2007 Report

Major Injury in Ontario

(Includes 2005–2006 and 2006–2007 Data)

Ontario Trauma Registry

Canadian Institute for Health Information
Institut canadien d'information sur la santé

Canadian Institute for Health Information
495 Richmond Road, Suite 600
Ottawa, Ontario K2A 4H6

Phone: 613-241-7860
Fax: 613-241-8120
www.cihi.ca

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Table of Contents

About the Canadian Institute for Health Information (CIHI)

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

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

Acknowledgements

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The Ontario Trauma Registry 2007 report, *Major Injury in Ontario*, was developed at CIHI by:

- Fang Yang, Senior Analyst, Trauma Registries
- Surabhi Chandra, Analyst, Trauma Registries
- Alexandra Moses McKeag, Program Lead, Trauma Registries
- Margaret Keresteci, Manager, Clinical Registries

All questions regarding this report should be directed to:

Ontario Trauma Registry
Canadian Institute for Health Information
90 Eglinton Avenue East, Suite 300
Toronto, Ontario M4P 2Y3

Phone: 416-481-2002 ext. 3554
Fax: 416-481-2950
Email: otr@cihi.ca

Executive Summary

The source of data for this report is the Ontario Trauma Registry Comprehensive Data Set. Trauma cases were selected based on an Injury Severity Score (ISS) of more than 12 and on external cause of injury inclusion and exclusion criteria. Cases also met one of the following criteria:

- were admitted to a participating facility; or
- were treated in the emergency department of a participating facility (not admitted); or
- died in the emergency department of a participating facility after treatment was initiated (not admitted).

Overall Trends

In 2006–2007, there were 4,347 cases hospitalized with major trauma in 11 participating facilities across 14 sites in Ontario. This represents an increase of 10% compared to 2002–2003, and an average annual increase of 2% from 2002–2003 to 2006–2007.

In 2006–2007, these major trauma cases accounted for 61,645 days in the participating facilities. Most (72%, n = 3,118) of these cases were male patients, and the average age of all cases was 45 years. The average age remained relatively stable over the last five years, increasing from 43 years in 2002–2003 to 45 years in 2006–2007.

Of the 4,347 cases, 13% (n = 555) died, either in hospital (n = 461) or in the emergency department (DIE) (n = 91). The number of in-hospital deaths increased by 5% from 2002–2003 to 2006–2007, an average annual increase of 1%. The number of DIEs decreased by 20% since 2002–2003, with an average annual decrease of 4%.

Trends by Cause

Motor vehicle collisions were responsible for nearly one-half of the hospitalizations (44%, n = 1,897), followed by unintentional falls (34%, n = 1,466). Where specific cause of injury is noted, injury purposefully inflicted by another person (that is, homicide and assault) (9%, n = 379) and suicide and self-inflicted injury (excluding poisoning) (2%, n = 91) were the next most common causes of injury. When causes of injury were analyzed by age group, motor vehicle collisions and falls were the leading two causes in all age groups except among cases aged 20 to 34 years. Although motor vehicle collisions (excluding cyclists) were responsible for the majority (56%, n = 513) of cases in this age group, the second most common cause of injury was injury purposely inflicted by another person (18%, n = 165).

Among the 1,897 cases injured in motor vehicle collisions, 57% (n = 1,083) were drivers and 21% (n = 407) were passengers. Motor vehicle collisions accounted for 34% (n = 186) of major injury deaths.

Among the 1,466 cases injured in unintentional falls, the most common specified types of falls were falls on or from stairs/steps (22%, n = 321) and falls from slipping, tripping and stumbling (14%, n = 212). Falls were responsible for 42% (n = 233) of major injury in-hospital deaths.

Context of Injury

Eleven percent (n = 488) of the major trauma cases were injured while involved in a sports or recreational activity. Six percent (n = 261) of admissions were documented to be work-related. More than half (53%, n = 2,319) of the cases had blood alcohol testing. Of those, 685 (30%) had a blood alcohol concentration (BAC) greater than zero and 491 (21%) had an alcohol concentration, defined as greater than or equal to 17.4 mmol/L, reflecting the legal positive blood alcohol limit. Cases with an alcohol concentration greater than or equal to 17.4 mmol/L represent 11% (n = 491) of all cases and 21% of those who had blood alcohol testing.

Clinical Aspects of Injury

The most common injury types were internal organ injuries (85%, n = 3,710), followed by musculoskeletal (73%, n = 3,175) and superficial (33%, n = 1,417) injuries. Ninety-three percent (n = 4,026) of cases were documented with blunt injury (including lacerations), 6% (n = 242) had penetrating injuries and 2% (n = 79) were hospitalized due to burns.

For all cases, the mean ISS was 24. In 2006–2007, the highest mean ISS occurred among cases injured due to air and space transport (ISS = 36, n = 9), followed by suicide and self-inflicted injury (excluding poisoning) (ISS = 29, n = 91) and by pedal cyclists involved in a motor vehicle collision (ISS = 28, n = 82). The highest ISS occurred among cases with burn injuries (as opposed to blunt or penetrating injuries) (ISS = 26).

The average length of stay (LOS) was relatively constant at 15 days from 2003–2004 to 2006–2007, except for an increase to 17 days in 2002–2003. In 2006–2007, the longest average LOS was among those admitted with burn injuries (LOS = 28 days) and among those whose injuries were related to a motor vehicle collision (LOS = 16 days).

Of the 3,792 cases discharged alive, 57% (n = 2,181) were discharged home either with or without support services, 18% (n = 681) were discharged to a rehabilitation facility and 18% (n = 667) were transferred to another acute care facility.

1. Introduction

1.1 Purpose of Report

The purpose of this report is to provide a descriptive analysis of patients hospitalized with major trauma in the 11 lead trauma hospitals in Ontario. The data source for this report is the Ontario Trauma Registry Comprehensive Data Set (OTR CDS). Trauma cases were selected based on an ISS greater than 12 and using external cause of injury inclusion and exclusion criteria.

1.2 About the Ontario Trauma Registry (OTR)

1.2.1 Goal

The goal of the Ontario Trauma Registry (OTR) is to facilitate the reduction of injury admissions and deaths in the province of Ontario by identifying, describing and quantifying trauma in order to:

1. increase awareness of injury as a public health problem in Ontario;
2. assist injury prevention and treatment programs; and
3. support injury-related analysis and research.

1.2.2 History

The OTR, funded by the Ontario Ministry of Health and Long-Term Care, was established in May 1992. A multidisciplinary advisory committee, the Trauma Registry Advisory Committee (TRAC), provides guidance to the OTR. TRAC includes representatives from the ministries of Health and Long-Term Care, Labour and Transportation, CIHI, the Office of the Chief Coroner and the Trauma Association of Canada, as well as epidemiologists and trauma care providers.

1.2.3 Structure

For injury prevention programs to be effective, data are needed to clearly define the nature and scope of injury in the province. The use of the International Classification of Disease (ICD) external cause of injury coding system for all injury admissions facilitates the analysis of injury data in Ontario. The OTR consists of three major sources of data as listed on the next page. Standard and ad hoc reports from these data sets detail demographic information, cause and nature of injury admissions and deaths provincially. This information is used by researchers and injury prevention specialists to develop and monitor injury prevention programs.

The Ontario Trauma Registry is composed of three data sets:

1. The **Minimal Data Set** (MDS) contains demographic, diagnostic and procedural information on all acute care hospitalizations due to injury in acute care facilities in Ontario. These admissions are selected from the Hospital Morbidity Database at CIHI and downloaded to the registry's data processing system. As of 2005–2006 (2003–2004 data), inclusion criteria are based on specific external cause of injury codes within the International Classification of Disease, 10th Revision. Inclusion in the OTR MDS for 1994 to 2002 is based on specific external cause of injury codes within the International Classification of Disease, 9th Revision (ICD-9) (E codes).

   Examples of external cause of injury codes that are included in the definition of trauma are motor vehicle collisions, including those involving pedestrians, motorcycles and bicycles, and falls, drownings and burns. External cause of injury codes that are excluded are poisonings, adverse effects and complications. Appendix B (Trauma Definition: External Cause of Injury Code Inclusions and Exclusions) lists the external cause of injury codes that are included and excluded from the definition of trauma used for the OTR MDS.

2. The **Death Data Set** from the Office of the Chief Coroner contains information on all deaths in the province due to injury. There are approximately 3,500 injury deaths annually in Ontario. Reporting on all injury deaths rather than in-hospital deaths (as reported in the OTR MDS) provides a more complete picture of trauma in the province. Information contained in the database at the Office of the Chief Coroner is indispensable to injury prevention programs, because a significant percentage of injured persons die before admission to hospital.

   Trauma is defined in the Death Data Set using components of the Office of the Chief Coroner's classification system of death types, death factors, environments and involvements. The OTR developed a system to map the classification system used by the Office of the Chief Coroner to the external cause of injury codes to allow standardized reporting across the data sets of the OTR and comparisons to other sources of data. Information in the Death Data Set includes demographics, cause of death and factors contributing to death, such as alcohol use.

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

2. Methods

2.1 Data Source

The data source for this report is the OTR CDS. The OTR CDS consists of detailed information on patients hospitalized with major trauma in 11 participating facilities across 14 sites in the province. These lead trauma hospitals are funded by the Ministry of Health and Long-Term Care for hardware, software and dedicated trauma staff, including a medical director, trauma coordinator, data analyst and administrative assistant.

The definition of trauma in the Comprehensive Data Set (CDS) is based on the ISS, an international scoring system created to calculate the severity of injury, and an appropriate external cause of injury code (see Appendix B). External cause of injury code inclusion criteria have been expanded for the OTR CDS to include other causes of injury where appropriate as determined by an OTR CDS Working Group. Appendix C describes these additional guidelines.

Specialized trauma software (COLLECTOR and TRI-CODE from Digital Innovations and Tri-Analytics, Inc.) is used to collect and analyze data on approximately 4,000 cases annually. This software was customized for the province of Ontario with input from participating facilities and TRAC. Detailed data are collected, including demographics, pre-hospital and hospital care, and patient outcomes. Data are electronically transmitted monthly to the OTR to create the CDS.

2.2 Inclusion/Exclusion Criteria

2.2.1 Definition of Trauma

Trauma is defined in the OTR CDS as any case:

- with an ISS greater than 12 and an appropriate external cause of injury code (see Appendix B) that meets one of the following criteria:
  - admitted to a participating facility; or
  - treated in the emergency department of a participating facility (not admitted); or
  - died in the emergency department of a participating facility after treatment was initiated (not admitted).

Additional trauma definition guidelines as established by the OTR CDS Working Group and TRAC are found in appendices B and C.

2.2.2 Participating Facilities

The following 11 participating facilities (across 14 sites) provide data for the OTR CDS:

- Children's Hospital of Eastern Ontario, Ottawa
- Hamilton Health Sciences Corporation, Hamilton (2 sites)
- Hospital for Sick Children, Toronto
- Hôtel-Dieu Grace Hospital, Windsor
- Kingston General Hospital, Kingston

- London Health Sciences Centre, London (2 sites)
- The Ottawa Hospital, Ottawa (2 sites)
- St. Joseph's Health Centre (formerly Sudbury General Hospital), Sudbury
- St. Michael's Hospital, Toronto
- Sunnybrook Health Sciences Centre, Toronto
- Thunder Bay Regional Health Sciences Centre, Thunder Bay

In this report, data from facilities are reported according to a letter of the alphabet ("A" to "N"); as such, specific facilities cannot be identified.

2.3 Data Elements

2.3.1 Data Dictionary

The *OTR CDS Data Dictionary* was prepared by the OTR with input from participating facility staff and members of TRAC. The purpose of the document is to define each data element in the customized Ontario version of COLLECTOR. The *Data Dictionary* includes a list of commonly used abbreviations and their meanings, the field name, the field type and field length for each data element, and an explanation of what is required for the data element as well as a list of menu choices wherever appropriate.

Data Dictionary appendices include the definition of trauma, Minimal Data Set (MDS) trauma patient definition (external cause of injury list), list of participating facilities, CIHI physician services, non-operative procedures definitions and *Motor Vehicle Collision Report* information. The latest update of the *Data Dictionary* was published in July 2005 and is available electronically through CIHI's client services website.

A complete list of OTR CDS data elements can be found in Appendix F.

2.3.2 Data Quality

There are more than 90 detailed edit checks in the COLLECTOR software package to ensure data accuracy, consistency and completeness. These edits include range checks, cross checks, validity checks, date sequence edits and edits for blank fields.

CIHI performs various validity checks on the data submitted by the lead trauma hospitals, such as checking that the diagnosis codes are valid and for completeness of the data. If the data do not pass CIHI validations, a notification of errors is sent to the lead trauma hospitals, who are then asked to resubmit the corrected or complete data.

