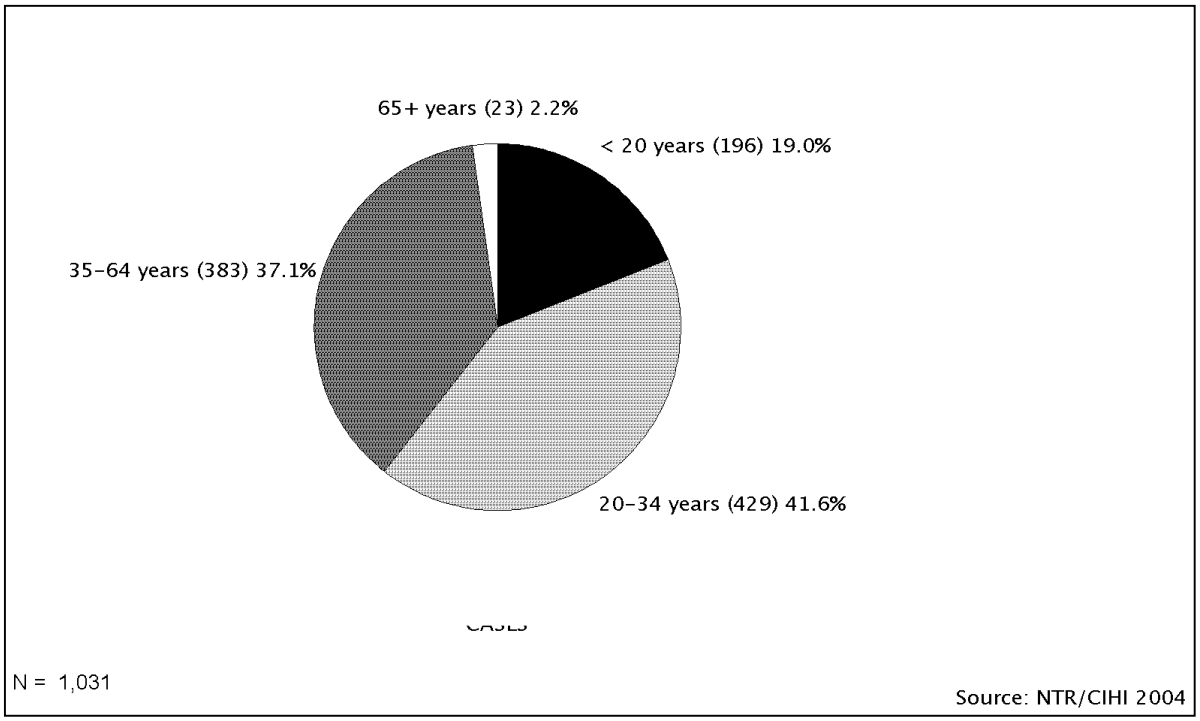

Figure 15. Homicide and Injury Purposely Inflicted by Another Person (excluding poisoning) by Age Group, 2004–2005*

*Note: total excludes 1 case with unknown age

Important note: *The National Trauma Registry definition of homicide and injury purposely inflicted by another person excludes poisoning cases (see Appendix B for Trauma Definition of 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 fights (30%, n = 188) and stabbing (24%, n = 149).

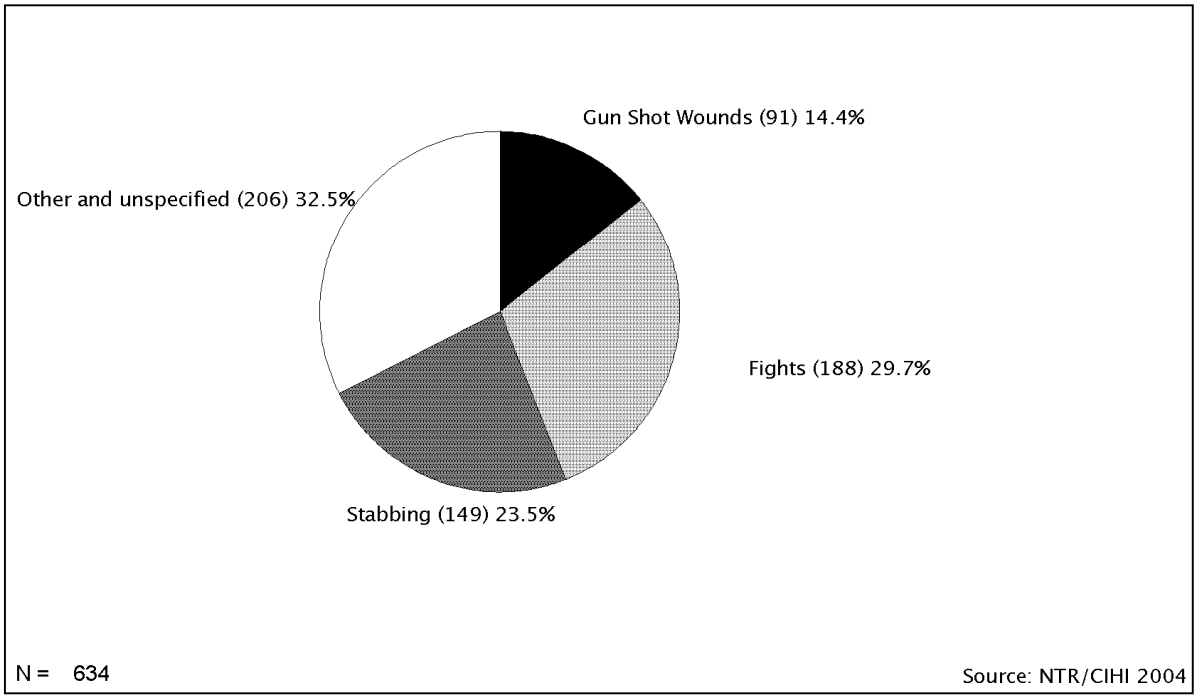

Figure 16. Means of Homicide and Injury Purposely Inflicted by Another Person (excluding poisoning), 2004–2005*

*Note: Only cases with ICD-10-CA external cause of injury codes are included

Highlight statistics from *deaths* due to homicide and injury purposely inflicted by another person (excluding poisoning) in the 2004–2005 NTR CDS (Appendix F, Tables 5, 15) include:

- 130 deaths (representing 9% of all injury deaths);
- Mean age was 33 years (median = 30);
- Mean LOS was 4 days (median = 1);
- Mean ISS was 34 (median = 26); and
- 39% (n = 41) had a blunt injury and 61% (n = 80) had a penetrating injury as the most serious injury.

ii. Suicide and Self-Inflicted Injury (Excluding Poisoning)

Highlight statistics from suicide and self-inflicted injury cases (Appendix F, Tables 4, 5, 15, and 16) include:

- 252 cases (representing 2% of all cases);
- 78 deaths (representing 5% of all injury deaths);
- 74% (n = 187) were males;
- Mean age was 40 years (median = 38);
- Mean LOS was 32 days (median = 14);
- Mean ISS was 29 (median = 25); and
- 64% (n = 161) had a blunt injury, 32% (n = 80) had a penetrating injury, and 4% (n = 11) had a burn as the most serious injury.

Figure 17 shows suicide and self-inflicted injury (excluding poisoning) cases by age group. Persons aged 35 to 64 years accounted for 47% (n = 118) of cases, followed by persons aged 20 to 34 years (33%, n = 82).

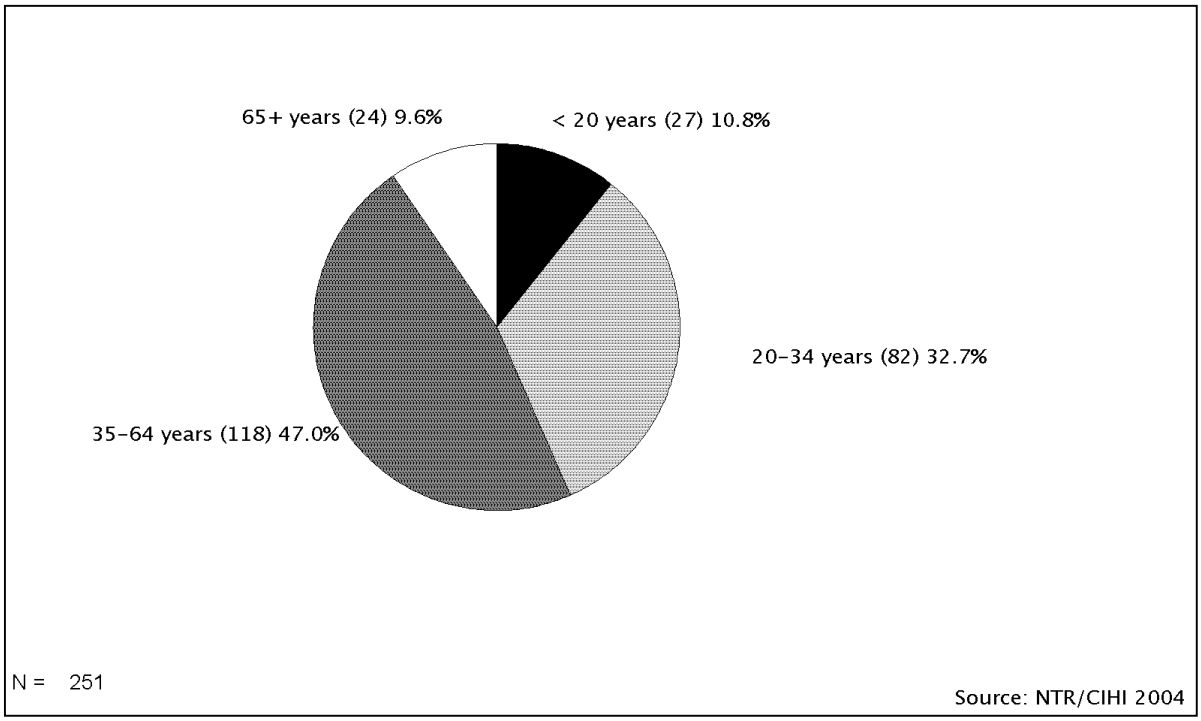

Figure 17. Suicide and Self-Inflicted Injury (excluding poisoning) by Age Group, 2004–2005

Note: 1 case with unknown age

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

As seen in Figure 18, the most common *specified* means of self-inflicted injury (excluding poisoning) with ICD-10-CA external cause of injury codes were jumping from a high place (35%, n = 53) followed by stab wounds (19%, n = 28).

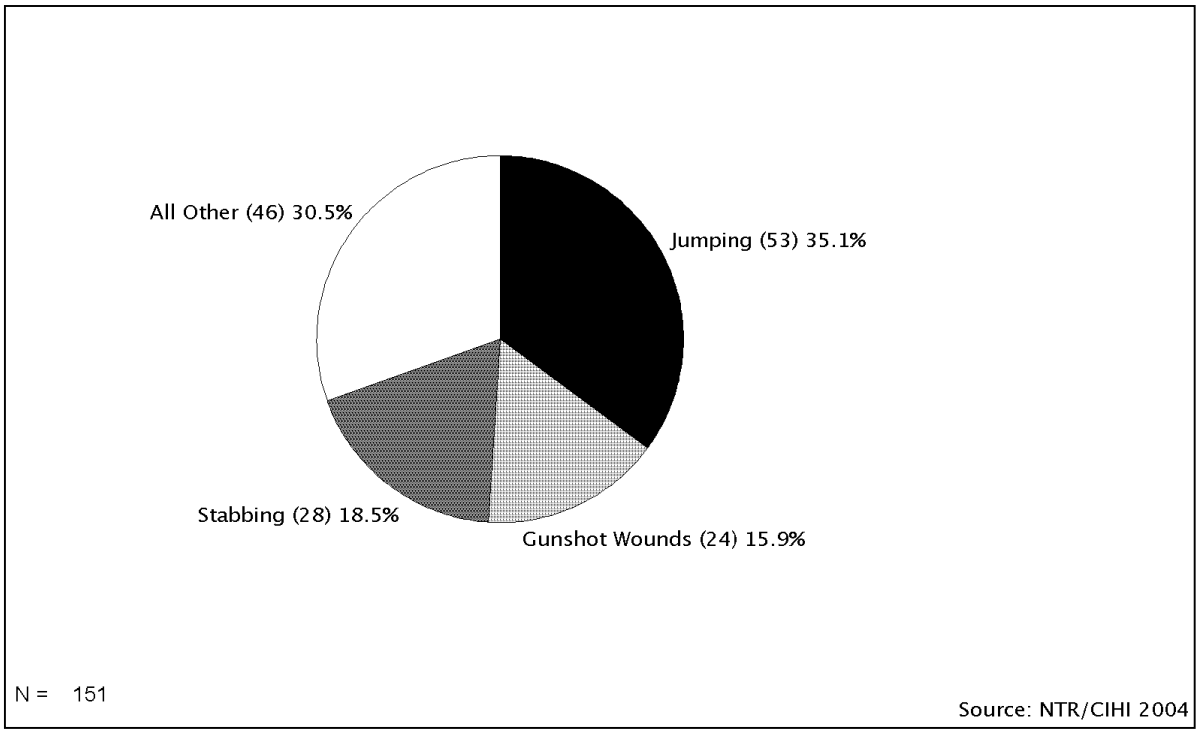

Figure 18. Means of Suicide and Self-Inflicted Injury (excluding poisoning), 2004–2005*

Note*: Only cases with ICD-10-CA external cause of injury codes are included

Highlight statistics from *deaths* due to suicide and self-inflicted injury cases (excluding poisoning) in the 2004–2005 NTR CDS (Appendix F, Tables 5, 15) include:

- 78 deaths (representing 5% of all injury deaths);
- Mean age was 43 years (median = 38);
- Mean LOS was 4 days (median = 1);
- Mean ISS was 36 (median = 26); and
- 69% (n = 54) had a blunt injury, 26% (n = 20) had a penetrating injury and 5% (n = 4) had a burn.