CIHI implemented the *Data Quality Framework* to provide a means to systematically assess, improve and document data quality for all databases at CIHI. Data quality is defined as "fitness for use" from the user's perspective. Using the *Data Quality Framework*, the OTR CDS is currently being assessed on the basis of five dimensions: accuracy, timeliness, comparability, usability and relevance. Each of these five dimensions is made up of related characteristics, which are operationalized using detailed criteria. A description of CIHI's *Data Quality Framework* is available on CIHI's website (www.cihi.ca). Once the OTR CDS data quality report is completed, a summary will be posted on the CIHI website.

2.4 Reporting Guidelines

This report:

- Contains 2005–2006 and 2006–2007 data from 11 participating facilities across 14 sites transmitted to the OTR as of October 16, 2007.
- Was created based on fiscal year of discharge as approved by TRAC in October 2004. This change was initiated in the 2005 report, which included 2003–2004 data.
- Contains totals which may not match exactly when compared with previous reports, since facilities may update data from previous years.
- Reports on five-year trends (2002–2003 to 2006–2007).
- Does not include admissions due to suicide or homicide resulting from poisoning.
- Generally counts admissions to lead trauma hospitals due to major injury, referred to as cases. Because patients may be transferred between participating hospitals, the same individual patient may be included more than once in the OTR CDS.
- Includes in-hospital deaths and cases that died in emergency (DIEs) in participating hospitals; deaths that occurred before active treatment was initiated (that is, dead on arrival, dead at scene) are not included.
- Reports data from facility sites according to a letter of the alphabet ("A" to "N"); as such, specific facilities cannot be identified.
- Includes data from the lead trauma hospitals by site. The data tables in Appendix H report on 14 individual sites.
- May report percentages that do not add to 100% because of rounding.
- Reports cause of injury by the primary external cause of injury code documented; up to three codes (primary, secondary and tertiary) can be documented in the OTR CDS.
- Calculates percentages using all records as denominators unless otherwise stated.
- Includes tables produced by age and/or sex that may not sum to the total; cases with unknown age and/or unknown sex are included in the total but not in the individual age or sex categories.
- Analyses injury data using the International Classification of Diseases, 10th Revision, Canada (ICD-10-CA) as of 2002–2003 and the Canadian Classification of Health Interventions (CCI).
- As of 2002–2003, includes diagnostic information coded to the International Classification of Diseases, 10th Revision, Canada (ICD-10-CA).
- Reports on positive BAC, both all BAC levels greater than zero and BAC levels defined as greater than or equal to 17.4 mmol/L (to reflect legal positive blood alcohol limit) as opposed to 17.0 mmol/L in previous years.

3. Overall Trend Analysis

3.1 2006–2007 Highlights

In the 2006–2007 OTR CDS, there were 4,347 injury cases with an ISS greater than 12 and an appropriate cause of injury treated in 11 participating facilities (across 14 sites) in Ontario.

- 4,347 injury cases accounted for 61,645 hospital days.
- The mean length of stay (LOS) was 15 days (median = 8).
- The mean ISS was 24 (median = 22).
- There were 555 deaths: 461 in-hospital deaths (admitted patients) and 91 deaths in the emergency department (DIEs).
- 3,118 (72%) cases were male.
- 2,293 (53%) cases were direct admissions.
- The mean age for all cases was 45 years (median = 44).
- 1,653 (38%) cases were younger than 35 years of age.
- 124 (3%) cases were out-of-province residents.
- 1,423 (33%) patients had ventilator days documented; the mean number of ventilator days was 6 (median = 2).
- 156 (4%) cases had intracranial pressure (ICP) monitoring days documented; the mean number of ICP days was 4 (median = 3).
- 491 cases had a blood alcohol concentration greater than or equal to 17.4 mmol/L, accounting for 11% of all cases and 21% of those who had blood alcohol testing
- 2,319 (53%) cases had blood alcohol testing. Of those, 685 (30%) had a blood alcohol concentration greater than zero.
- The most common injury type was internal organ (85%), followed by musculoskeletal (73%) and superficial (33%) injuries.
- 4,026 (93%) cases had blunt injury.
- 261 (6%) cases were work-related.
- 488 (11%) injuries occurred in a sports and recreational activity.
- 245 (6%) cases had an incomplete Glasgow Coma Scale score due to the administration of paralytic agents.

3.2 Trend Analysis 2002–2003 to 2006–2007

Over the past five years, the number of cases appearing annually in the OTR CDS increased from 3,965 in 2002–2003 to 4,347 in 2006–2007 (Appendix H, Table 1). This represents a 10% increase compared to 2002–2003 and an average annual increase of 2% between 2002–2003 and 2006–2007.

Of the 4,347 cases, 555 (13%) died either in hospital or in the emergency room. The number of in-hospital deaths increased by 5% since 2002–2003, with an average annual increase of 1%. The percentage of the total caseload attributed to in-hospital deaths fluctuated between 11% and 12% over the past five years. The number of DIEs decreased

by 20% since 2002–2003, with an average annual decrease of 4% from 2002–2003 to 2006–2007. DIEs as a percentage of the total caseload fluctuated between 2% and 3% over the last five years.

The mean ISS remained relatively constant at 24 or 25 between 2002–2003 and 2006–2007.

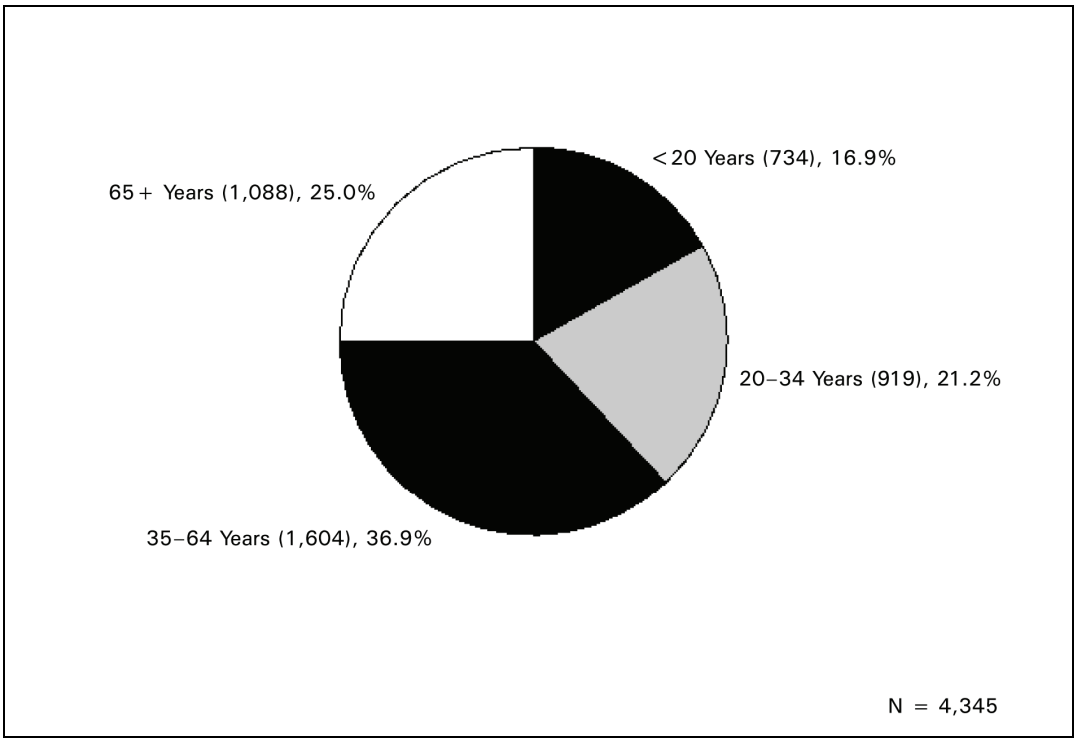
The mean LOS was 17 days in 2002–2003 and remained constant at 15 days from 2003–2004 to 2006–2007.

3.3 Demographic Analysis

Figure 1 shows the injury cases by age group.

- Younger than 20 years of age accounted for:
  - 17% (n = 734) of all cases.
  - 14% (n = 6,449) of participating hospital days.
- Between the ages of 20 and 34 years accounted for:
  - 21% (n = 919) of all cases.
  - 20% (n = 12,498) of participating hospital days.
- Between the ages of 35 and 64 years accounted for:
  - 37% (n = 1,604) of all cases.
  - 37% (n = 22,517) of participating hospital days.
- Aged 65 years and older accounted for:
  - 25% (n = 1,088) of all cases.
  - 30% (n = 18,181) of participating hospital days.

Figure 1 Injury Cases by Age Group, 2006–2007

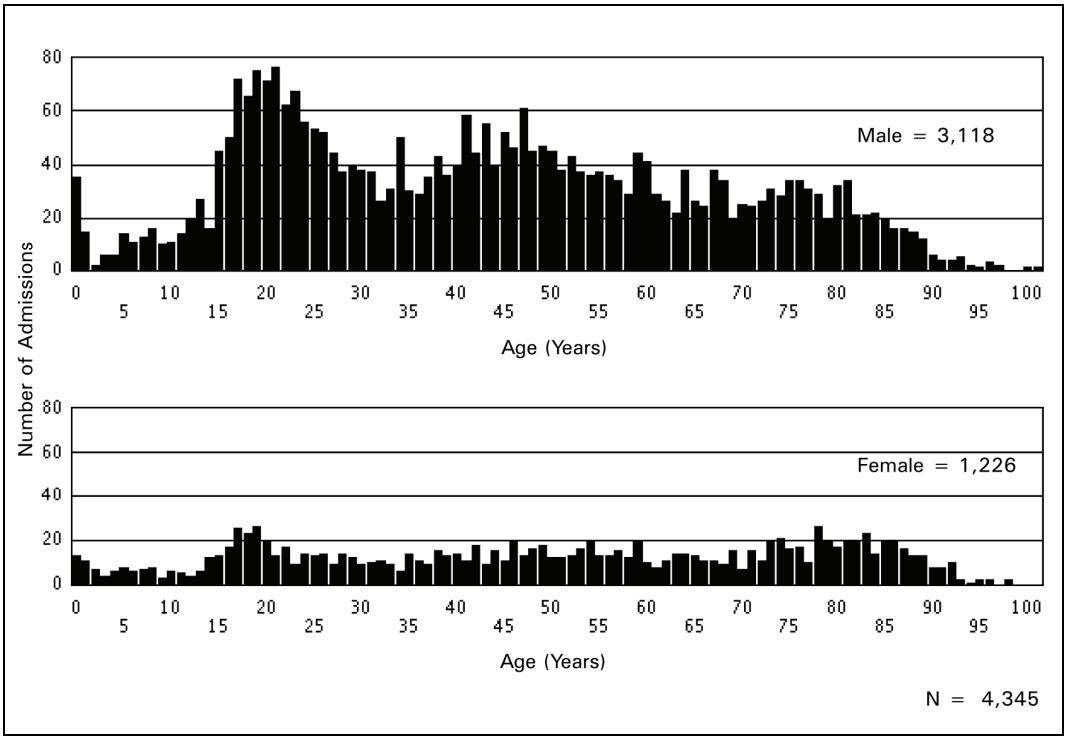


Note
Two cases with unknown age.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

As seen in Figure 2, males accounted for the greatest (72%) number of cases, with a peak in young males around 19 years of age.

Figure 2 Injuries by Single Year of Age and Sex—All Cases, 2006–2007



Notes
Two cases with unknown age.
One case with unknown sex.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

4. Analysis of Causes of Injury

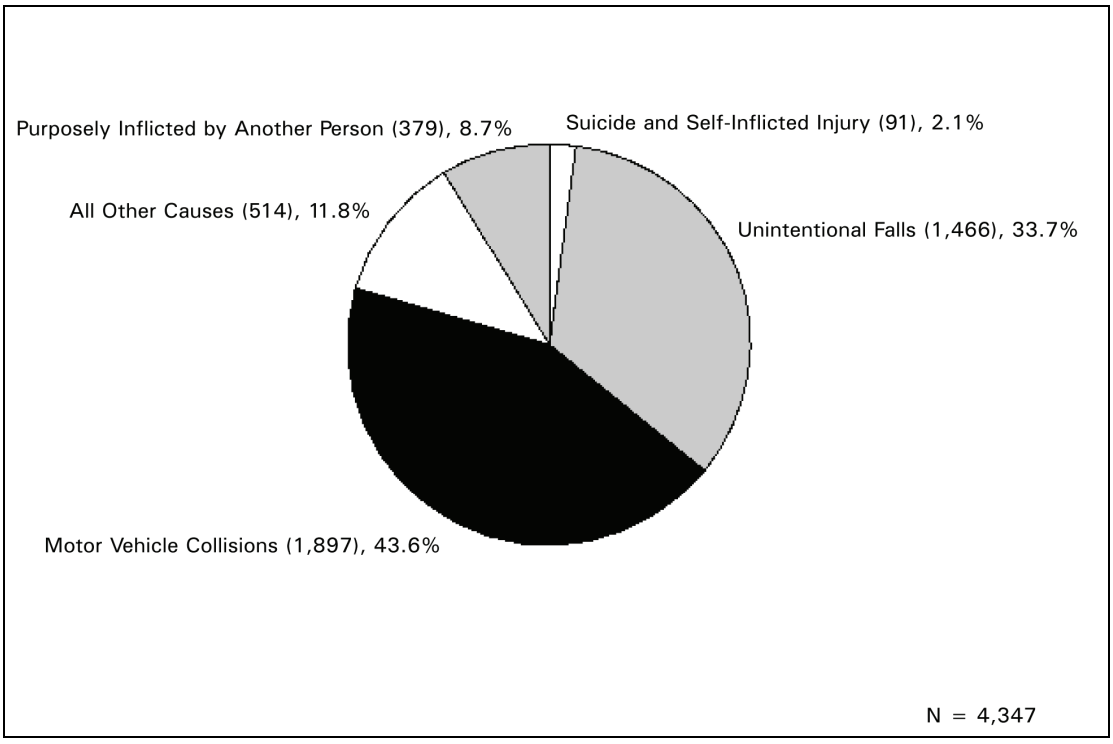
4.1 Overall Causes

Figure 3 shows the causes of injury for the 4,347 cases in the 2006–2007 OTR CDS. Motor vehicle collisions were responsible for almost half of the cases (44%, n = 1,897). Unintentional falls were the second most common cause of major injury hospitalizations (34%, n = 1,466).

Tables 13 and 14 in Appendix H show highlights for the most common causes of injury. The mean ages for the most common causes of injury were (Appendix H, Table 14):

- 39 years for motor vehicle collisions (median = 37);
- 60 years for unintentional falls (median = 66);
- 30 years for assault and injury purposely inflicted by another person (median = 26); and
- 40 years for suicide and self-inflicted injury (median = 39).

Figure 3 Causes of Injury—All Cases, 2006–2007



Note
Excludes boarding/alighting incidents.

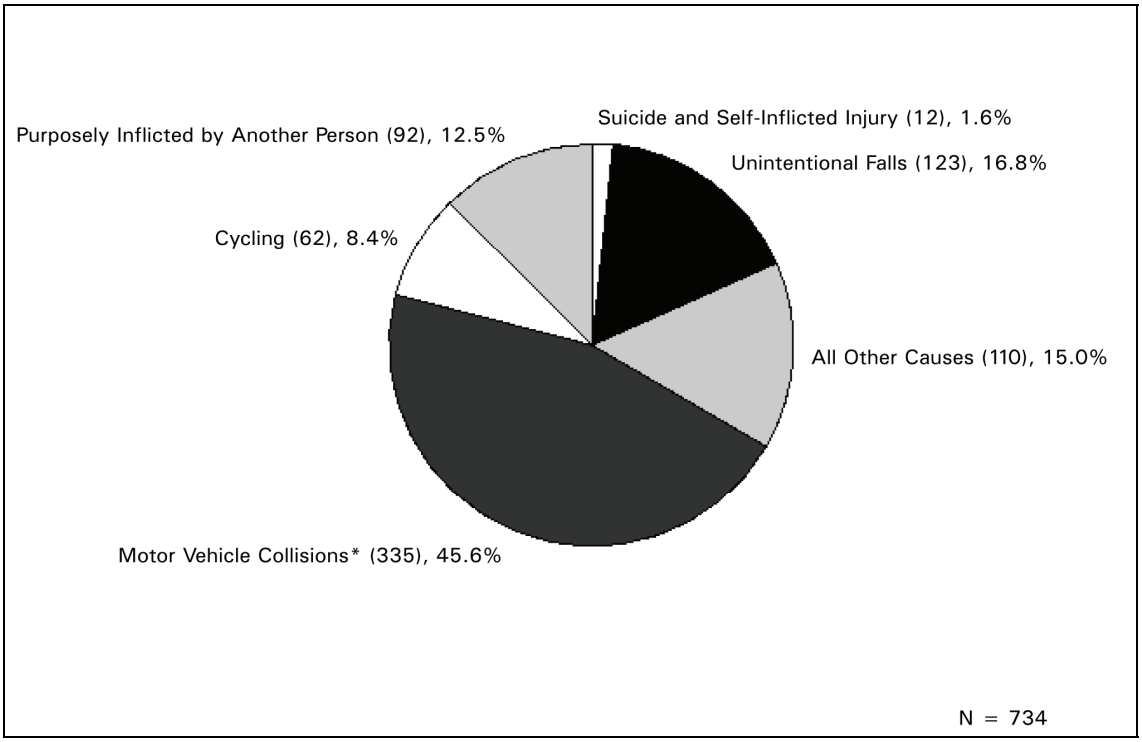
Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

4.2 Causes by Age Group

4.2.1 Cases Younger Than 20 Years of Age

Figure 4 shows the causes of injury among those hospitalized for major injury younger than the age of 20 years (n = 734). Motor vehicle collisions *excluding* those involving cyclists[i] comprised nearly half of these cases (46%, n = 335), followed by unintentional falls (17%, n = 123). Injuries purposely inflicted by another person were responsible for 13% of cases (n = 92), and cycling incidents were responsible for 8% of cases (n = 62).

Figure 4 Causes of Injury—Cases Younger Than 20 Years of Age, 2006–2007



Note
* Excludes cyclists.

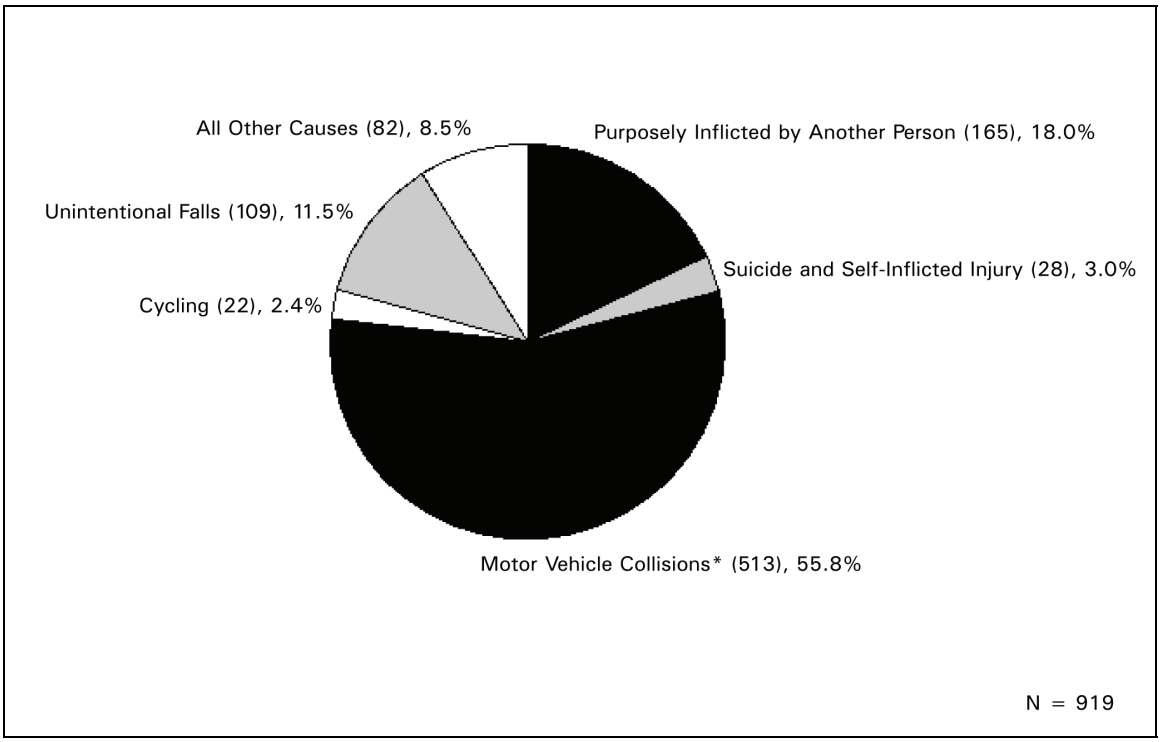
Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

i. Cyclists are reported separately from motor vehicle collisions in cases younger than age 35 because 48% (n = 84) of cycling incidents occurred in this age group.

4.2.2 Cases Aged 20 to 34 Years

Figure 5 shows the causes of injury for cases aged 20 to 34 years (n = 919). Motor vehicle collisions *excluding* those involving cyclists[ii] were responsible for 56% (n = 513) of the cases. The next most common causes of injury were injuries purposely inflicted by another person (18%, n = 165) and unintentional falls (12%, n = 109).

Figure 5 Causes of Injury—Cases Aged 20 to 34 Years, 2006–2007



Note
* Excludes cyclists.

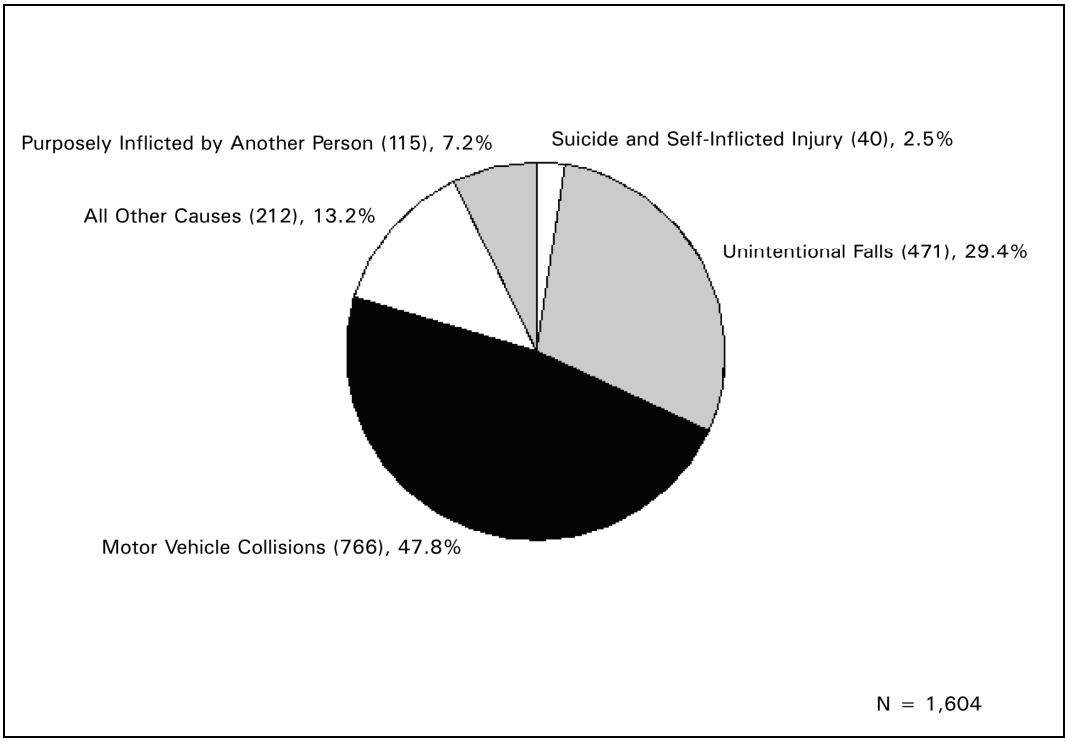
Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

ii. Cyclists are reported separately from motor vehicle collisions in cases younger than age 35 because 48% (n = 84) of cycling incidents occurred in this age group.

4.2.3 Cases Aged 35 to 64 Years

Figure 6 shows the causes of injury for cases between 35 and 64 years of age (n = 1,604). Motor vehicle collisions *including* those involving cyclists were responsible for almost half of the cases (48%, n = 766), followed by unintentional falls (29%, n = 471).