5. Context of Major Injury

A. Place of Injury

All but 39 of the 11,112 injury cases were documented with a place of injury (Appendix F, Table 12). Cases lacking place of injury information were included in percentage calculations:

- 46% (n = 5,065) occurred on a street or highway;
- 23% (n = 2,554) at home;
- 5% (n = 578) in a recreational or sports setting;
- 3% (n = 319) in an industrial setting;
- 23% (n = 2,557) in a setting other than those listed above; and
- 0.4% (n = 39) lacked a documented place of injury.

B. Work-Related Injury

Seven percent (n = 741) of the injury cases were reported to be work-related. The proportion of work related injury cases by participating province ranged from 5% in Nova Scotia and New Brunswick to 9% in Alberta (Appendix F, Table 11).

C. Blood Alcohol Concentration

Nine percent (n = 1,040) of injury cases were reported to have a positive BAC, which is defined as BAC ≥ 17.4 mmol/L or 80 mg/100mL. The proportion of positive BAC injury cases by participating province ranged from 11% in each of Ontario and British Columbia to 18% in New Brunswick (Appendix F, Table 9). BAC information was provided for Quebec, but lacked the specificity required to determine a *positive* BAC. Fifteen percent (n=1,713) of all major cases had a recorded BAC of greater than zero.

D. Sports and Recreational Injury

9.5 percent (n = 1,055) of injury cases were reported to have been involved in a sports or recreation related activity at the time of injury. The proportion of sports and recreational injury cases in each participating province ranged from 6% in New Brunswick to 14% in British Columbia (Appendix F, Table 11). Sports and recreation related injury information was not available from Quebec and therefore was excluded from overall percentage calculations.

Table 3 shows summary statistics for the most commonly reported sports and recreation related activities among the cases with major injury. The three leading activities were cycling (23%), all-terrain vehicles (16%), snowmobiling (10%). Across the most frequently reported activities, males comprised the majority of cases. The mean age was lowest for snowboarding and highest for horseback riding. Mean ISS ranged between 20 and 23 for these leading activities. Mean LOS was highest for cycling and dirt biking and lowest for snowboarding. Among all sports and recreational related major injury cases, 5% died either in hospital or in the Emergency Department.

Table 3. Summary Statistics for Major Sports and Recreational Injuries, by Type of Activity, 2004–2005

Activity	Cases N (%*)	Mean Age (years)	Mean ISS	Mean LOS (days)	Males N (%**)	Deaths¥ N (%**)
Cycling	281 (27%)	32	22	14	236 (84%)	16 (6%)
All-terrain vehicle	165 (16%)	33	23	13	142 (86%)	10 (6%)
Dirt biking/mini bikes/motocross	83 (8%)	28	21	12	80 (96%)	<5
Snowmobiling	77 (7%)	35	26	14	70 (91%)	5 (6%)
Snowboarding	53 (5%)	21	20	9	47 (89%)	<5
Horseback riding	49 (5%)	41	20	9	19 (39%)	0
Downhill skiing	41 (4%)	38	20	7	31 (76%)	<5
All sports/rec	1,055 (100%)	31	22	12	863 (82%)	52 (5%)

* Percent of all 1,055 cases indicating sports/recreational injury
** Percent within cause of sports/recreational injury
¥ In hospital death or died in emergency
<5 = actual number suppressed because cell count<5

Note: Unlike the International Classification of Diseases, 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 and recreation code in the NTR CDS can distinguish from among 99 types of sports and recreational activities.

6. Clinical Aspects of Major Injury

A. Diagnosis of Injury

Figure 19 shows the type of injury according to diagnosis for 2004–2005 NTR CDS cases. Cases from British Columbia have been excluded because injury diagnosis codes were not available. Seventy-six percent (n = 6,934) of injury cases had an internal organ injury, 74% (n = 6,742) had a musculoskeletal injury, and 33% (n = 3,055) had a superficial injury.

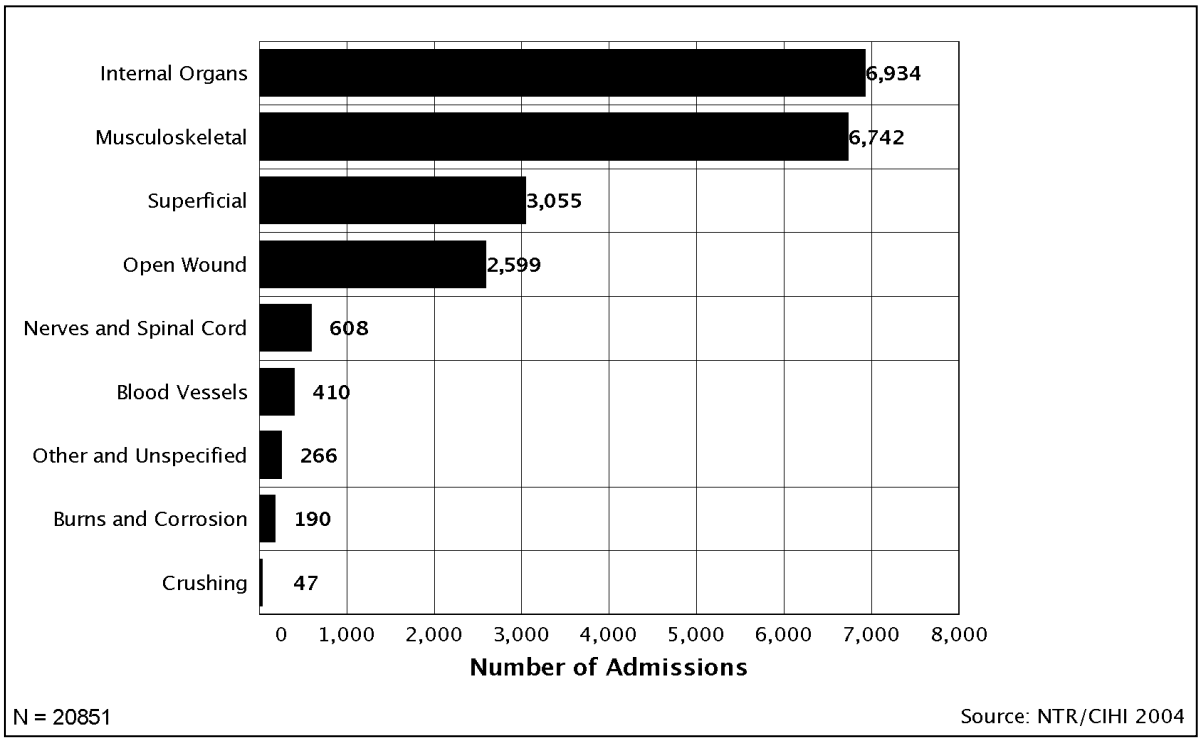

Figure 19. Injury Type for All Injury Cases, 2004–2005

Additional analyses by age group are shown in Appendix F, Table 7. For the definition of injury types, refer to Appendix C.

Note: The denominator for the percentage calculations is the total number of cases for the year excluding British Columbia (n = 9,169), as injury diagnosis codes were not available for that province. If a case has injuries that fall into several of the injury types listed, the case is counted once in *each* type. If a case has injuries that only fall into one injury type, then the case is counted once in *that* type.

B. Deaths

Highlight statistics for *deaths* among the injury cases in the 2004–2005 NTR CDS (Appendix F, Tables 3, 5, and 15) include:

- 1,428 deaths (representing 13% of all injury cases);
- 339 died in the Emergency Department and 1,089 died after admission to hospital;
- 69% (n = 986) were males;
- Mean ISS was 33 (median = 26); and
- Mean length of stay was 9 days (median = 3).

Figure 20 shows the causes of injury for these cases. The leading causes of injury among these cases were motor vehicle collisions (39%, n = 559), followed by unintentional falls (37%, n = 528). The next leading causes were homicide and injury purposely inflicted (9%, n = 131) and suicide and self-inflicted injury (5%, n = 78), both of which exclude poisonings.

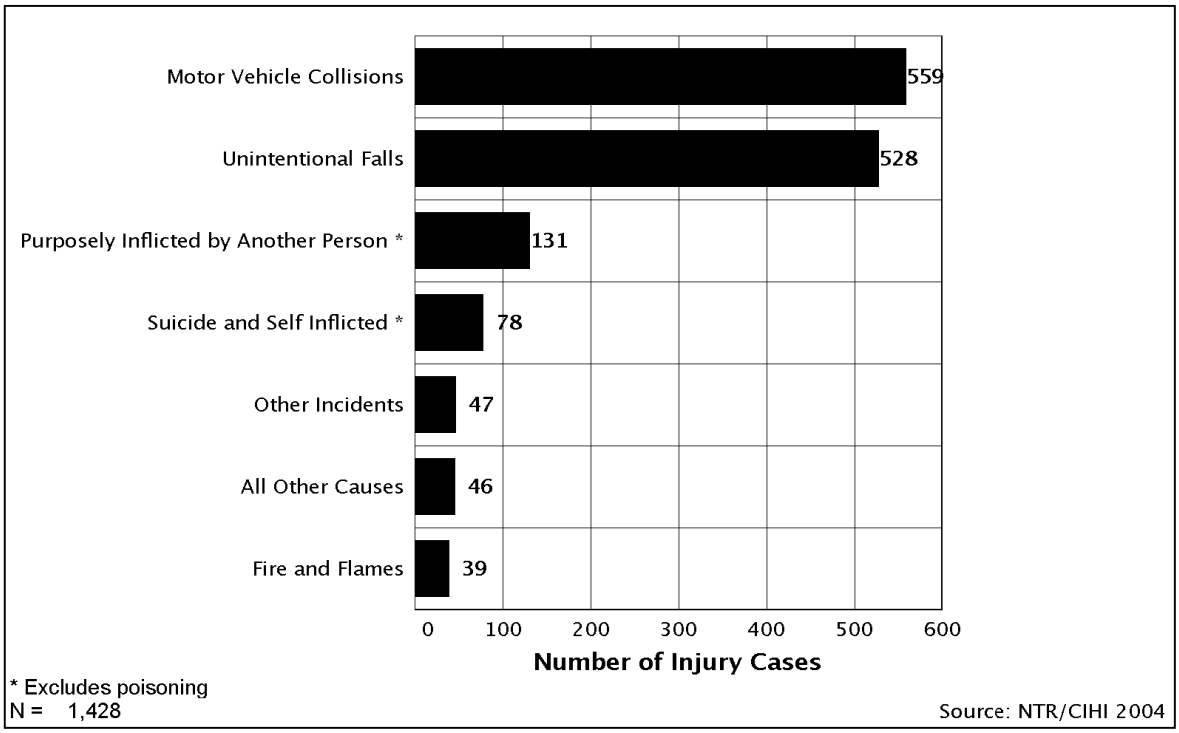

Figure 20. Causes of Injury—All Deaths, 2004–2005

C. Discharge Disposition

Figure 21 shows the discharge disposition of all injury cases. Thirteen percent (n = 1,428) of the 11,112 injury cases in the 2004–2005 NTR CDS died in hospital. The majority (87%, n = 9,684) of major injury cases were discharged alive from hospital.

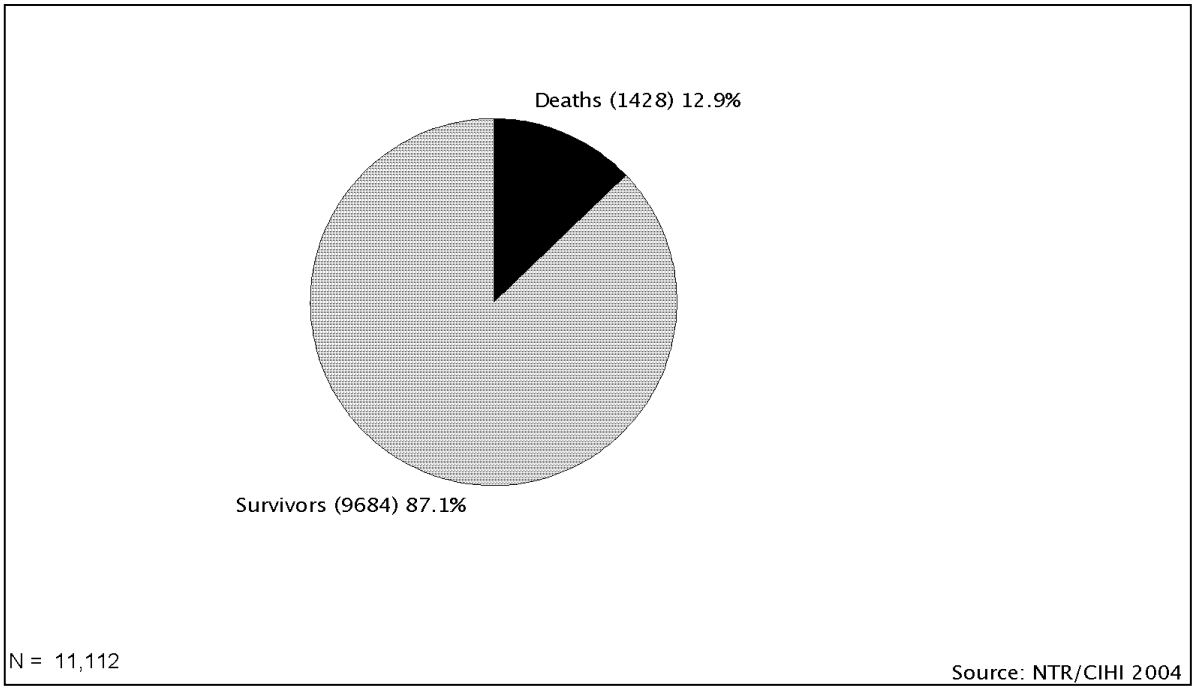

Figure 21. Discharge Disposition—All Cases, 2004–2005

Figure 22 shows the discharge disposition of the survivors. Fifty-eight percent (n = 5,702) were discharged home, including 1,007 who required support services at home. Eighteen percent (n = 1,747) were discharged to a rehabilitation facility, 16% (n = 1,524) to acute care, and the remainder (7%, n = 707) were discharged to a nursing home, chronic care facility, or another type of facility.

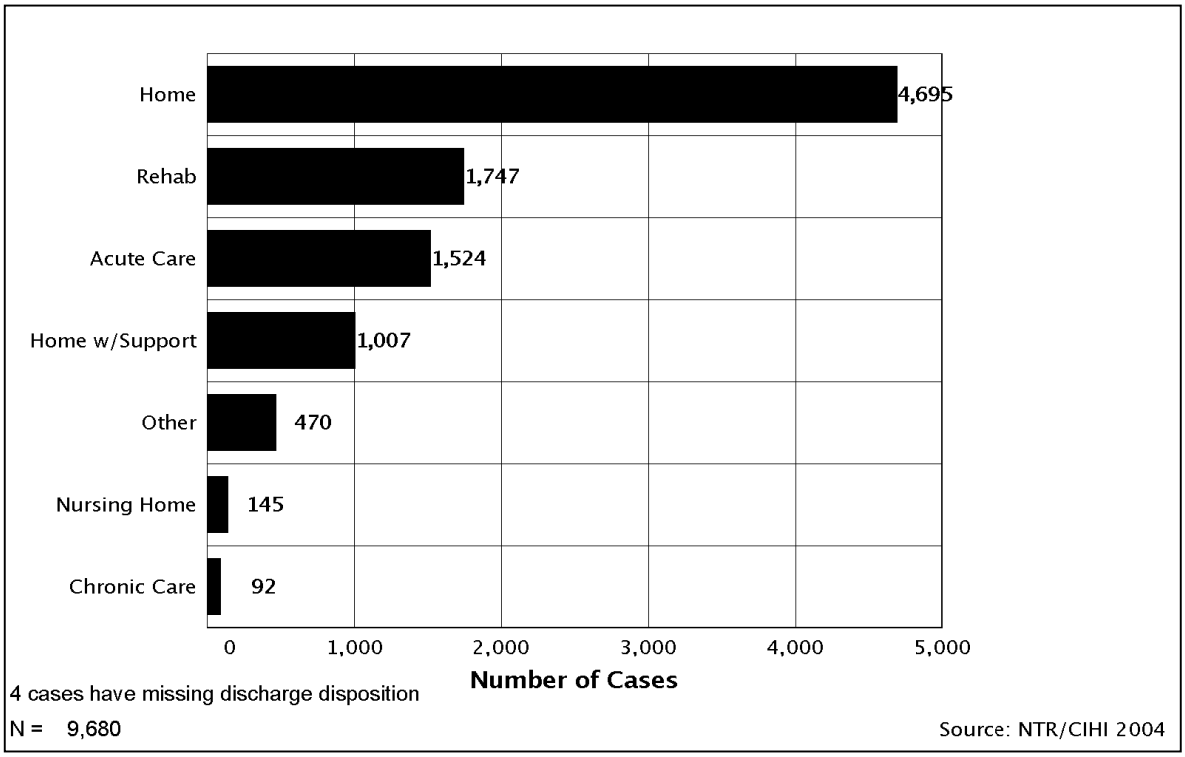

Figure 22. Discharge Disposition—Survivors, 2004–2005

D. 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 (major).

The mean ISS among all injury cases was 24 (median = 22).

Figure 23 shows the mean ISS by age group and outcome. Among all cases, the mean ISS was comparable across age groups, ranging from 23 to 25. The mean ISS was also comparable among injury cases that were discharged alive, ranging from 22 to 24. Among injury cases who died, the mean ISS was considerably higher for all age groups compared to survivors. Ranging from 27 to 39, the highest mean ISS characterized the 20 to 34 year old age group and the 35 to 64 year old age group.

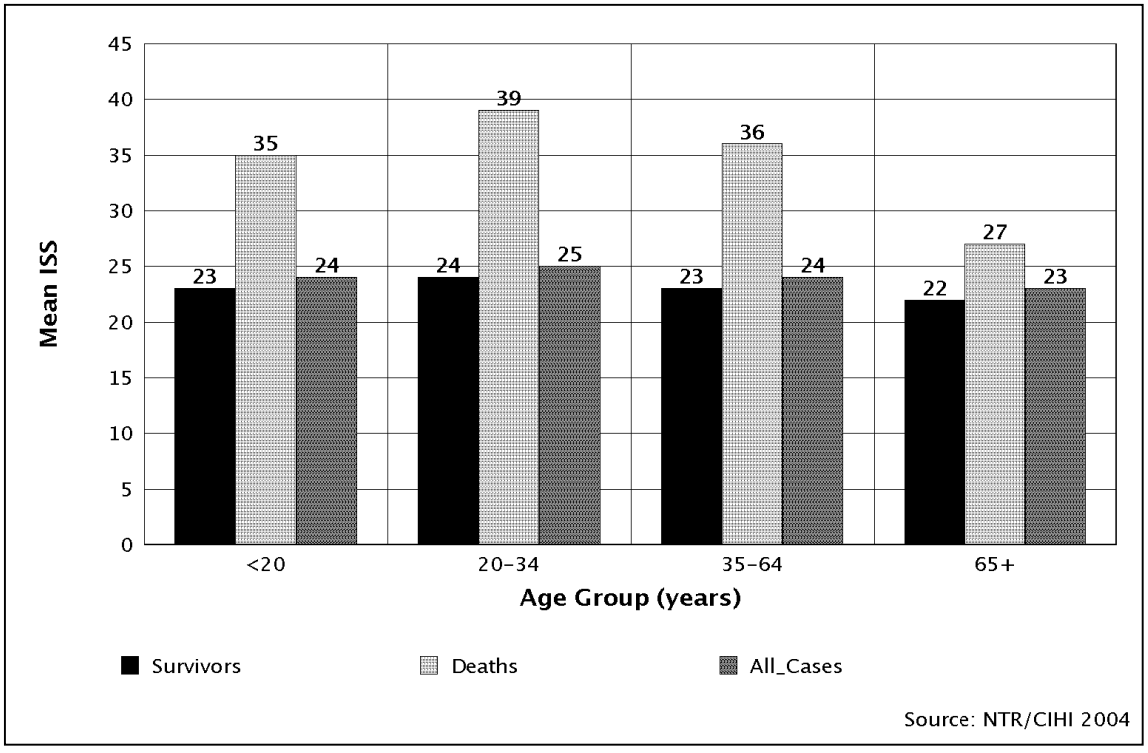

Figure 23. Mean Injury Severity Score (ISS) by Outcome and Age Group, 2004–2005

Figure 24 shows the mean ISS by outcome and cause of injury. Among survivors, deaths, and all cases, the highest mean ISS characterized motor vehicle collision injury cases (ISS = 25, 39, and 26 respectively).

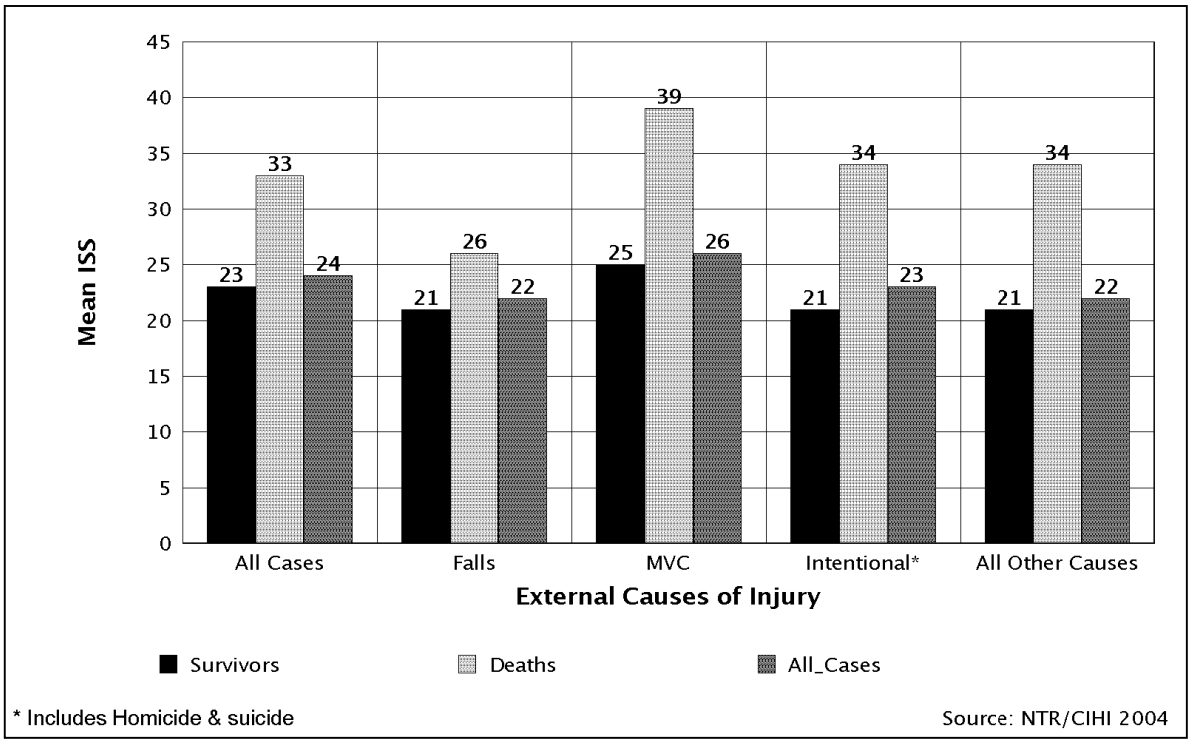

Figure 24. Mean Injury Severity Score (ISS) by Outcome and Cause of Injury, 2004–2005

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). In those who died, the mean ISS was highest among cases with penetrating injuries and burns (ISS = 35).

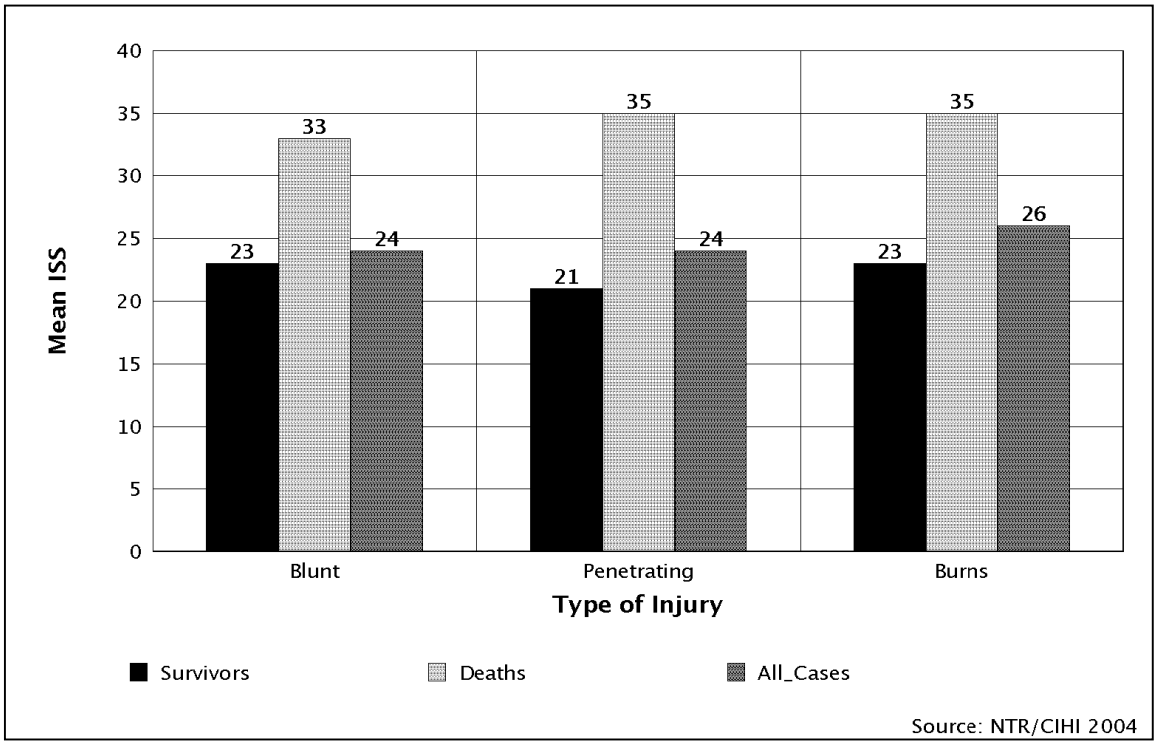

Figure 25. Mean Injury Severity Score (ISS) by Outcome and Type of Injury, 2004–2005

E. Length of Stay (LOS)

LOS is defined as the total number of hospital days as calculated from date of admission to date of discharge or death.