Figure 6 Causes of Injury—Cases Aged 35 to 64 Years, 2006–2007

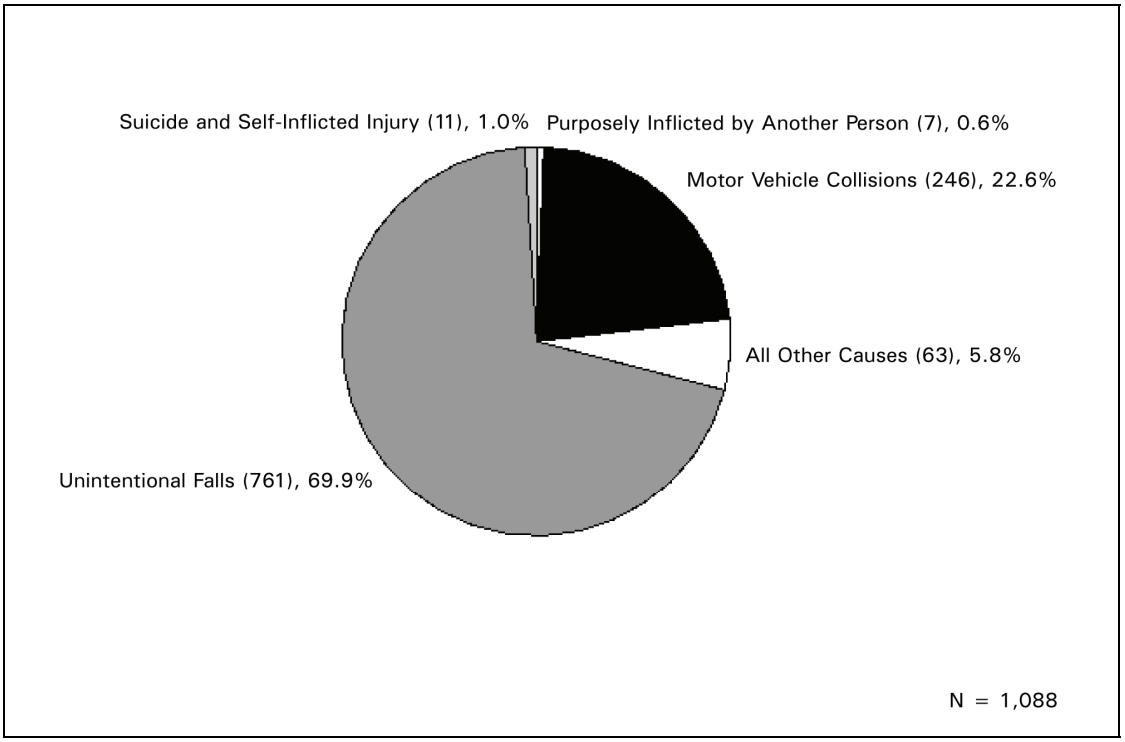


Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

4.2.4 Cases Aged 65 Years and Older

Figure 7 shows the causes of injury for cases aged 65 years and older (n = 1,088). Unintentional falls were responsible for the majority of cases (70%, n = 761), followed by motor vehicle collisions *including* those involving cyclists (23%, n = 246). Together, these two causes of injury were responsible for 93% (n =1,007) of the hospitalizations for major injury in this age group.

Figure 7 Causes of Injury—Cases Aged 65 Years and Older, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

4.3 Motor Vehicle Collisions

4.3.1 Motor Vehicle Traffic and Non-Traffic Incidents

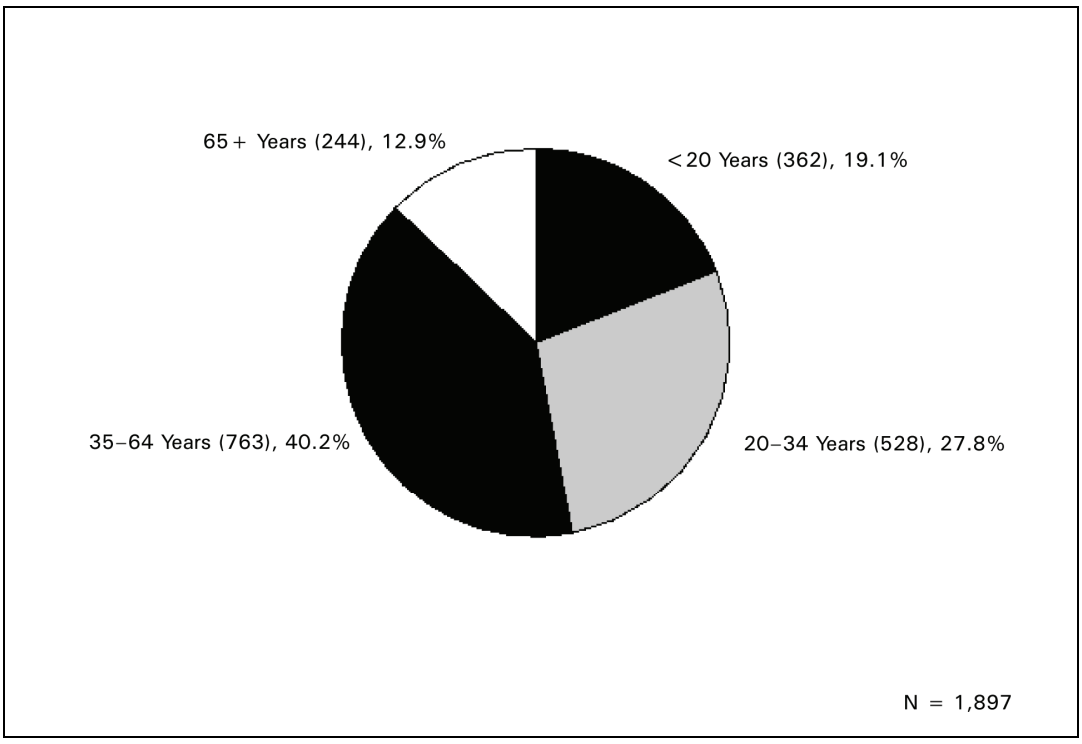
A motor vehicle is defined within the ICD coding system as any mechanically or electrically powered device, not operated on rails, upon which any person or property may be transported or drawn upon a highway. Automobiles, buses, construction machinery, farm and industrial machinery, fire engines, motorcycles, motorized bicycles, trolley buses not operating on rails, trucks and vans are all included in this category. A motor vehicle collision is a transport collision involving a motor vehicle. A motor vehicle traffic collision occurs on a public highway. A motor vehicle non-traffic collision occurs entirely in any place other than a public highway.

In the 2006–2007 OTR CDS, motor vehicle traffic and non-traffic incidents accounted for:

- 1,897 (44% of all cases) major injury admissions; and
- 186 (34% of deaths) in-hospital deaths due to major injury.

Figure 8 shows the motor vehicle traffic and non-traffic injury cases by age group. Almost half (47%, n = 890) of the cases were younger than 35 years of age.

Figure 8 Motor Vehicle Traffic and Non-Traffic Incidents by Age Group, 2006–2007

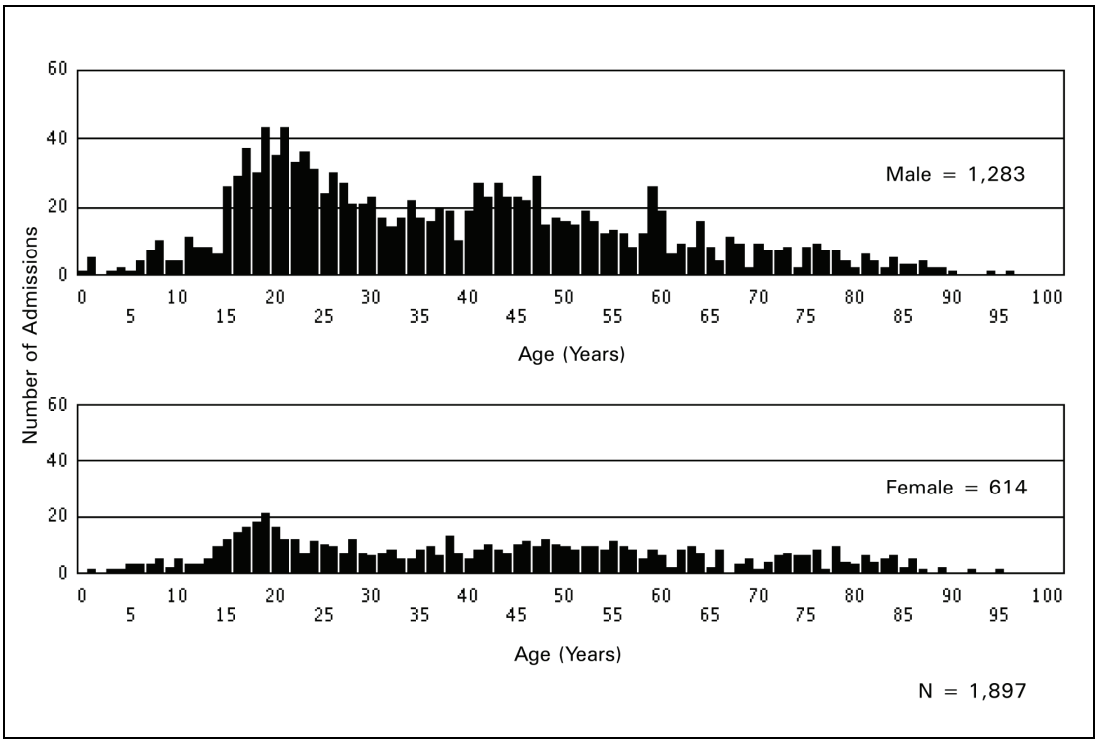


Note
Excludes boarding/alighting incidents.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 9 shows that there were peaks in the number of traffic and non-traffic incidents in young adult males at 19 and 21 years of age and a smaller peak in young adult females around 19 years of age.

Figure 9 Traffic and Non-Traffic Incidents by Sex and Single Year of Age, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

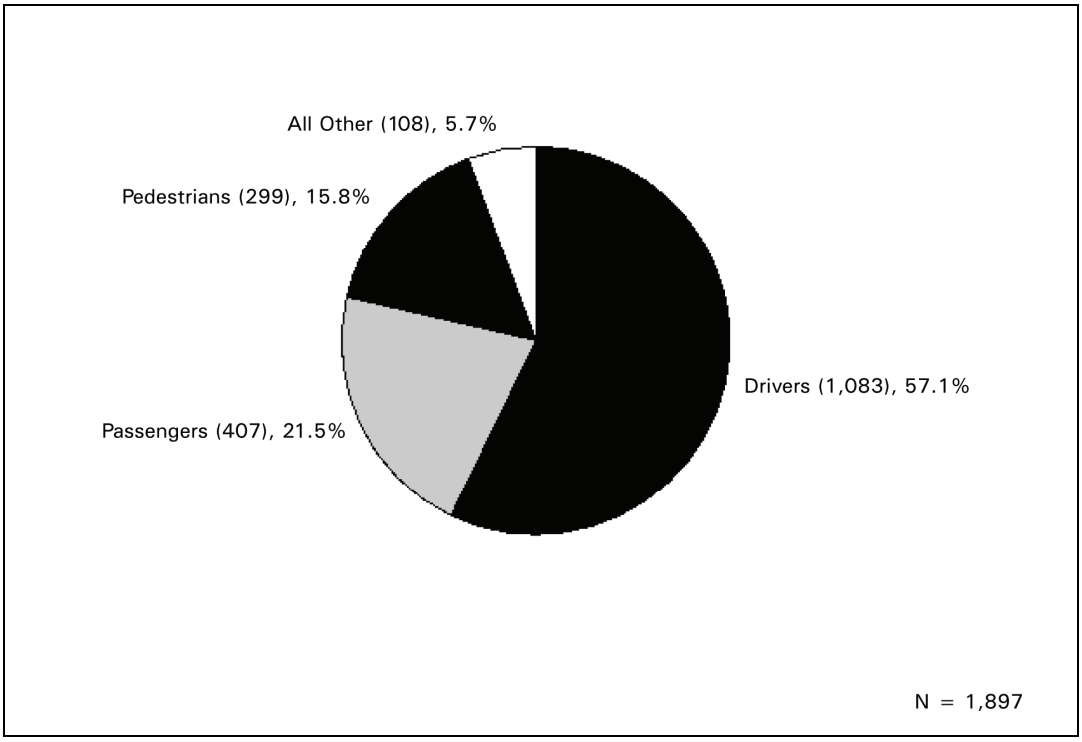
The mean LOS for motor vehicle collision injuries was 16 days (median = 9). The mean age was 39 years (median = 37). Almost all (more than 99%, n = 1,891) motor vehicle collision injuries were documented as blunt injury. The mean ISS was 26 (median = 24). The mean LOS for motor vehicle collision deaths in 2006–2007 was 6 days (median = 1). The mean age was 46 years and the median age was 44 years. Almost all motor vehicle collision deaths were documented as blunt injury (more than 99%, n = 151). The mean ISS was 40 (median = 41).

4.3.2 Injured Persons

The ICD coding system identifies the injured person for transport incidents through the use of a required third digit.

Figure 10 shows the distribution of the 1,897 motor vehicle traffic and non-traffic injury cases in the 2006–2007 OTR CDS by injured person. More than half were drivers (57%, n = 1,083), including 192 motorcycle drivers. Passengers comprised more than one-fifth (21%, n = 407) of the injured cases, of which nine were motorcycle passengers. Eleven percent (n = 201) of the 1,897 motor vehicle traffic and non-traffic injury cases in the 2006–2007 OTR CDS were motorcycle drivers or passengers.