Injury cases accounted for 172,790 hospital days with a mean LOS of 16 days (median = 9).

Figure 26 shows mean LOS by outcome and age group. Among survivors, deaths, and all cases, the highest mean LOS was observed among those 65 years of age and over (LOS = 20, 12, and 18 days, respectively). In general, the older the patient, the longer the hospital stay.

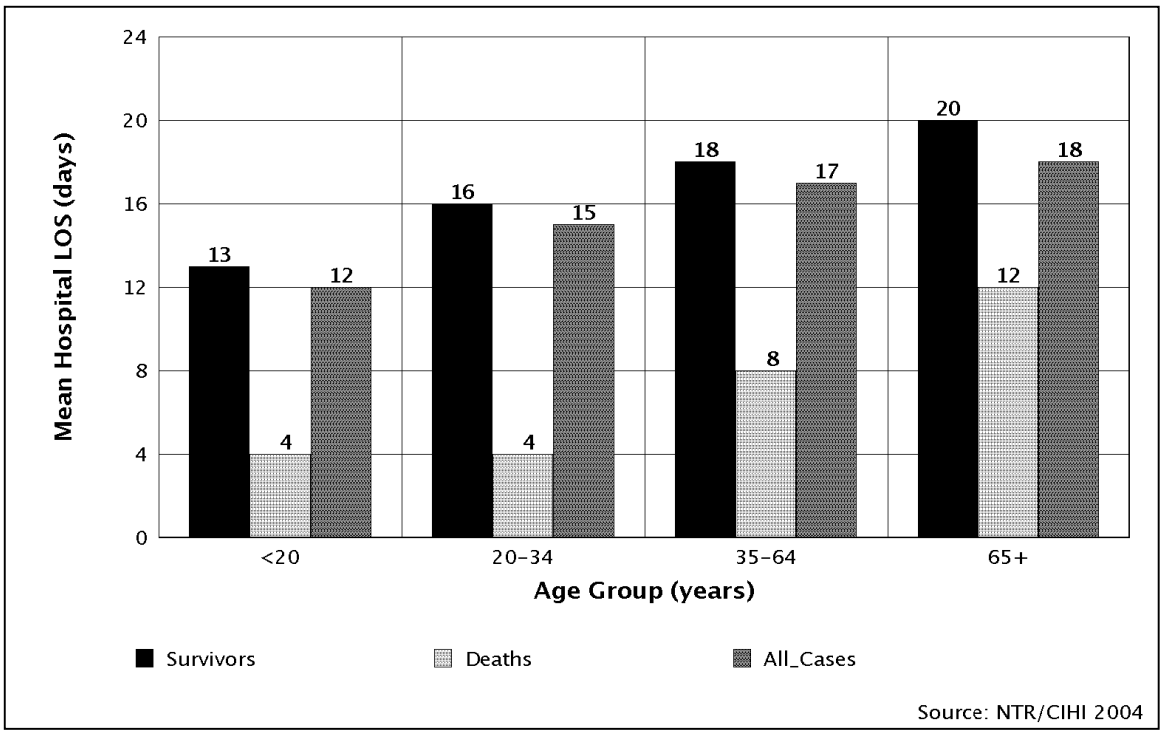

Figure 26. Mean Length of Stay (LOS) by Outcome and Age Group, 2004–2005

Figure 27 shows mean LOS by outcome and leading cause of major injury. Among survivors, the highest mean LOS by specified cause was among motor vehicle collision cases (LOS = 18 days). Among deaths, the highest mean LOS was among unintentional fall cases (LOS = 11 days).

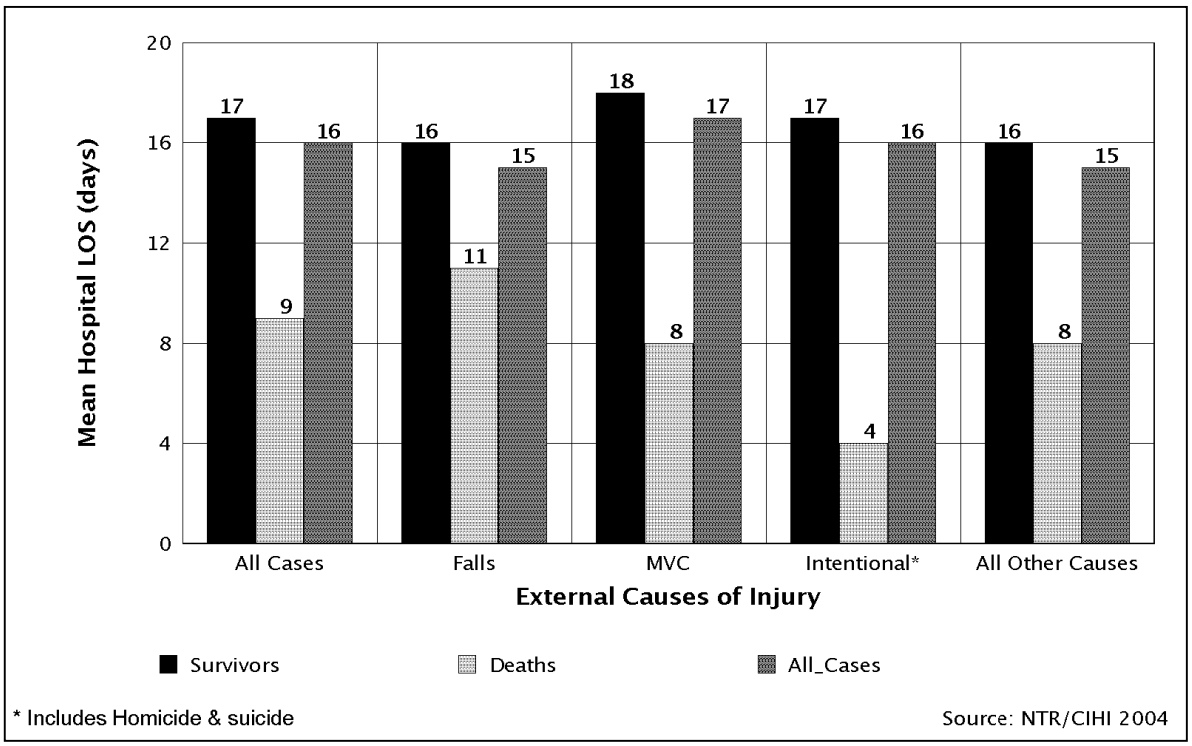

Figure 27. Mean Length of Stay (LOS) by Outcome and Cause of Major Injury, 2004–2005

Figure 28 shows mean LOS by outcome and type of injury. Among survivors and all cases, the highest mean LOS was among cases with a burn injury (LOS = 40 and 34 days, respectively).

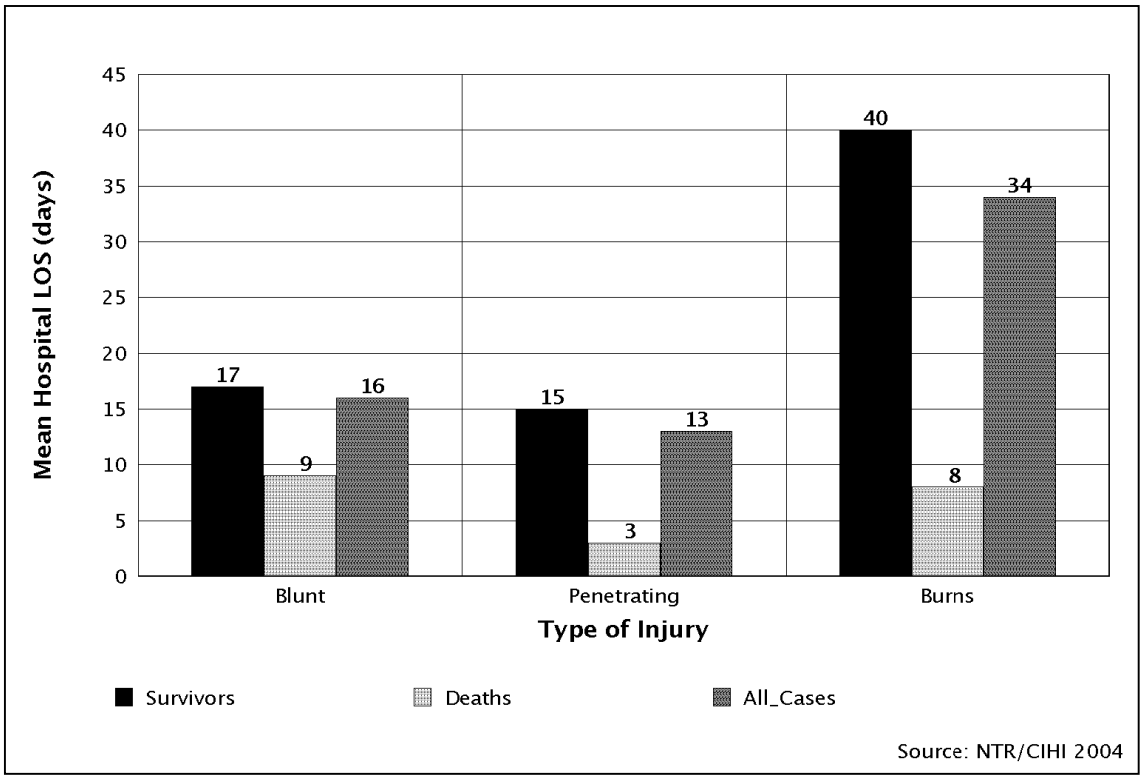

Figure 28. Mean Length of Stay (LOS) by Outcome and Type of Injury, 2004–2005

Appendix A

Data Elements

NTR CDS Data Elements and Definitions

Data Element Name	Definition
Institution Number	Institution unique 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 and ICD-10-CA 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 (i.e. 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 and ICD-10-CA External Cause of Injury Codes that reflect 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 nonintubated 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 is discharged or the service arranged for the patient immediately upon discharge from hospital
Date of Arrival at Trauma Centre	Date the patient arrives at the trauma centre
Time of Injury	The time the patient was injured using the 24-hour clock

Data Element Name	Definition
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 (i.e. Statistics Canada's Census Divisions, geocode)
Sports/Recreational Activity Code	If the person is injured while participating or observing in any sports or recreational activity regardless of whether the person is 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 is being paid for services (excludes travel to and from work)
Protective Devices (up to 4 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 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 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 at the trauma centre
GCS—Verbal Response on Arrival at Trauma Centre	Patient's best verbal response for the Glasgow Coma Score at the trauma centre
GCS—Motor Response on Arrival at Trauma Centre	Patient's best motor response for the Glasgow Coma Score at the trauma centre
Total GCS on Arrival at Trauma Centre	Glasgow Coma Scale—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, 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

Data Element Name	Definition
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 6 body regions
Operative Procedures (up to 10)	ICD9-CM and ICD-10-CA/CCI Operative procedures performed on the patient; procedures must be related to the injury
Nature of Injury Codes (up to 27)	ICD9-CM and ICD-10-CA diagnosis codes that reflect the patient's injuries
Complications (up to 10)	ICD9-CM and ICD-10-CA diagnosis codes describing a condition arising after the beginning of the hospital observation or treatment which 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" have been substituted for the terms "accident" and "accidental" used in the ICD definitions.

A. 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, W76, 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 poisonings
Y35–Y36	Legal intervention and operations of war

B. 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 and 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*	Poisonings 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 (poisonings)
X85, X87–X90*	Assault by poisoning	E962*	Assault by poisoning
Y10–Y19*	Poisonings 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

Injury Types

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 D

External Cause of Injury Reporting Categories

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)

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
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)

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
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 4th digits), E824 (all 4th 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

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
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
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 Poisonings)	Y20–Y34	E983–E988
Assault And Injury Purposely Inflicted (Excluding Poisonings)	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

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
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 E

Definition of Terms

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 > 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 have been selected for comparability to other sources of information and to report on specific trends such as injury in children, young adults and in the elderly. Generally, the age groups reported on are as follows: <1, 1–4, 5–9, 10–14, 15–19, 20–24, 25–34, 35–44, 45–54, 55–64, 65–74, 75–84 and over 85 years of age.

Aircraft

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

AIS

The Abbreviated Injury Scale 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 6-point ordinal severity scale ranging from AIS 1 (minor) to AIS 6 (currently untreatable).

BAC

A positive blood alcohol concentration is greater than or equal to 17.4 mmol/L.

Blunt Injury Type

Refers to the type of injury reflecting the cause of injury (i.e. a motor vehicle collision, 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 > 12 or burns with an AIS = 1 are documented as a burn injury. A burn injury with another injury AIS > 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 > 12 and an appropriate E Code treated at a participating hospital.

CIHI

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 prehospital, demographics, 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 that includes data on severely injured patients treated at participating hospitals. See the *Methodological Notes* section of this report.

Cyclists

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 that will include data on all injury deaths in the Canada (currently under development).

Deaths

All deaths occurring in participating hospitals with an ISS > 12. Patients who are dead on arrival (DOA) 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 that is discharged from hospital alive, including those patients that 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 allows 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 E880–888 in the ICD-9 coding system and are coded as W00–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 and excluded in the trauma definition are found in Appendix B.Note that External Cause Codes are termed *external causes of morbidity and mortality* (V01–Y98) in the ICD-10-CA coding system.

Homicide

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

ICD (International Classification of Diseases)

The International Classification of Diseases is a World Health Organization (WHO) 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, Tenth Revision, Canada is based on the World Health Organization 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 Causes of Injury Codes for all transport 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 (ISS)

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

Injury Type

Refers to the patient's most serious injury and may be classified as blunt, penetrating or burns. 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 C—Nature 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 other legal action.

Length of Stay (LOS)

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 fall).

Minimal Data Set

One of three major data sets of the National Trauma Registry that includes data from the CIHI 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, and construction machinery, farm and industrial machinery, steam rollers, tractors, army tanks, highway graders, snowmobiles, ATVs, or similar vehicles on wheels or treads, while in transport under its 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 (e.g. 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 which 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 (NTRAC)

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, hovercrafts, 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 which contributes data on severely injured patients to the National 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, or on a 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 trafficway 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, roads in farms, airfields, industrial premises, private grounds, mines and quarries.

Single Year of Age

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

Small Boat

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

Suicide

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

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 (DOA), Died in Emergency (DIE) 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–E848 and ICD-10-CA V01–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 which 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, 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 which 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 e.g. kinetic, thermal. See Appendix B for External Causes 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 nonintubated patients on BIPAP and intubated patients on CPAP. Ventilator days include any part of 1 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 in the same day or if the ventilation is started and discontinued in the same day. Routine intubation for OR is not included.

Watercraft

Any device for transporting passengers or goods on the water.

Appendix F

Data Tables

Appendix F—Data Tables

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Table 1. Trend Analysis Report, 2000–2001 to 2004–2005

		2000–2001	2001–2002	2002–2003	2003–2004	2004–2005
No. of cases		8,784	9,463	9,922	10,266	11,112
Inhospital deaths		1,272	1,313	1,371	1,362	1,428
Males		6,324	6,808	7,132	7,448	7,981
Age groups	**<20 years**	1,698	1,725	1,795	1,837	1,796
	20–34 years	2,134	2,236	2,322	2,354	2,603
	35–64 years	3,216	3,455	3,694	3,856	4,168
	65+ years	1,734	2,045	2,108	2,214	2,543
	Unknown age	2	2	3	5	2
Type of injury	**Blunt**	8,205	8,816	9,316	9,658	10,418
	Penetrating	391	414	415	426	499
	Burns	168	232	191	182	195
External cause of injury	**MVC**	4,221	4,437	4,691	4,770	4,955
	Falls	2,477	2,701	2,899	3,122	3,561
	Intentional*	930	1,067	1,101	1,145	1,284
	All other	1,156	1,258	1,231	1,229	1,312
Ventilation days**	**Number of cases with**	2,586	2,962	2,892	2,927	3,077
	Mean	7	7	7	7	7
	Standard deviation	15	16	19	16	15
	Median	2	2	2	2	2
Number of positive BAC(>=17.4 mmol/L)***		829	932	974	954	1,040
Injury Severity Score	**Mean**	24	24	24	24	24
	Standard deviation	11	10	10	10	10

Table 1.Trend Analysis Report, 2000–2001 to 2004–2005 (Con't)

		2000–2001	2001–2002	2002–2003	2003–2004	2004–2005
	Median	22	22	22	22	22
Revised Trauma Score****	Mean	8	8	8	8	8
	Standard deviation	1	1	1	1	1
	Median	8	8	8	8	8
Age(years)	Mean	42	43	43	43	44
	Standard deviation	23	23	23	23	23
	Median	39	40	41	41	42
Length of stay(days)	Mean	16	17	17	17	16
	Standard deviation	24	27	27	34	25
	Median	9	9	9	9	9

Intentional Injury Includes:Suicide & Self Inflicted excluding poisoning (ICD-9-CM: E953-E958 & ICD-10-CA: X70-X84), Injury purposely inflicted by other person (ICD-9-CM: E960, E961, E963-E968 & ICD10-CA: X86, X91-X99,Y00-Y05, Y07-Y09)

***** Manitoba and British Columbia were excluded from ventilator days calculation as data not provided***

****** Positive BAC excludes Quebec,Manitoba and Newfoundland***

******* Quebec excluded from Revised Trauma Score calculation as data not currently provided.***

Participating provinces:

2000-2001: British Columbia, Alberta, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick

2001-2002: British Columbia, Alberta, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick

2002-2003: British Columbia, Alberta, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick

2003-2004: British Columbia, Alberta, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick, Newfoundland

2004-2005: British Columbia, Alberta, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick, Newfoundland

Table 2. Patient Days, Mean and Median LOS by Sex and Age 2004–2005 Cases

			< 1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total
No. of cases	Females	Count	26	57	70	116	259	241	298	332	351	308	342	465	266	N/A	3,131
		%	0.8	1.8	2.2	3.7	8.3	7.7	9.5	10.6	11.2	9.8	10.9	14.9	8.5	N/A	100
	Males	Count	53	82	133	214	786	902	1,162	1,175	1,170	832	667	591	212	2	7,981
		%	0.7	1.0	1.7	2.7	9.8	11.3	14.6	14.7	14.7	10.4	8.4	7.4	2.7	0.0	100
	Total	Count	79	139	203	330	1,045	1,143	1,460	1,507	1,521	1,140	1,009	1,056	478	2	11,112
		%	0.7	1.3	1.8	3.0	9.4	10.3	13.1	13.6	13.7	10.3	9.1	9.5	4.3	0.0	100
Length of hospital stay	Females	No. days	140	295	632	1,183	3,769	3,690	5,148	5,368	5,533	5,208	5,917	8,267	4,572	N/A	49,722
		%	0.3	0.6	1.3	2.4	7.6	7.4	10.4	10.8	11.1	10.5	11.9	16.6	9.2	N/A	100
		Mean	5.4	5.5	9.3	10.4	14.8	15.9	17.9	16.7	16.1	17.4	18.0	18.5	17.9	N/A	16
		S.D.	5.4	8.8	10.1	11.2	19.3	26.2	26.8	21.8	22.7	45.2	27.2	25.4	29.3	N/A	27
		Median	4.0	3.0	6.0	6.0	9.0	9.0	9.0	10.0	10.0	9.0	11.0	10.0	11.0	N/A	9
	Males	No. days	439	804	1,280	2,622	10,126	12,207	17,085	18,556	19,882	14,025	12,464	9,786	3,792	N/A	123,068
		%	0.4	0.7	1.0	2.1	8.2	9.9	13.9	15.1	16.2	11.4	10.1	8.0	3.1	N/A	100
		Mean	8.4	10.1	9.8	12.5	13.2	14.1	15.5	16.3	17.4	17.5	19.2	17.2	18.7	N/A	16
		S.D.	8.1	16.8	12.0	33.4	18.0	18.4	23.0	26.5	26.6	26.7	31.4	26.1	23.4	N/A	25
		Median	5.5	4.0	6.0	5.5	7.0	8.0	9.0	8.0	10.0	10.0	10.0	9.0	10.0	N/A	8
	Total	No. days	579	1,099	1,912	3,805	13,895	15,897	22,233	23,924	25,415	19,233	18,381	18,053	8,364	N/A	172,790
		%	0.3	0.6	1.1	2.2	8.0	9.2	12.9	13.8	14.7	11.1	10.6	10.4	4.8	N/A	100
		Mean	7.4	8.2	9.7	11.7	13.6	14.5	16.0	16.4	17.1	17.5	18.8	17.8	18.3	N/A	16
		S.D.	7.4	14.2	11.4	27.7	18.4	20.3	23.8	25.5	25.7	32.8	30.1	25.8	26.8	N/A	25
		Median	5.0	4.0	6.0	6.0	7.0	8.0	9.0	9.0	10.0	9.0	10.0	10.0	11.0	N/A	9

Note: Cases with no LOS recorded are excluded from LOS calculations

Table 3. Patient Days, Mean & Median Length of Stay by Sex and Age for Deaths 2004–2005 Cases

			<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total
No. of cases	**Females**	**Count**	1	12	3	5	21	29	28	24	29	33	52	112	93	N/A	442
		%	0.2	2.7	0.7	1.1	4.8	6.6	6.3	5.4	6.6	7.5	11.8	25.3	21.0	N/A	100
	Males	**Count**	2	6	11	14	63	97	121	86	122	118	114	153	77	2	986
		%	0.2	0.6	1.1	1.4	6.4	9.8	12.3	8.7	12.4	12.0	11.6	15.5	7.8	0.2	100
	Total	**Count**	3	18	14	19	84	126	149	110	151	151	166	265	170	2	1,428
		%	0.2	1.3	1.0	1.3	5.9	8.8	10.4	7.7	10.6	10.6	11.6	18.6	11.9	0.1	100
Length of hospital stay	**Females**	**No. days**	6	16	25	22	60	62	66	50	148	113	356	1,066	804	N/A	2,794
		%	0.2	0.6	0.9	0.8	2.1	2.2	2.4	1.8	5.3	4.0	12.7	38.2	28.8	N/A	100
		Mean	6.0	1.8	12.5	7.3	3.5	2.8	3.7	3.3	7.0	4.3	9.4	11.1	9.8	N/A	8
		S.D.	N/A	2.0	13.4	3.2	4.1	2.5	6.8	4.1	11.0	7.2	17.4	18.3	13.3	N/A	14
		Median	6.0	1.0	12.5	6.0	1.0	1.0	1.5	1.0	1.0	1.0	4.0	3.0	5.5	N/A	3
	Males	**No. days**	2	10	100	17	107	218	298	276	948	990	1,070	1,803	989	N/A	6,828
		%	0.0	0.1	1.5	0.2	1.6	3.2	4.4	4.0	13.9	14.5	15.7	26.4	14.5	N/A	100
		Mean	2.0	2.5	12.5	1.7	2.4	3.5	4.1	4.8	9.9	11.1	11.0	13.4	14.3	N/A	9
		S.D.	N/A	1.3	21.9	1.5	2.3	4.2	6.3	6.0	21.5	25.0	17.5	20.0	18.6	N/A	18
		Median	2.0	2.5	1.0	1.0	1.0	1.0	1.0	3.0	2.0	3.0	3.0	6.0	6.0	N/A	3
	Total	**No. days**	8	26	125	39	167	280	364	326	1,096	1,103	1,426	2,869	1,793	N/A	9,622
		%	0.1	0.3	1.3	0.4	1.7	2.9	3.8	3.4	11.4	11.5	14.8	29.8	18.6	N/A	100
		Mean	4.0	2.0	12.5	3.0	2.7	3.3	4.0	4.5	9.4	9.6	10.6	12.4	11.9	N/A	9
		S.D.	2.8	1.8	19.8	3.1	2.9	3.8	6.3	5.7	20.1	22.4	17.4	19.3	16.1	N/A	16
		Median	4.0	1.0	1.5	1.0	1.0	1.0	1.0	2.0	2.0	2.0	4.0	5.0	6.0	N/A	3

Note: Cases with no LOS recorded are excluded from LOS calculations

Table 4. External Causes of Injury by Age Group 2004–2005 Cases

		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total	%
No. of cases		79	139	203	330	1045	1143	1460	1507	1521	1140	1009	1056	478	2	11112	100
% of cases		0.7	1.3	1.8	3	9.4	10.3	13.1	13.6	13.7	10.3	9.1	9.5	4.3	0	100	0
Railway	**Pedestrians**	0	0	0	0	4	0	8	5	4	0	1	0	0	0	22	0.2
	Pedal cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Occupants and other	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Subtotal	0	0	0	0	4	0	8	5	5	0	1	0	0	0	23	0.2
Motor vehicle traffic	**Pedestrians**	0	10	28	30	71	72	67	79	88	68	72	89	27	0	701	6.3
	Pedal cyclists	0	1	16	24	10	7	26	27	35	10	3	6	0	0	165	1.5
	Drivers	0	0	1	7	229	294	350	325	294	210	132	86	26	0	1954	17.6
	Passengers	4	14	37	49	223	179	127	106	84	68	57	55	15	0	1018	9.2
	Motorcycle drivers	0	0	0	5	32	71	93	85	87	43	12	1	0	0	429	3.9
	Motorcycle passengers	0	0	0	1	3	1	4	10	14	2	1	1	0	0	37	0.3
	Other	0	0	3	7	16	10	12	9	10	10	6	0	0	0	83	0.7
	Subtotal	4	25	85	123	584	634	679	641	612	411	283	238	68	0	4387	39.5