Figure 10 Motor Vehicle Collisions by Injured Person—All Cases, 2006–2007

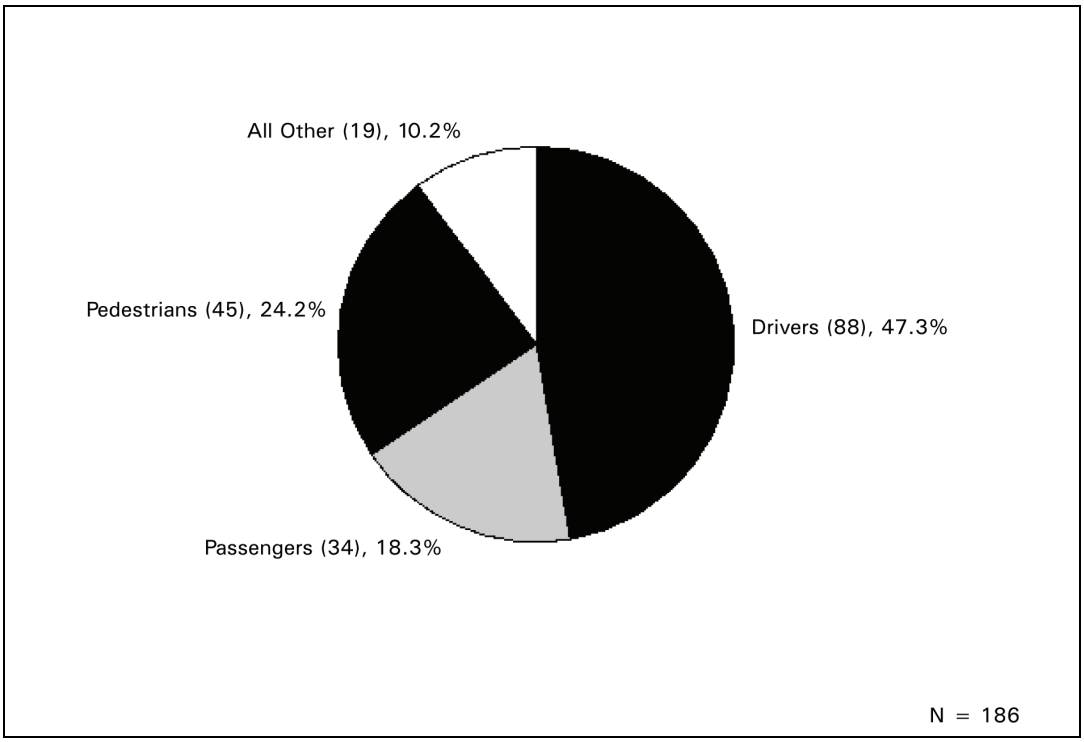


Notes
Drivers and passengers categories include those injured while riding a motorcycle.
Excludes boarding/alighting incidents.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 11 shows the distribution of deaths due to motor vehicle collisions in the 2006–2007 OTR CDS, by injured person. Nearly half were drivers (47%, n = 88), which includes 11 motorcycle drivers. Almost one-quarter (24%, n = 45) were pedestrians.

Figure 11 Motor Vehicle Collisions by Injured Person—Deaths, 2006–2007

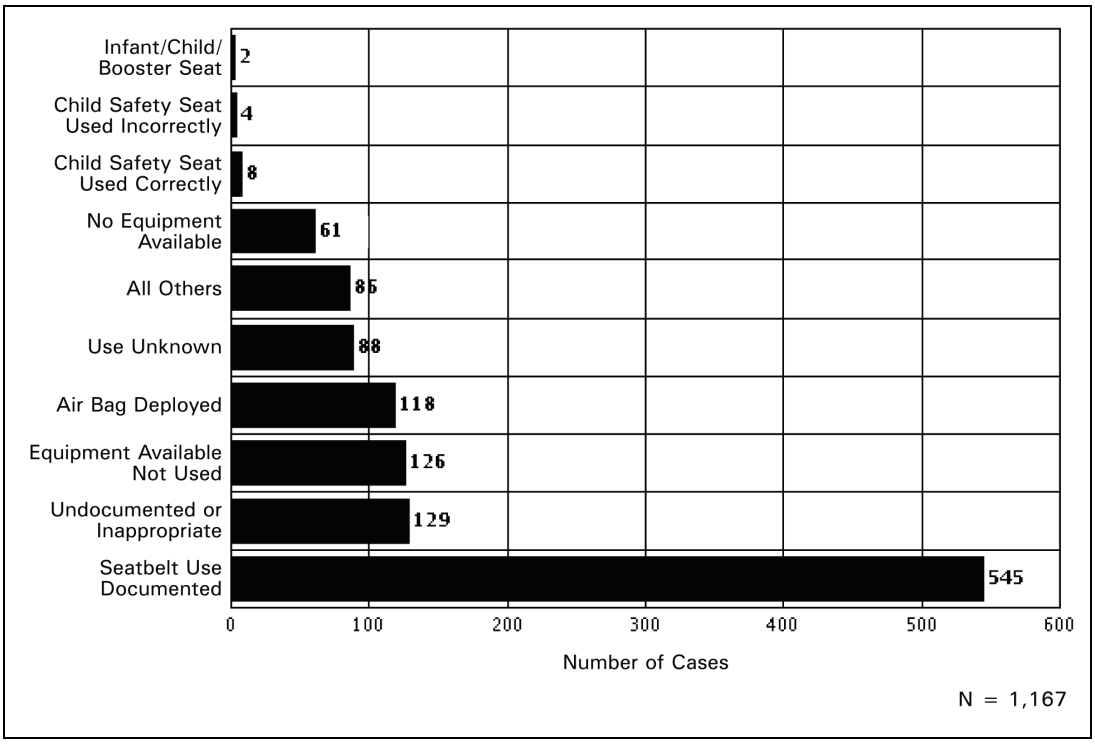


Notes
Drivers and passengers categories include those injured while riding a motorcycle.
Excludes boarding/alighting incidents.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figures 12 and 13 summarize the use of protective devices for motor vehicle collision occupants, both survivors and those who died. Seatbelt use was documented in less than half of motor vehicle occupants for both survivors (47%, n = 545) and deaths (43%, n = 46). For 11% of survivors and 18% of deaths (n = 126 and n = 19, respectively), protective equipment was noted to be available but not used.

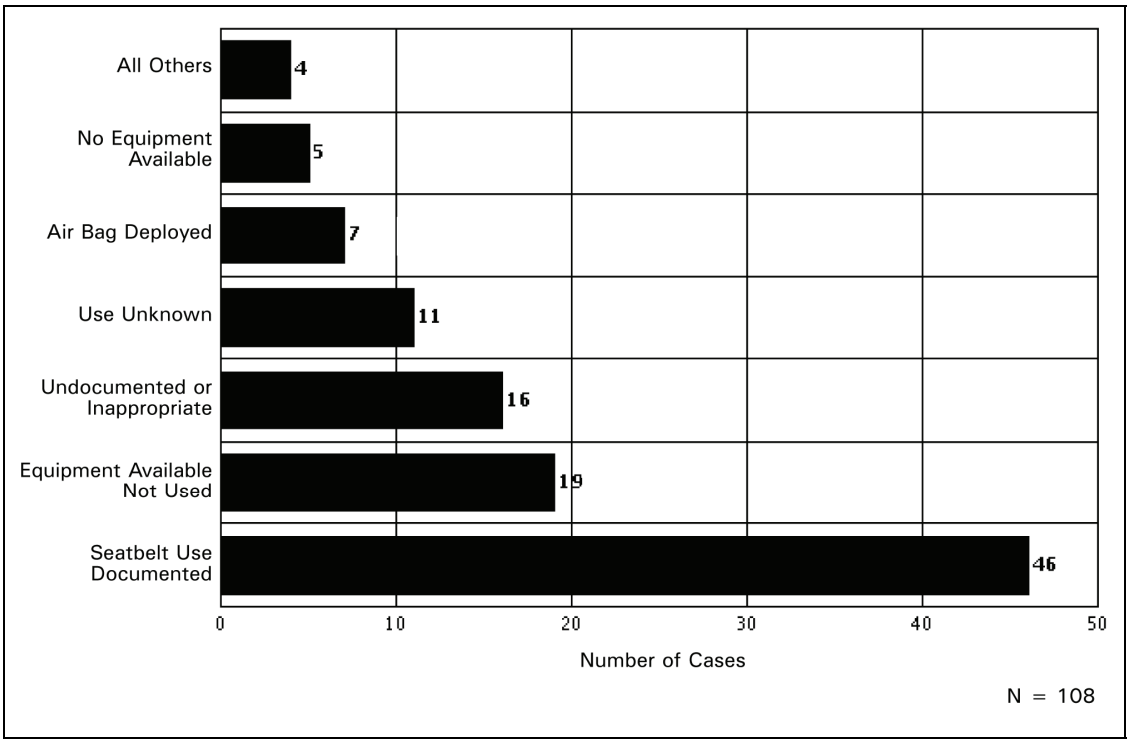
Figure 12 Protective Devices Summary for Motor Vehicle Collisions—Occupant Survivors, 2006–2007*



Note
* Excludes boarding/alighting incidents.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 13 Protective Devices Summary for Motor Vehicle Collisions—Occupant Deaths, 2006–2007*



Note
* Excludes boarding/alighting incidents.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

4.4 Unintentional Falls

In the 2006–2007 OTR CDS, unintentional falls accounted for:

- 34% (n = 1,466) of all cases; and
- 42% (n = 233) of all injury in-hospital deaths or DIEs.

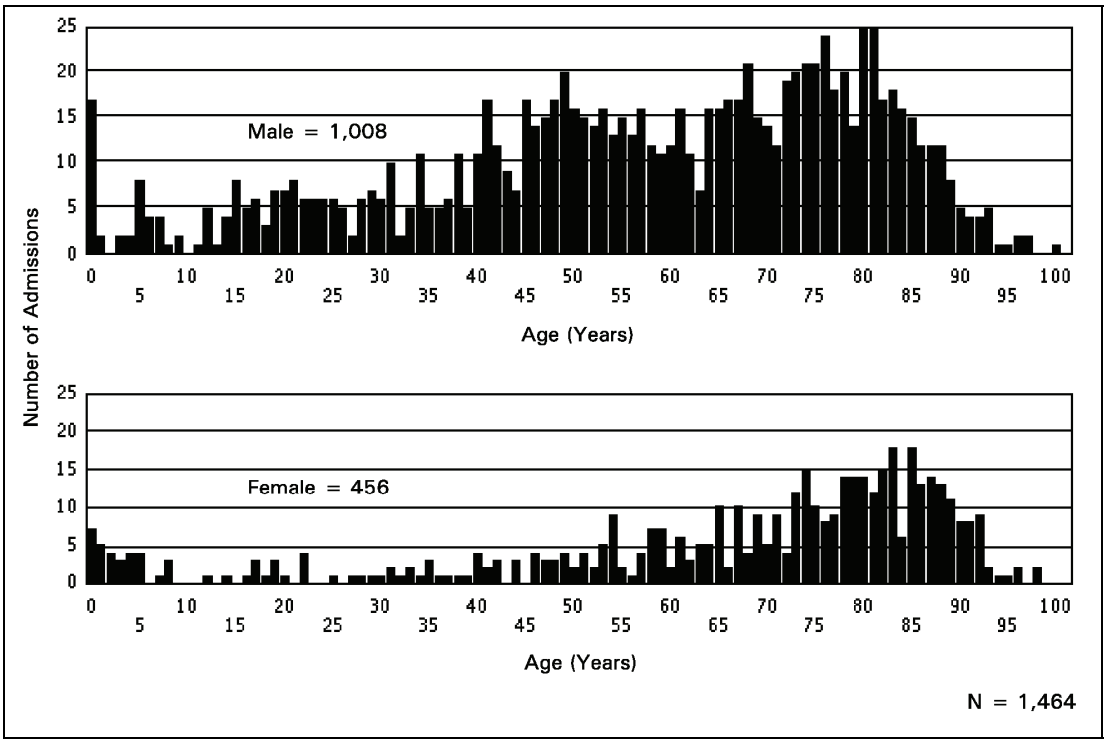
The mean LOS for falls was 14 days (median = 7). The mean age was 60 years (median age = 66). Almost all (more than 99%, n = 1,464) falls were documented as blunt injury. The mean ISS was 22 (median = 20).

For in-hospital deaths due to falls (n = 219):

- the mean ISS was 26 (median = 25);
- the mean age was 72 years (median = 76); and
- the mean LOS was 9 days (median = 4).

Figure 14 shows that more males experienced major injury due to falls than females. For both males and females, the number of falls increased with advancing age, peaking at 80 years for males and 83 years for females.