Table 4. External Causes of Injury by Age Group 2004–2005 Cases (Con't)

		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total	%
Motor vehicle non traffic	**Pedestrians**	0	5	3	1	2	3	5	3	4	4	3	3	1	0	37	0.3
	Pedal cyclists	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
	Drivers	0	0	2	18	38	38	83	79	60	26	11	6	0	0	361	3.2
	Passengers	0	1	5	13	7	7	3	5	3	3	2	0	0	0	49	0.4
	Motorcycle drivers	0	0	2	5	14	13	22	15	8	2	1	0	0	0	82	0.7
	Motorcycle passengers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other	0	0	5	5	7	1	6	3	5	1	1	3	0	0	37	0.3
	Subtotal	0	6	19	42	68	62	119	105	80	36	18	12	1	0	568	5.1
Motor vehicle boarding or alighting		1	0	1	0	0	2	3	7	6	3	2	2	1	0	28	0.3
Other road vehicle	**Pedal cyclists**	0	0	10	44	33	38	37	38	40	20	16	5	0	0	281	2.5
	Other	0	2	3	7	8	5	5	11	14	14	7	2	0	0	78	0.7
	Pedestrian	0	1	0	2	1	0	1	0	1	3	1	1	2	0	13	0.1
	Subtotal	0	3	13	53	42	43	43	49	55	37	24	8	2	0	372	3.3
Water transport		0	1	0	0	7	2	3	4	8	2	0	0	0	0	27	0.2
Air and space transport		0	0	0	0	0	1	5	5	4	3	2	1	0	0	21	0.2
Vehicle incidents not elsewhere classified		0	2	0	0	1	0	1	0	0	0	0	0	0	0	4	0
Unintentional falls		43	53	47	53	106	102	197	306	461	480	581	746	386	0	3561	32
Fire and flames		1	4	2	7	10	9	19	22	15	12	13	9	6	0	129	1.2

Table 4. External Causes of Injury by Age Group 2004–2005 Cases (Con't)

		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total	%
Natural and environmental factors		0	4	2	4	2	6	6	6	6	11	4	3	0	0	54	0.5
Drowning		0	5	3	0	1	1	3	0	2	1	0	0	0	0	16	0.1
Suffocation		0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Foreign bodies (excluding choking)		0	0	0	0	1	1	2	2	0	1	1	0	0	0	8	0.1
Suicide and self inflicted injury (excl. poisonings)		0	0	2	6	19	24	58	54	43	21	15	8	1	1	252	2.3
Assault and injury purposely inflicted		26	9	4	8	149	203	226	206	127	50	14	4	5	1	1032	9.3
Legal intervention		0	0	0	0	1	1	5	2	4	1	0	0	0	0	14	0.1
Undetermined whether unintentionally of purposely inflicted		1	0	0	0	1	2	8	7	7	2	0	0	0	0	28	0.3
Operations of war		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other incidents		3	27	25	33	49	50	74	86	86	68	51	25	8	0	585	5.3
All other*		0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	0

Cases that have missing or invalid external cause codes

Table 5. External Causes of Injury by Age Group for Deaths 2004–2005 Cases

		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total	%
No. of cases		3	18	14	19	84	126	149	110	151	151	166	265	170	2	1428	100
% of cases		0.2	1.3	1	1.3	5.9	8.8	10.4	7.7	10.6	10.6	11.6	18.6	11.9	0.1	100	0
Railway	**Pedestrians**	0	0	0	0	1	0	2	2	2	0	1	0	0	0	8	0.6
	Pedal cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Occupants and other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Subtotal	0	0	0	0	1	0	2	2	2	0	1	0	0	0	8	0.6
Motor vehicle traffic	**Pedestrians**	0	1	0	2	9	15	12	10	12	17	24	29	15	0	146	10.2
	Pedal cyclists	0	0	1	2	1	1	1	1	2	2	0	4	0	0	15	1.1
	Drivers	0	0	1	0	24	35	32	21	21	25	20	20	12	0	211	14.8
	Passengers	0	1	5	4	19	11	10	4	13	3	6	15	6	0	97	6.8
	Motorcycle drivers	0	0	0	1	3	7	12	5	5	5	0	0	0	0	38	2.7
	Motorcycle passengers	0	0	0	1	0	0	0	0	1	1	0	1	0	0	4	0.3
	Other	0	0	0	0	2	2	4	0	1	4	0	0	0	0	13	0.9
	Subtotal	0	2	7	10	58	71	71	41	55	57	50	69	33	0	524	36.7

Table 5. External Causes of Injury by Age Group for Deaths 2004–2005 Cases (Con't)

		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total	%
Motor vehicle non traffic	**Pedestrians**	0	1	0	0	0	0	0	0	1	2	0	2	1	0	7	0.5
	Pedal cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Drivers	0	0	0	4	2	5	1	4	3	1	2	3	0	0	25	1.8
	Passengers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Motorcycle drivers	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1
	Motorcycle passengers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.1
	Subtotal	0	1	0	4	3	5	3	4	4	3	2	5	1	0	35	2.5
Motor vehicle boarding or alighting		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1
Other road vehicle	**Pedal cyclists**	0	0	1	0	0	0	0	2	1	2	3	2	0	0	11	0.8
	Other	0	0	0	0	0	1	0	0	1	0	1	0	0	0	3	0.2
	Pedestrian	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1
	Subtotal	0	0	1	0	0	1	0	2	2	3	4	2	0	0	15	1.1
Water transport		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air and space transport		0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	0.2
Vehicle incidents not elsewhere classified		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5. External Causes of Injury by Age Group for Deaths 2004–2005 Cases (Con't)

		< 1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 +	UNK	Total	%
Unintentional falls		0	5	1	0	2	5	17	15	47	61	84	170	121	0	528	37
Fire and flames		1	2	1	1	0	1	3	4	2	4	6	8	6	0	39	2.7
Natural and environmental factors		0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0.1
Drowning		0	3	2	0	0	1	2	0	0	1	0	0	0	0	9	0.6
Suffocation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foreign bodies (excluding choking)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suicide and self inflicted injury (excl. poisonings)		0	0	1	2	3	9	19	12	9	7	10	4	1	1	78	5.5
Assault and injury purposely inflicted		2	4	1	0	14	29	26	23	18	9	1	2	1	1	131	9.2
Legal intervention		0	0	0	0	0	0	1	0	3	0	0	0	0	0	4	0.3
Undetermined whether unintentionally of purposely inflicted		0	0	0	0	0	0	2	1	1	0	0	0	0	0	4	0.3
Operations of war		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other incidents		0	1	0	2	3	3	3	4	8	5	8	4	6	0	47	3.3
All other*		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Cases that have missing or invalid external cause codes

Table 6. External Causes of Injury by Age Group for Falls, 2004–2005 Cases (ICD 10-CA W00-W19)

		<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total	%
No. of cases		29	24	33	30	64	53	118	202	298	296	376	467	261	2251	100
% of cases		1.3	1.1	1.5	1.3	2.8	2.4	5.2	9	13.2	13.1	16.7	20.7	11.6	100	0
W00 Involving ice and snow		0	0	0	0	0	0	2	4	4	11	16	22	5	64	2.8
W01 Slipping, tripping and stumbling		0	2	5	0	3	4	6	20	34	47	83	140	74	418	18.6
W02 Involving skates, skis, sport boards and rollerblades	**Ice skates**	0	0	0	2	0	0	1	3	2	1	1	0	0	10	0.4
	Skis	0	0	0	2	5	4	0	0	5	3	4	0	0	23	1
	Roller skates/ Rollerblades	0	0	0	0	2	0	1	1	1	0	0	0	0	5	0.2
	Skateboards	0	0	0	2	7	2	0	1	0	0	0	0	0	12	0.5
	Snowboards	0	0	0	6	12	3	10	1	1	0	0	0	0	33	1.5
	Other specified	0	1	0	1	0	1	1	1	0	1	4	2	0	12	0.5
	Subtotal	0	1	0	13	26	10	13	7	9	5	9	2	0	95	4.2
W03 Collision with/pushed by another person		0	0	1	0	0	1	1	0	0	1	0	0	2	6	0.3
W04 While being carried or supported by other persons		17	1	1	0	0	0	0	1	0	0	0	0	0	20	0.9
W05 Involving wheelchair and other types of walking devices		0	2	0	1	0	0	0	0	1	2	3	15	8	32	1.4
W06 Involving bed		2	1	1	0	0	0	0	1	2	2	6	16	10	41	1.8
W07 Involving chair		0	1	0	1	0	0	1	0	2	1	3	5	9	23	1

Table 6. External Causes of Injury by Age Group for Falls, 2004–2005 Cases (ICD 10-CA W00-W19) (Con't)

	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total	%
W08 Involving other furniture	1	0	1	0	0	0	0	0	1	1	0	2	0	6	0.3
W09 Playground equipment	0	0	3	2	2	0	0	0	0	0	0	0	0	7	0.3
W10 On/from stairs/steps	4	2	2	2	7	3	14	33	63	72	83	91	52	428	19
W11 On/from ladder	0	0	0	0	2	2	12	29	48	41	34	28	2	198	8.8
W12 On/from scaffolding	0	0	0	0	0	1	5	12	15	5	3	0	0	41	1.8
W13 From. out of or through building or structure	0	8	11	4	10	12	42	47	51	32	10	6	1	234	10.4
W14 From tree	0	0	1	1	1	1	2	6	4	6	5	2	0	29	1.3
W15 From cliff	0	0	0	0	3	7	1	1	0	1	2	1	0	16	0.7
W16 Diving/jumping into water	0	0	1	0	1	1	2	2	1	0	0	0	0	8	0.4
W17 Other fall from one level to another	5	6	4	4	4	6	12	11	21	8	7	9	2	99	4.4
W18 Other fall on same level	0	0	1	2	4	2	3	16	26	27	59	63	47	250	11.1
W19 Unspecified fall	0	0	1	0	1	3	2	12	16	34	53	65	49	236	10.5

Note: Only cases with ICD-10-CA external cause of injury codes are included.

Table 7. Total Injuries and Injury Type by 5 Year Age Group 2004–2005 Cases

	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	UNK	Total	%**
Total*	146	247	401	634	2169	2337	2960	2944	2860	2093	1680	1685	692	3	20851	
% of total **	1.3	2.2	3.6	5.7	19.5	21	26.6	26.5	25.7	18.8	15.1	15.2	6.2	0		
Superficial	31	49	76	94	315	344	421	430	430	291	235	244	94	1	3055	33.3
Musculoskeletal	53	84	128	210	679	741	986	985	1001	715	504	468	187	1	6742	73.5
Burns and corrosion	1	14	1	6	19	15	29	32	26	17	16	8	6	0	190	2.1
Internal organ	58	74	144	225	719	720	868	859	872	685	650	736	324	0	6934	75.6
Crushing	0	0	1	1	3	4	10	11	8	2	5	2	0	0	47	0.5
Open wound, including traumatic amputation	2	17	38	64	285	345	434	426	340	235	182	166	64	1	2599	28.3
Blood vessels	0	3	2	5	61	55	70	72	52	43	23	19	5	0	410	4.5
Nerves and spinal cord	1	2	5	15	61	81	104	92	94	69	47	32	5	0	608	6.6
Other and unspecified	0	4	6	14	27	32	38	37	37	36	18	10	7	0	266	2.9

Note: If an hospitalization has injuries which fall into several of the injury types above, each type will be counted once. Otherwise, if a case has several injuries which all fall into one type then the case will only be counted once.