Figure 14 Unintentional Falls by Sex and Single Year of Age, 2006–2007



Note
Two cases with unknown age.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

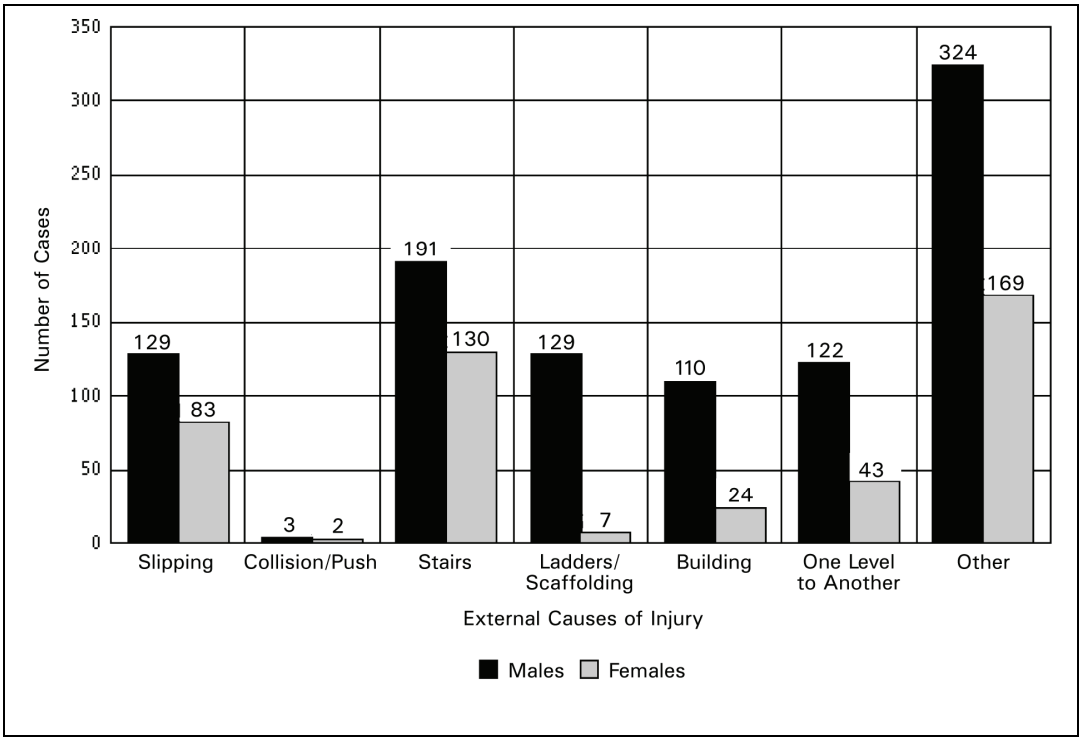
The ICD-10-CA external cause of injury code categories W00 to W19 define injuries due to unintentional falls as follows:

- W00—Involving ice and snow
- W01—Slipping, tripping, stumbling
- W02—Involving skates, skis, sport boards and rollerblades
- W03—Collisions, pushing, shoving by or with other person
- W04—While being carried or supported by another person
- W05—Involving wheelchair and other types of walking devices
- W06—Involving bed
- W07—Involving chair
- W08—Involving other furniture
- W09—Playground equipment
- W10—Stairs or steps
- W11—On or from a ladder
- W12—On or from scaffolding
- W13—From or out of or through building/other structure
- W14—From tree
- W15—From cliff
- W16—Diving or jumping into water
- W17—Other fall from one level to another
- W18—Other fall on same level
- W19—Unspecified fall

Among the 1,466 cases injured in unintentional falls, the most common specified types of falls were falls from stairs (22%, n = 321) and falls on same level from slipping, tripping and stumbling (14%, n = 212).

Figure 15 shows the number of unintentional falls by sex for each external cause of injury code category.

Figure 15 Unintentional Falls by External Causes of Injury and Sex, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

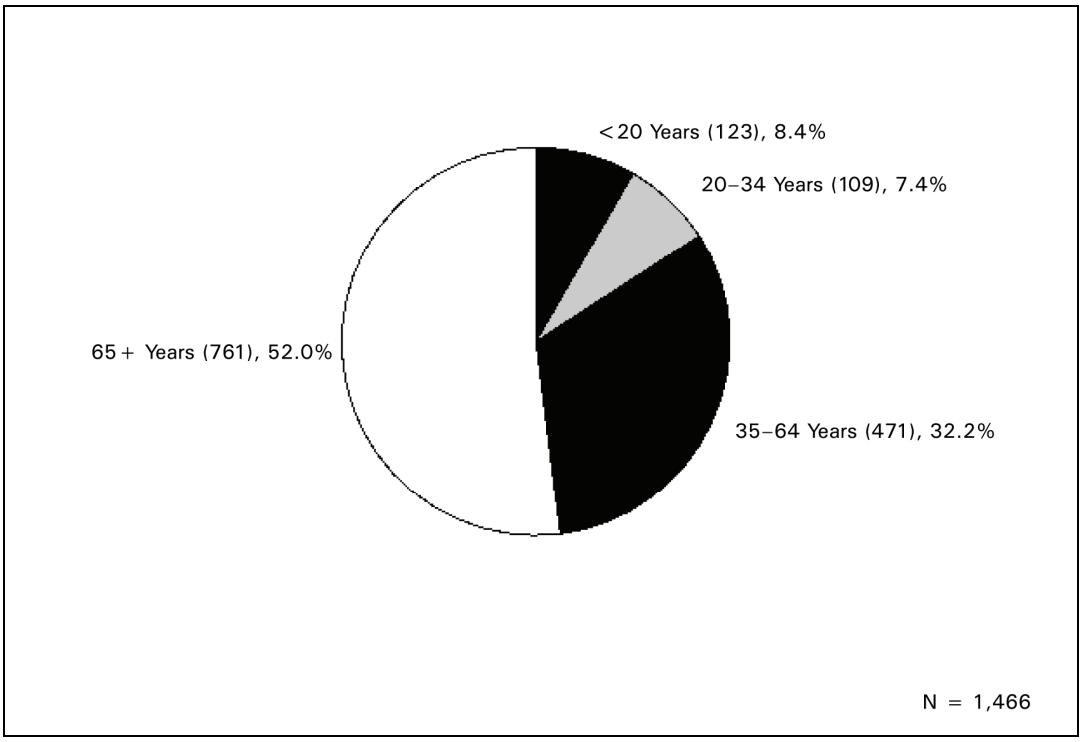
Figure 16 shows cases of unintentional falls by age group. More than half of the unintentional falls were cases aged 65 years and older (52%, n = 761). The most common specified cause of falls in this age group was falls caused on or from stairs (22%, n = 167).

Cases aged 35 to 64 years comprised 32% (n = 471) of all unintentional falls. The most common specified cause of falls in this age group was falls on or from stairs or steps (24%, n = 115).

Eight percent (n = 123) of the injuries occurred among persons younger than 20 years of age. The most common specified causes of falls in this age group were falls involving beds, chairs, furniture, trees, cliffs and diving/jumping into water (31%, n = 38).

Only 7% (n = 109) of all cases due to unintentional falls occurred among those between 20 and 34 years of age. The most common cause of major injury hospitalization due to falls in this age group was falls from, out of or through buildings or other structures (28%, n = 30).

Figure 16 Unintentional Falls by Age Group, 2006–2007



Note
Two cases with unknown age.

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

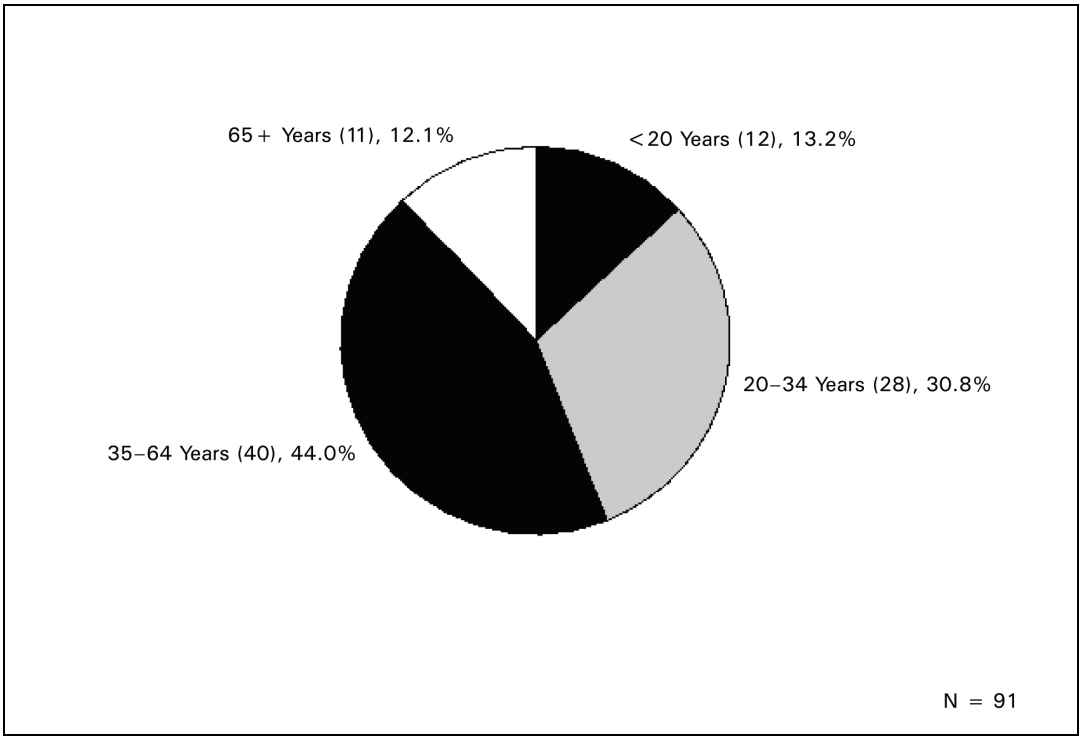
4.5 Intentional Injuries

4.5.1 Suicide and Self-Inflicted Injury (Excluding Poisoning)

There were 91 cases admitted to lead trauma hospitals due to suicide and self-inflicted injury (excluding poisoning) in the 2006–2007 OTR CDS, accounting for 2% of cases and 6% (n = 35) of all injury deaths. The majority of self-inflicted injuries admitted to lead trauma hospitals were males (79%, n = 72). The mean length of stay for suicide and self-inflicted injury (excluding poisoning) was 22 days (median = 13). The mean ISS was 29 (median = 26).

Figure 17 shows self-inflicted injury cases by age group. The largest number (44%, n = 40) of the cases occurred among persons aged 35 to 64 years, followed by persons between the ages of 20 and 34 years (31%, n = 28). The mean age for self-inflicted injury was 40 years (median = 39).

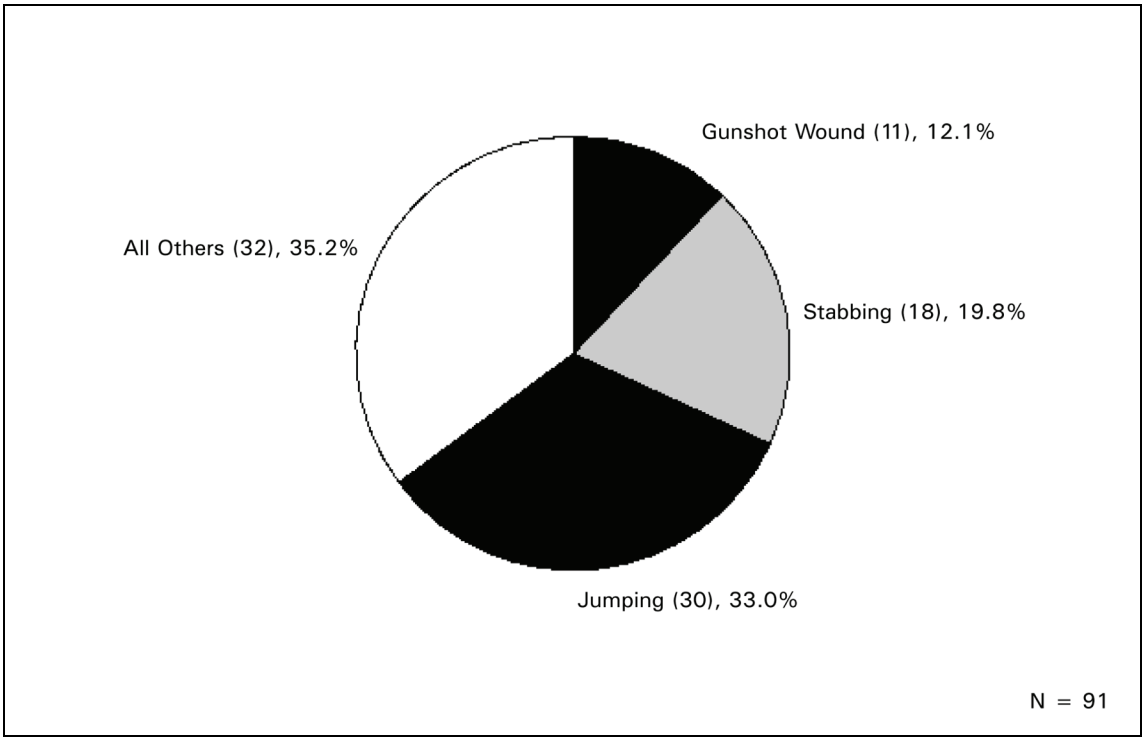
Figure 17 Suicide and Self-Inflicted Injury (Excluding Poisoning) (X70 to X84) by Age Group, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

As seen in Figure 18, the most common specified means of self-inflicted injury (excluding poisoning) were jumping (33%, n = 30), followed by stabbing (20%, n = 18) and gunshot wounds (12%, n = 11).