**** 'Total' refers to the total number of injury types. Cases from British Columbia are excluded because injury diagnosis codes were not available.***

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

Table 8. Denominators by Province/Territory 2004–2005

	Province/Territory											
	NL	PE	NS	NB*	QC	ON	MB*	SK	AB	BC	Terr	Total
No. of cases	84	N/A	451	78	2,057	3,975	333	N/A	2,191	1,943	N/A	11,112
No. of cases with external cause code	84	N/A	451	77	2,056	3,975	333	N/A	2,191	1,943	N/A	11,110
No. of cases discharged alive	75	N/A	395	67	1,801	3,432	305	N/A	1,919	1,690	N/A	9,684
No. of deaths**	9	N/A	56	11	256	543	28	N/A	272	253	N/A	1,428
No. who died in emergency room***	2	N/A	11	N/A	38	123	N/A	N/A	78	87	N/A	339
No. of pediatric cases (<18 years of age)****	15	N/A	60	17	211	484	55	N/A	272	150	N/A	1,264
No. of cases >10 (years of age)*****	81	N/A	427	72	1,977	3,775	316	N/A	2,085	1,906	N/A	10,639
No. of cases <20 (years of age)	19	N/A	82	24	315	661	67	N/A	401	227	N/A	1,796
No. of cases 20-64 (years of age)	51	N/A	253	44	1,220	2,287	208	N/A	1,401	1,306	N/A	6,770
No. of cases >64 (years of age)	14	N/A	116	10	522	1,025	58	N/A	389	410	N/A	2,544

Note: 2 cases had missing age information.
Note: This table provides denominators to allow calculation of percentages.
*** Important note: No provincial trauma registry in NB or MB. In each, data are from one facility only.***
**** Deaths refer to inhospital deaths and cases who died in emergency. Deaths occurring at the scene are excluded.***
***** Cases from Manitoba were excluded from DIE calculations as information on DIE was not available.***
****** Pediatric cases aged 0 were included this year.***
******* Number of cases for pediatric >10 years of age can be used for BAC calculation.***

Table 9. Demographics by Province/Territory 2004–2005 Cases

		Province/Territory											
		NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	Terr	Total
Total number of cases	Number	84	N/A	451	78	2,057	3,975	333	N/A	2,191	1,943	N/A	11,112
	%	100.0	N/A	100.0	100.0	100.0	100.0	100.0	N/A	100.0	100.0	N/A	100.0
Males	Number	65	N/A	319	56	1,463	2,811	231	N/A	1,613	1,423	N/A	7,981
	%	77.4	N/A	70.7	71.8	71.1	70.7	69.4	N/A	73.6	73.2	N/A	71.8
< 20 years of age	Number	19	N/A	82	24	315	661	67	N/A	401	227	N/A	1,796
	%	22.6	N/A	18.2	30.8	15.3	16.6	20.1	N/A	18.3	11.7	N/A	16.2
> = 65 years of age	Number	14	N/A	116	10	522	1,025	57	N/A	389	410	N/A	2,543
	%	16.7	N/A	25.7	12.8	25.4	25.8	17.1	N/A	17.8	21.1	N/A	22.9
Positive BAC(> = 17.4mmol/L)	Number	N/A	N/A	60	14	N/A	422	N/A	N/A	322	222	N/A	1,040
	%	N/A	N/A	13.3	17.9	N/A	10.6	N/A	N/A	14.7	11.4	N/A	9.4
Age (years)	Mean	41.7	N/A	45.2	35.8	45.6	45.3	40.4	N/A	41.1	44.7	N/A	44.2
	Standard deviation	22.7	N/A	24.2	21.7	23.2	23.9	22.4	N/A	22.3	21.9	N/A	23.1
	Median	43.0	N/A	45.0	33.5	45.0	43.0	37.4	N/A	38.0	42.0	N/A	42.0

BAC information from QC was provided but lacked the specificity required to establish a positive BAC. 265 (13.4%) cases in QC had alcohol present (any concentration).
BAC information from MB and NL not available.

Table 10. Injury Severity Score (ISS) by Province/Territory 2004–2005 Cases
Important note: data from NB and MB from one facility only

		Province/Territory											
		NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	Terr	Total
ISS-all cases	Mean	20.3	N/A	21.6	25.9	25.0	24.2	20.3	N/A	23.1	24.7	N/A	24.0
	S. D.	7.2	N/A	8.9	10.9	10.3	10.4	7.7	N/A	9.8	11.1	N/A	10.3
	Median	17.0	N/A	18.0	25.0	25.0	22.0	17.0	N/A	21.0	22.0	N/A	22.0
ISS-survivors	Mean	19.6	N/A	20.5	24.9	24.0	22.8	19.2	N/A	21.8	23.2	N/A	22.7
	S. D.	6.5	N/A	7.5	10.2	9.5	8.6	5.8	N/A	8.4	9.3	N/A	8.8
	Median	16.0	N/A	17.0	25.0	22.0	20.0	17.0	N/A	19.0	21.0	N/A	20.0
ISS-deaths	Mean	25.9	N/A	29.4	32.0	32.1	32.8	31.9	N/A	31.9	35.2	N/A	32.7
	S. D.	10.5	N/A	13.4	13.6	13.0	15.1	14.2	N/A	13.8	15.5	N/A	14.5
	Median	25.0	N/A	26.0	29.0	29.0	26.0	28.0	N/A	26.0	30.0	N/A	26.0

Table 11. Type of Injury by Province/Territory 2004–2005 Cases
Important note: data from NB and MB from one facility only

		Province/Territory											
		NL	**PE**	**NS**	**NB**	**QC**	**ON**	**MB**	**SK**	**AB**	**BC**	**Terr**	**Total**
Blunt	**Number**	82	N/A	416	74	2,023	3,707	303	N/A	2,016	1,797	N/A	10,418
	%	97.6	N/A	92.2	94.9	98.3	93.3	91.0	N/A	92.0	92.5	N/A	93.8
Penetrating	**Number**	2	N/A	22	1	31	201	19	N/A	127	96	N/A	499
	%	2.4	N/A	4.9	1.3	1.5	5.1	5.7	N/A	5.8	4.9	N/A	4.5
Burns	**Number**	N/A	N/A	13	3	3	67	11	N/A	48	50	N/A	195
	%	N/A	N/A	2.9	3.8	0.1	1.7	3.3	N/A	2.2	2.6	N/A	1.8
Work related	**Number**	6	N/A	22	4	122	231	18	N/A	199	139	N/A	741
	%	7.1	N/A	4.9	5.1	5.9	5.8	5.4	N/A	9.1	7.2	N/A	6.7
Sports/recreational injuries*	**Number**	11	N/A	60	5	N/A	394	36	N/A	273	276	N/A	1,055
	%	13.1	N/A	13.3	6.4	N/A	9.9	10.8	N/A	12.5	14.2	N/A	9.5

QC excluded from sports/rec injuries as data not provided

Table 12. Place of Injury by Province/Territory 2004–2005 Cases
Important note: data from NB and MB from one facility only

		Province/Territory											
		NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	Terr	Total
Home	Number	N/A	N/A	142	N/A	390	1,064	64	N/A	447	447	N/A	2,554
	%	N/A	N/A	31.5	N/A	19.0	26.8	19.2	N/A	20.4	23.0	N/A	23.0
Industrial	Number	2	N/A	9	2	71	134	10	N/A	91	N/A	N/A	319
	%	2.4	N/A	2.0	2.6	3.5	3.4	3.0	N/A	4.2	N/A	N/A	2.9
Recreation/sport	Number	1	N/A	9	6	82	93	2	N/A	114	271	N/A	578
	%	1.2	N/A	2.0	7.7	4.0	2.3	0.6	N/A	5.2	13.9	N/A	5.2
Street/highway	Number	32	N/A	206	33	943	1,831	175	N/A	1,031	814	N/A	5,065
	%	38.1	N/A	45.7	42.3	45.8	46.1	52.6	N/A	47.1	41.9	N/A	45.6
Other	Number	27	N/A	84	33	571	847	82	N/A	502	411	N/A	2,557
	%	32.1	N/A	18.6	42.3	27.8	21.3	24.6	N/A	22.9	21.2	N/A	23.0

Place of Injury is documented for all cases using ICD categories. Percentage may not add up to 100 as there are 39 cases that do not have a documented place of injury.

Table 13. External Cause of Injury by Province/Territory 2004–2005 Cases
Important note: data from NB and MB from one facility only

			Province/Territory											
			NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	Terr	Total
Unintentional falls	**Survivor**	**Number**	21	N/A	125	13	578	1,156	72	N/A	533	535	N/A	3,033
		%	25.0	N/A	27.7	16.7	28.1	29.1	21.6	N/A	24.3	27.5	N/A	27.3
	Deaths	**Number**	5	N/A	26	2	114	201	7	N/A	85	88	N/A	528
		%	6.0	N/A	5.8	2.6	5.5	5.1	2.1	N/A	3.9	4.5	N/A	4.8
	ALL	**Number**	26	N/A	151	15	692	1,357	79	N/A	618	623	N/A	3,561
		%	31.0	N/A	33.5	19.2	33.6	34.1	23.7	N/A	28.2	32.1	N/A	32.0
Motor vehicle traffic	**Survivor**	**Number**	22	N/A	160	28	736	1,383	111	N/A	780	643	N/A	3,863
		%	26.2	N/A	35.5	35.9	35.8	34.8	33.3	N/A	35.6	33.1	N/A	34.8
	Deaths	**Number**	4	N/A	15	6	93	191	13	N/A	102	100	N/A	524
		%	4.8	N/A	3.3	7.7	4.5	4.8	3.9	N/A	4.7	5.1	N/A	4.7
	ALL	**Number**	26	N/A	175	34	829	1,574	124	N/A	882	743	N/A	4,387
		%	31.0	N/A	38.8	43.6	40.3	39.6	37.2	N/A	40.3	38.2	N/A	39.5
Motor vehicle non traffic	**Survivor**	**Number**	12	N/A	27	5	106	177	25	N/A	101	80	N/A	533
		%	14.3	N/A	6.0	6.4	5.2	4.5	7.5	N/A	4.6	4.1	N/A	4.8
	Deaths	**Number**	N/A	N/A	1	1	8	11	1	N/A	9	4	N/A	35
		%	N/A	N/A	0.2	1.3	0.4	0.3	0.3	N/A	0.4	0.2	N/A	0.3
	ALL	**Number**	12	N/A	28	6	114	188	26	N/A	110	84	N/A	568
		%	14.3	N/A	6.2	7.7	5.5	4.7	7.8	N/A	5.0	4.3	N/A	5.1

Table 13. External Cause of Injury by Province/Territory 2004–2005 Cases (Con't)

			Province/Territory											
			NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	Terr	Total
Assault and injury purposely inflicted (excl. poisonings)	**Survivor**	**Number**	4	N/A	35	5	126	264	53	N/A	232	182	N/A	901
		%	4.8	N/A	7.8	6.4	6.1	6.6	15.9	N/A	10.6	9.4	N/A	8.1
	Deaths	**Number**	N/A	N/A	6	1	14	52	4	N/A	26	28	N/A	131
		%	N/A	N/A	1.3	1.3	0.7	1.3	1.2	N/A	1.2	1.4	N/A	1.2
	ALL	**Number**	4	N/A	41	6	140	316	57	N/A	258	210	N/A	1,032
		%	4.8	N/A	9.1	7.7	6.8	7.9	17.1	N/A	11.8	10.8	N/A	9.3
Suicide and self inflicted injury (excl. poisonings)	**Survivor**	**Number**	1	N/A	6	N/A	46	67	6	N/A	24	24	N/A	174
		%	1.2	N/A	1.3	N/A	2.2	1.7	1.8	N/A	1.1	1.2	N/A	1.6
	Deaths	**Number**	N/A	N/A	N/A	N/A	12	39	1	N/A	19	7	N/A	78
		%	N/A	N/A	N/A	N/A	0.6	1.0	0.3	N/A	0.9	0.4	N/A	0.7
	ALL	**Number**	1	N/A	6	N/A	58	106	7	N/A	43	31	N/A	252
		%	1.2	N/A	1.3	N/A	2.8	2.7	2.1	N/A	2.0	1.6	N/A	2.3
All other	**Survivor**	**Number**	15	N/A	42	16	209	385	38	N/A	249	226	N/A	1,180
		%	17.9	N/A	9.3	20.5	10.2	9.7	11.4	N/A	11.4	11.6	N/A	10.6
	Deaths	**Number**	N/A	N/A	8	1	15	49	2	N/A	31	26	N/A	132
		%	N/A	N/A	1.8	1.3	0.7	1.2	0.6	N/A	1.4	1.3	N/A	1.2
	ALL	**Number**	15	N/A	50	17	224	434	40	N/A	280	252	N/A	1,312
		%	17.9	N/A	11.1	21.8	10.9	10.9	12.0	N/A	12.8	13.0	N/A	11.8

Table 14. Participating Hospital Care by Province/Territory 2004–2005 Cases
Important note: data from NB and MB from one facility only

		Province/Territory											
		NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	Terr	TOTAL
Length of hospital stay (days)	All cases mean	19.1	N/A	19.8	14.7	17.2	14.7	22.4	N/A	13.3	18.8	N/A	16.1
	All cases S.D.	20.6	N/A	48.7	15.4	22.1	22.6	51.2	N/A	19.2	25.5	N/A	25.4
	All cases median	13.0	N/A	9.0	10.5	11.0	8.0	7.0	N/A	7.0	10.0	N/A	9.0
	Survivors mean	21.2	N/A	20.7	15.8	18.1	15.5	23.9	N/A	13.8	19.9	N/A	16.9
	Deaths mean	2.0	N/A	11.7	8.2	9.6	9.0	5.3	N/A	7.9	8.4	N/A	8.8
	Survivors S.D.	20.8	N/A	51.0	15.9	22.4	23.0	53.2	N/A	19.6	26.1	N/A	26.1
	Deaths S.D.	1.6	N/A	17.3	9.1	18.5	17.7	7.8	N/A	14.0	14.1	N/A	16.4
	Survivors median	15.0	N/A	10.0	11.0	11.0	9.0	8.0	N/A	8.0	10.0	N/A	9.0
	Deaths median	1.0	N/A	4.0	5.0	3.0	2.0	1.5	N/A	2.5	2.0	N/A	3.0
Cases with ventilation days	Number	40.0	N/A	148.0	40.0	786.0	1,404.0	N/A	N/A	659.0	N/A	N/A	3,077.0
	%	47.6	N/A	32.8	51.3	38.2	35.3	N/A	N/A	30.1	N/A	N/A	27.7
	Mean	6.5	N/A	6.4	5.9	7.1	6.0	N/A	N/A	7.8	N/A	N/A	6.7
	S.D.	6.4	N/A	8.5	6.1	11.4	18.9	N/A	N/A	11.0	N/A	N/A	15.1
	Median	4.0	N/A	3.0	3.5	3.0	2.0	N/A	N/A	3.0	N/A	N/A	2.0