Figure 18 Means of Suicide and Self-Inflicted Injury (Excluding Poisoning) (X70 to X84), 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

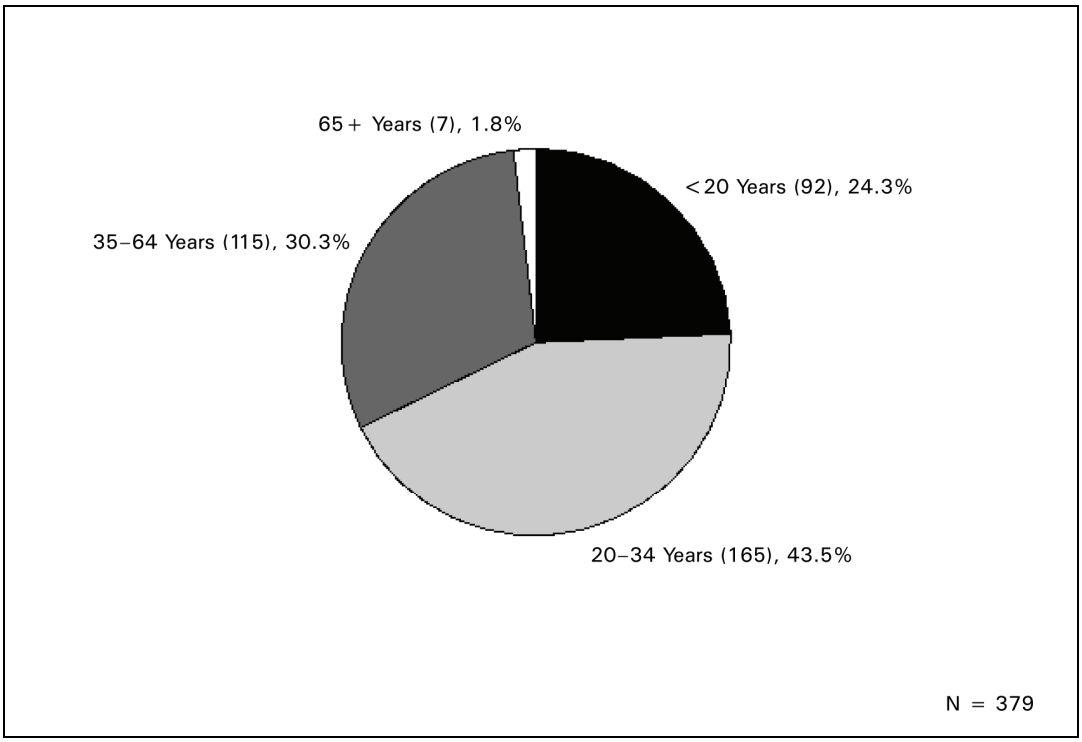
4.5.2 Assault and Injury Purposely Inflicted by Another Person

There were 379 cases admitted due to assault and injury purposely inflicted by another person in the 2006–2007 OTR CDS, accounting for 9% of cases and 9% (n = 48) of all injury deaths.

Figure 19 shows the distribution of these cases by age group. Almost half were aged 20 to 34 years (44%, n = 165), followed by cases aged 35 to 64 years (30%, n = 115). The mean age was 30 years (median = 26).

The mean LOS was 13 days (median = 6). The mean ISS was 22 (median = 20). Eighty-nine percent (n = 338) of these cases were males.

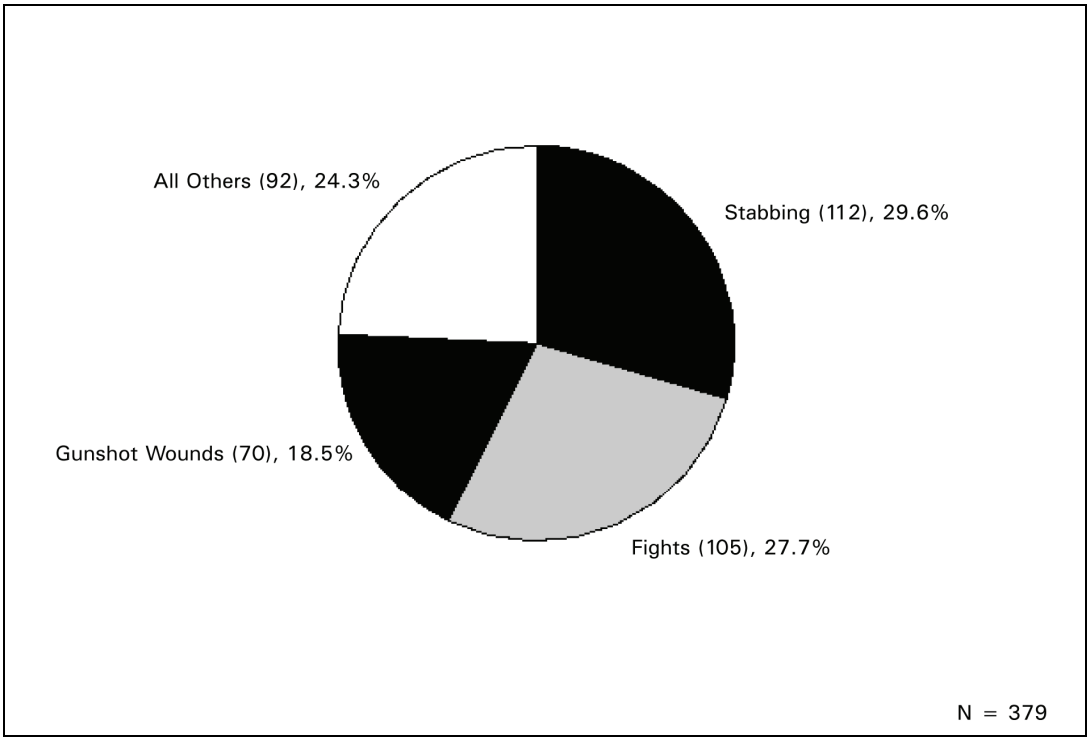
Figure 19 Injury Purposely Inflicted by Another Person (Excluding Poisoning) by Age Group, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 20 shows that the most common specified means of injury purposely inflicted by another person were stabbing (30%, n = 112) and fighting (28%, n = 105), followed by gunshot wounds (19%, n = 70).

Figure 20 Means of Injury Purposely Inflicted by Another Person (Excluding Poisoning), 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

4.6 Cycling Injuries

Injuries due to cycling are defined using appropriate ICD-10-CA external cause of injury codes identifying the injured person as a cyclist.

In the 2006–2007 OTR CDS, cycling incidents accounted for 4% (n = 176) of all cases and 3% (n = 18) of all in-hospital deaths.

For these cases:

- the mean age was 36 years;
- the mean ISS was 24; and
- the mean LOS was 12 days.

4.7 Other Causes of Injury

In this report, 514 (12%) injury cases were reported as due to all other causes (other than motor vehicle collisions, unintentional falls and intentional injury). All other causes accounted for 53 (10%) deaths. All other causes included injuries due to railway incidents, motor vehicle boarding or alighting, other road vehicles, water transport, air and space transport, vehicle incidents not elsewhere classified, fire and flames, natural and environmental factors, drowning, suffocation, foreign bodies (excluding choking), injuries due to legal intervention, injuries in which the intentionality is undetermined and injuries due to operations of war.

5. Context of Injury

5.1 Place of Injury

Place of injury is documented in the OTR CDS based on ICD definitions. As seen in Table 7, Appendix H, 4,299 cases (99%) were documented with a place of injury:

- 2,005 (46%) indicated a street or highway.
- 1,072 (25%) indicated home as the place of injury.

There were 48 cases (1%) that did not have a place of injury documented in the 2006–2007 OTR CDS.

5.2 Work-Related Injury

261 (6%) cases were work-related injuries. Of these cases:

- the mean ISS was 26;
- the mean age was 43 years;
- the mean LOS in hospital was 14 days; and
- 249 (95%) were male.

5.3 Sports and Recreational Injury

The OTR CDS permits the documentation of whether the injured person was involved in a sports or recreational activity at the time of injury and, if so, specification of the type of activity. Currently, the sports and recreation code in the OTR CDS distinguishes 99 types of sports and recreational activities.

Eleven percent (n = 488) of injury admissions were due to participation in sports and recreational activities as defined by the customized sports and recreational activity codes in the OTR CDS.

The most common sports and recreational injuries documented in the 2006–2007 OTR CDS were related to cycling (31%, n = 151), all-terrain vehicles (14%, n = 67), skiing (11%, n = 54), dirt biking/mini-biking/motocross (9%, n = 44) and horseback riding (3%, n = 13).

Table 1 provides further information about sports and recreational injuries and leading activities.

Table 1 Summary Statistics for Sport and Recreational Injury Activities, 2006–2007

Activity	Cases n (%*)	Mean			Males n (%†)	In-Hospital Deaths n (%†)	DIEs n (%†)
		Age (Years)	ISS	LOS (Days)			
Cycling	151 (31)	35	25	12	131 (87)	13 (9)	4 (3)
All-Terrain Vehicle	67 (14)	35	23	10	58 (87)	2 (3)	1 (1)
Skiing	54 (11)	32	22	14	48 (89)	1 (2)	1 (2)
Dirt Bike/Mini-Bike/ Motocross	44 (9)	27	24	13	43 (98)	0 (0)	0 (0)
Horseback Riding	13 (3)	47	21	13	5 (38)	0 (0)	0 (0)
All Sports/Recreation	**488**	**32**	**23**	**11**	**405 (83)**	**22 (5)**	**8 (2)**

Notes

* Percent of all sports and recreational injuries (n = 488).

† Percent within cause of sport and recreational injury.

Source

Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

5.4 Blood Alcohol Concentration (BAC)

TRAC recommended that BAC be routinely collected at lead trauma hospitals on all trauma patients older than 10 years of age when the patient is admitted within 12 hours of the incident.

More than half (53%, n = 2,319) of the cases had blood alcohol testing. Of those, 685 (30%) had a blood alcohol concentration greater than zero, and 491 (21%) had a positive alcohol concentration, defined as greater than or equal to 17.4 mmol/L and reflecting the legal positive blood alcohol limit. Cases with a positive alcohol concentration represent 11% (n = 491) of all cases. Among these cases, 48% (n = 238) were admitted due to motor vehicle collisions, 27% (n = 132) were admitted due to unintentional falls and19% (n = 95) were admitted due to injury purposely inflicted by another person.

Table 2 provides further information about cases with BAC greater than or equal to 17.4 mmol/L and the leading causes of injury among these cases.

Table 2 Summary Statistics for Cases With Blood Alcohol Concentration Greater Than or Equal to 17.4 mmol/L, 2006–2007

Cause	Cases n (%*)	Mean			Males n (%†)	In-Hospital Deaths n (%†)	DIEs n (%†)
		Age (Years)	ISS	LOS (Days)			
Motor Vehicle Collision	238 (48)	34	27	14	202 (85)	23 (10)	3 (1)
Unintentional Fall	132 (27)	49	23	14	105 (80)	25 (19)	2 (2)
Intentionally Inflicted by Others	95 (19)	31	20	10	91 (96)	9 (9)	0 (0)
All Positive BAC	**491**	**38**	**24**	**13**	**421 (86)**	**59 (12)**	**5 (1)**

Notes

* Percent of all positive BAC cases (n = 491).

† Percent within cause of injury.

Source

Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

6. Clinical Aspects of Injury

6.1 Type of Injury

4,026 (93%) cases were documented with blunt injury, 242 (6%) with penetrating injury and 79 (2%) with burns.

6.2 Pre-Hospital Care

COLLECTOR was customized to include several data elements to describe the patient's care at the scene and en-route to hospital. Included in pre-hospital care data elements are mode of transport information, vital signs and non-operative procedures at the scene.