Manitoba and British Columbia were excluded from ventilation days calculation as data not provided

Table 15. Total Injuries and Deaths by External Causes of Injury and Sex, 2004–2005 Cases

		Females				Males				Total			
		No. of injury	% of injury	No. of deaths	% of deaths	No. of injury	% of injury	No. of deaths	% of deaths	No. of injury	% of injury	No. of deaths	% of deaths
Total		3,131	100.0	442	100.0	7,981	100.0	986	100.0	11,112	100.0	1,428	100.0
Railway	**Pedestrians**	4	0.1	0	0	18	0.2	8	0.8	22	0.2	8	0.6
	Pedal cyclists	0	0	0	0	0	0	0	0	0	0	0	0
	Occupants and other	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
	Subtotal	4	0.1	0	0	19	0.2	8	0.8	23	0.2	8	0.6
Motor vehicle traffic	**Pedestrians**	305	9.7	68	15.4	396	5.0	78	7.9	701	6.3	146	10.2
	Pedal cyclists	36	1.1	0	0	129	1.6	15	1.5	165	1.5	15	1.1
	Drivers	516	16.5	50	11.3	1,438	18.0	161	16.3	1,954	17.6	211	14.8
	Passengers	517	16.5	53	12.0	501	6.3	44	4.5	1,018	9.2	97	6.8
	Motorcycle drivers	32	1.0	2	0.5	397	5.0	36	3.7	429	3.9	38	2.7
	Motorcycle passengers	35	1.1	3	0.7	2	0.0	1	0.1	37	0.3	4	0.3
	Other	25	0.8	5	1.1	58	0.7	8	0.8	83	0.7	13	0.9
	Subtotal	1,466	46.8	181	41.0	2,921	36.6	343	34.8	4,387	39.5	524	36.7

Table 15. Total Injuries and Deaths by External Causes of Injury and Sex, 2004–2005 Cases (Con't)

		Females				Males				Total			
		No. of injury	% of injury	No. of deaths	% of deaths	No. of injury	% of injury	No. of deaths	% of deaths	No. of injury	% of injury	No. of deaths	% of deaths
Motor vehicle non traffic	Pedestrians	6	0.2	2	0.5	31	0.4	5	0.5	37	0.3	7	0.5
	Pedal cyclists	1	0.0	0	0	1	0.0	0	0	2	0.0	0	0.0
	Drivers	47	1.5	3	0.7	314	3.9	22	2.2	361	3.2	25	1.8
	Passengers	25	0.8	0	0	24	0.3	0	0	49	0.4	0	0.0
	Motorcycle drivers	2	0.1	0	0	80	1.0	1	0.1	82	0.7	1	0.1
	Motorcycle passengers	0	0	0	0	0	0	0	0	0	0	0	0
	Other	7	0.2	0	0	30	0.4	2	0.2	37	0.3	2	0.1
	Subtotal	88	2.8	5	1.1	480	6.0	30	3.0	568	5.1	35	2.5
Motor vehicle boarding or alighting		10	0.3	1	0.2	18	0.2	0	0	28	0.3	1	0.1
Other road vehicle	Pedal cyclists	44	1.4	3	0.7	237	3.0	8	0.8	281	2.5	11	0.8
	Other	39	1.2	1	0.2	39	0.5	2	0.2	78	0.7	3	0.2
	Pedestrian	5	0.2	1	0.2	8	0.1	0	0	13	0.1	1	0.1
	Subtotal	88	2.8	5	1.1	284	3.6	10	1.0	372	3.3	15	1.1
Water transport		9	0.3	0	0	18	0.2	0	0	27	0.2	0	0.0
Air and space transport		1	0.0	0	0	20	0.3	3	0.3	21	0.2	3	0.2
Vehicle incidents not elsewhere classified		1	0.0	0	0	3	0.0	0	0	4	0.0	0	0.0

Table 15. Total Injuries and Deaths by External Causes of Injury and Sex, 2004–2005 Cases (Con't)

	Females				Males				Total			
	No. of injury	% of injury	No. of deaths	% of deaths	No. of injury	% of injury	No. of deaths	% of deaths	No. of injury	% of injury	No. of deaths	% of deaths
Unintentional falls	1,124	35.9	194	43.9	2,437	30.5	334	33.9	3,561	32.0	528	37.0
Fire and flames	35	1.1	17	3.8	94	1.2	22	2.2	129	1.2	39	2.7
Natural and environmental factors	18	0.6	0	0	36	0.5	2	0.2	54	0.5	2	0.1
Drowning	6	0.2	2	0.5	10	0.1	7	0.7	16	0.1	9	0.6
Suffocation	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
Foreign bodies (excluding choking)	3	0.1	0	0	5	0.1	0	0	8	0.1	0	0.0
Suicide and self inflicted injury (excl. poisonings)	65	2.1	11	2.5	187	2.3	67	6.8	252	2.3	78	5.5
Assault and injury purposely inflicted	114	3.6	18	4.1	918	11.5	113	11.5	1,032	9.3	131	9.2
Legal intervention	1	0.0	0	0	13	0.2	4	0.4	14	0.1	4	0.3
Undetermined whether unintentionally of purposely inflicted	5	0.2	0	0	23	0.3	4	0.4	28	0.3	4	0.3
Operations of war	0	0	0	0	0	0	0	0	0	0	0	0
Other incidents	93	3.0	8	1.8	492	6.2	39	4.0	585	5.3	47	3.3
All other*	0	0	0	0	2	0.0	0	0	2	0.0	0	0.0

Cases that have missing or invalid external cause codes

Table 16. Injury Case Summary by External Cause of Injury and Sex, 2004–2005 Cases

		Females					Males					Total				
		Mean			Median	S.D.	Mean			Median	S.D.	Mean			Median	S.D.
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Total		49.2	23.6	16.4	9.0	26.9	42.2	24.1	16.0	8.0	24.8	44.2	24.0	16.1	9.0	25.4
Railway	**Pedestrians**	28.2	29.0	46.5	51.5	16.8	36.8	32.7	14.6	11.0	14.0	35.2	32.0	22.1	16.0	19.8
	Pedal cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Occupants and other	0	0	0	0	0	47.0	17.0	6.0	6.0	0	47.0	17.0	6.0	6.0	0
	Subtotal	28.2	29.0	46.5	51.5	16.8	37.3	31.8	14.0	10.0	13.6	35.7	31.3	21.2	15.5	19.6
Motor vehicle traffic	**Pedestrians**	46.0	26.5	15.8	10.0	18.6	43.3	28.3	21.0	12.0	24.3	44.4	27.5	18.8	12.0	22.1
	Pedal cyclists	26.1	22.1	15.3	7.5	31.8	36.1	26.5	16.1	9.0	23.4	33.9	25.5	15.9	8.0	25.4
	Drivers	43.4	25.9	18.4	11.0	24.2	39.4	26.5	17.0	10.0	23.8	40.4	26.3	17.4	10.0	23.9
	Passengers	38.4	25.6	16.3	10.0	20.9	28.8	26.6	16.4	10.0	20.3	33.7	26.1	16.4	10.0	20.6
	Motorcycle drivers	43.7	25.2	17.0	12.0	19.5	36.9	26.2	17.6	10.0	19.6	37.4	26.1	17.5	10.0	19.5
	Motorcycle passengers	42.1	30.9	18.8	12.0	16.9	49.0	38.5	17.0	17.0	22.6	42.5	31.3	18.7	12.0	16.8
	Other	32.2	26.4	11.5	7.0	12.5	35.1	24.4	12.7	8.0	17.2	34.2	25.0	12.3	7.5	15.9
	Subtotal	41.5	25.9	16.9	10.0	21.8	37.5	26.7	17.4	10.0	22.6	38.9	26.4	17.2	10.0	22.4

Table 16. Injury Case Summary by External Cause of Injury and Sex, 2004–2005 Cases (Con't)

		Females					Males					Total				
		Mean			Median	S.D.	Mean			Median	S.D.	Mean			Median	S.D.
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Motor vehicle non traffic	Pedestrians	49.0	27.7	14.7	10.0	17.1	34.5	23.0	16.6	9.0	25.1	36.8	23.8	16.3	9.0	23.7
	Pedal cyclists	6.5	14.0	4.0	4.0	0	9.0	51.0	15.0	15.0	0	7.7	32.5	9.5	9.5	7.8
	Drivers	31.6	24.1	17.5	8.0	24.5	36.6	24.3	12.5	9.0	13.2	36.0	24.2	13.1	8.0	15.2
	Passengers	28.2	23.5	11.5	8.0	8.5	21.1	22.6	9.4	5.0	12.8	24.7	23.1	10.5	6.0	10.8
	Motorcycle drivers	27.5	17.5	6.0	6.0	4.2	29.4	22.8	15.7	7.0	28.8	29.4	22.7	15.5	7.0	28.5
	Motorcycle passengers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other	17.3	18.1	9.4	5.0	8.4	34.2	23.4	14.8	10.0	14.4	31.0	22.4	13.8	9.5	13.5
	Subtotal	30.3	23.4	14.5	8.0	19.3	34.3	23.9	13.3	8.0	17.7	33.7	23.8	13.5	8.0	18.0
Motor vehicle boarding or alighting		48.4	21.2	8.5	9.0	5.5	44.4	19.4	9.2	8.0	6.8	45.9	20.0	9.0	8.5	6.3
Other road vehicle	Pedal cyclists	32.5	22.3	9.2	5.0	11.5	33.2	20.7	14.4	6.0	32.8	33.1	21.0	13.5	6.0	30.5
	Other	32.6	20.5	10.4	8.0	9.6	46.2	21.3	9.1	5.0	10.0	39.4	20.9	9.7	7.0	9.8
	Pedestrian	41.0	20.6	3.0	2.0	2.9	55.8	23.4	10.3	9.0	4.7	50.1	22.3	7.5	8.0	5.4
	Subtotal	33.0	21.4	9.4	6.0	10.4	35.6	20.9	13.5	6.0	30.2	35.0	21.0	12.5	6.0	26.9
Water transport		31.5	21.0	10.3	10.0	6.9	35.4	22.5	16.5	9.0	16.8	34.1	22.0	14.4	9.0	14.4
Air and space transport		53.0	27.0	52.0	52.0	0	45.5	26.1	12.9	9.0	10.0	45.9	26.1	14.9	11.0	13.1
Vehicle incidents not elsewhere classified		4.0	24.0	5.0	5.0	0	15.7	20.0	3.0	1.0	3.5	12.8	21.0	3.5	3.0	3.0
Unintentional falls		66.2	20.9	15.9	8.0	32.1	55.1	22.1	15.2	8.0	24.8	58.6	21.7	15.4	8.0	27.3
Fire and flames		53.0	24.2	29.6	20.5	29.9	38.8	27.0	27.3	19.0	30.2	42.7	26.3	27.9	19.0	30.0

Table 16. Injury Case Summary by External Cause of Injury and Sex, 2004–2005 Cases (Con't)

	Females					Males					Total				
	Mean			Median	S.D.	Mean			Median	S.D.	Mean			Median	S.D.
	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Natural and Environmental factors	32.6	18.7	7.8	5.0	8.0	42.6	22.0	11.1	8.0	12.8	39.3	20.9	10.0	6.0	11.4
Drowning	20.3	21.2	6.0	2.0	7.3	21.8	25.8	16.1	9.0	20.3	21.3	24.1	11.9	7.5	16.5
Suffocation	0	0	0	0	0	62.0	50.0	69.0	69.0	0	62.0	50.0	69.0	69.0	0
Foreign bodies (excluding choking)	40.5	17.0	24.7	13.0	29.3	39.0	29.0	24.6	10.0	38.5	39.6	24.5	24.6	11.0	33.0
Suicide and self inflicted injury (excl. poisonings)	34.9	29.2	37.9	17.0	53.1	41.2	28.4	29.6	14.0	50.2	39.6	28.6	31.9	14.0	51.0
Assault and injury purposely inflicted	35.0	21.4	10.1	6.0	18.1	31.4	22.3	12.9	6.0	25.3	31.8	22.2	12.6	6.0	24.6
Legal intervention	30.0	16.0	4.0	4.0	0	36.2	24.8	13.7	6.0	25.6	35.7	24.1	12.9	5.0	24.7
Undetermined whether unintentionally of purposely inflicted	30.4	19.8	11.0	10.0	9.9	39.1	21.5	16.2	8.0	18.7	37.6	21.2	15.2	8.0	17.4
Operations of war	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other incidents	32.5	20.2	14.5	8.0	27.5	40.1	22.6	15.2	8.0	25.2	38.9	22.2	15.1	8.0	25.5
All other*	0	0	0	0	0	21.0	23.0	16.0	16.0	0.0	21.0	23.0	16.0	16.0	0.0

Cases that have missing or invalid external cause codes