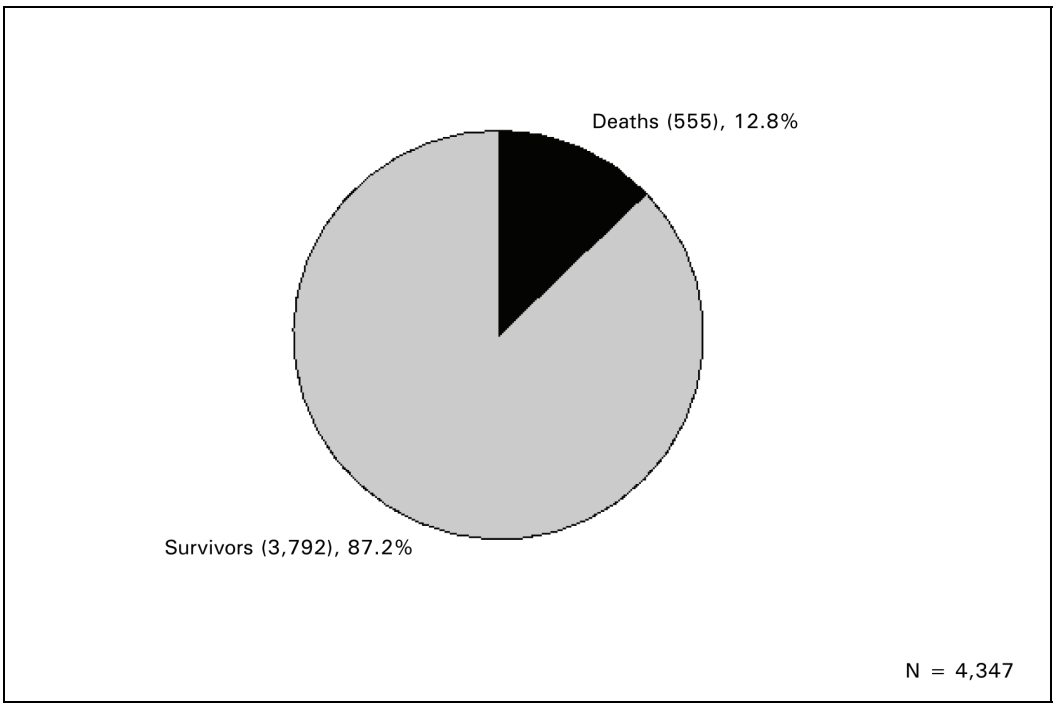
As seen in Table 9, Appendix H:

- 627 cases (14%) required extrication from the scene.
- The mean scene time was 20 minutes (defined as the time the ambulance arrived at the scene to the time the ambulance left the scene) (median = 18).
- The mean pre-hospital time was 71 minutes (defined as the time of incident to the time the ambulance arrived at the first hospital) (median = 52).

6.3 Discharge Disposition

Figure 21a shows the discharge disposition of all cases. In the 2006–2007 OTR CDS, 13% (n = 555) of the 4,347 cases died, either in-hospital or DIE.

Figure 21a Discharge Disposition—All Cases, 2006–2007

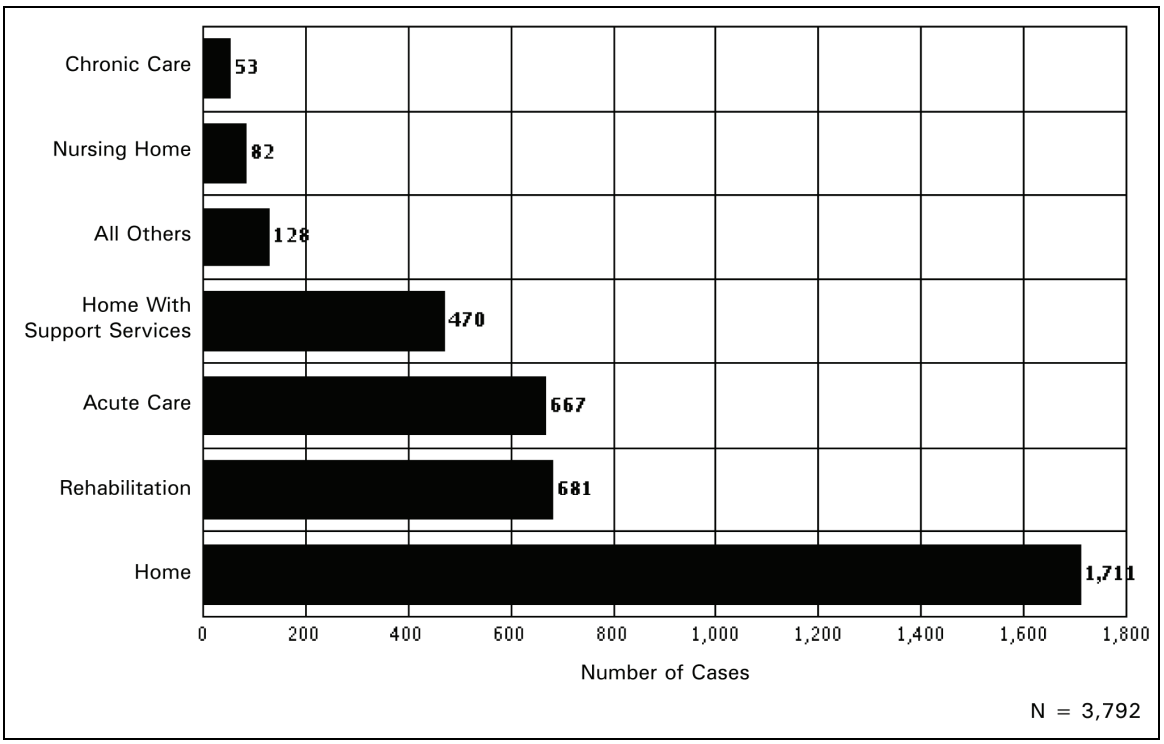


Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 21b shows the discharge disposition of the survivors:

- 57% (n = 2,181) were discharged home, including 470 discharged home with support services.
- 18% (n = 667) were discharged to an acute care facility.
- 18% (n = 681) were discharged to a rehabilitative facility.
- 7% (n = 263) were discharged to chronic care, nursing home or other facility.

Figure 21b Discharge Disposition—Survivors, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

6.4 Deaths

6.4.1 All Cases

In the 2006–2007 OTR CDS, there were 555 deaths (13% of all cases). These deaths included 461 in-hospital deaths (11% of all cases) and 91 DIEs (2% of all cases).

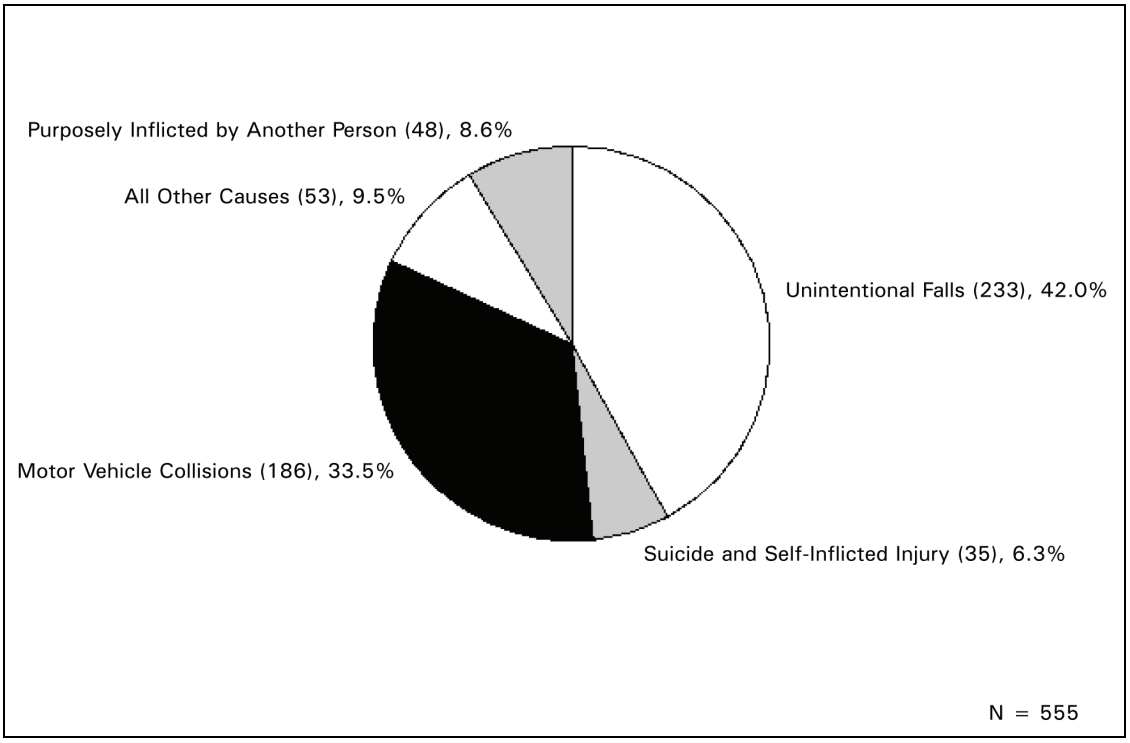
Figure 22 shows the causes of deaths for these cases:

- 34% (n = 186) were due to motor vehicle collisions.
- 42% (n = 233) were due to unintentional falls.

Tables 11 and 13 in Appendix H show some statistics for all deaths:

- The mean age was 55 years (median = 59).
- The mean ISS was 32 (median = 26).
- 66% (n = 367) were males.
- 88% (n = 488) of deaths had a blunt injury, 9% (n = 50) had a penetrating injury and 3% (n = 17) had a burn injury.
- The mean LOS was 7 days (median = 2).
- Deaths accounted for 5% of total hospital days (3,382 days).
- 18% (n = 102) of the cases donated organs.

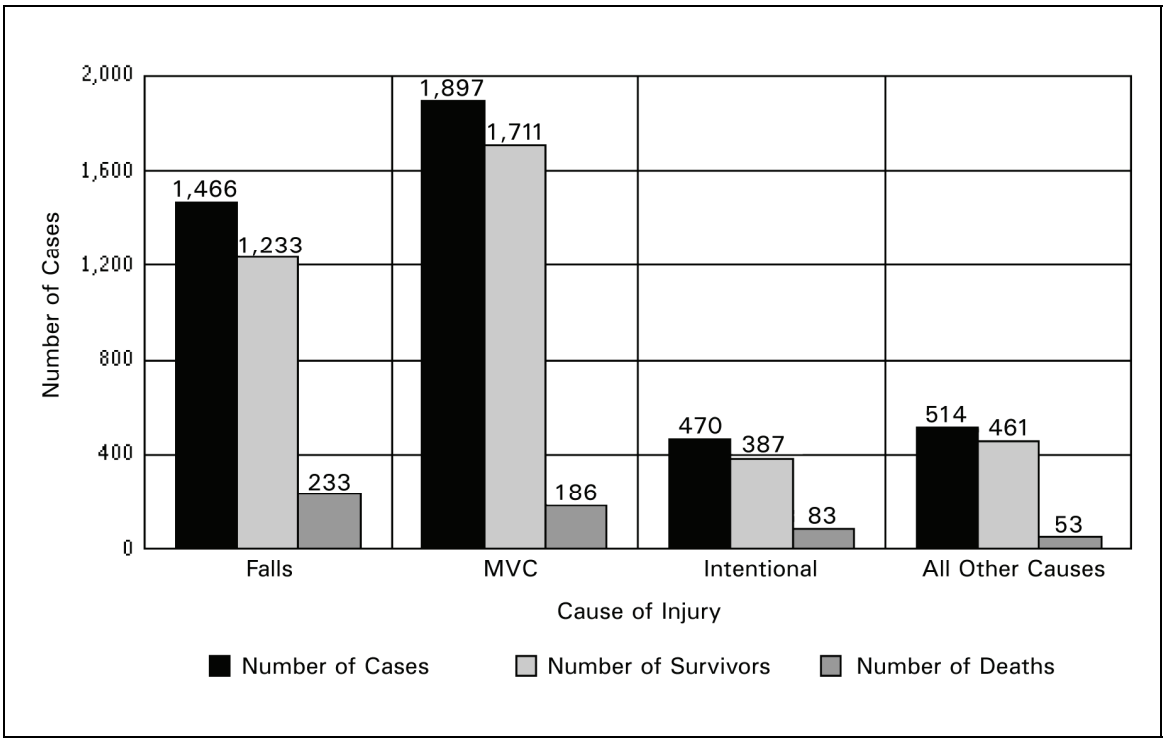
Figure 22 Causes of Death—All Cases, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 23 shows the causes of injury for cases who died compared to survivors.

Figure 23 All Cases by Outcome and Cause of Injury, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

6.4.2 In-Hospital Deaths

In the 2006–2007 OTR CDS, there were 461 in-hospital deaths. In total, these cases were responsible for 3,382 hospital days (5% of total days). The mean LOS was 7 days (median = 2), the mean age was 58 years, and the mean ISS was 32. Almost two-thirds of the in-hospital deaths were male (65%, n = 301).

6.4.3 Died in Emergency (DIEs)

In the 2006–2007 OTR CDS, there were 91 DIEs. Of these cases:

- the mean ISS was 31;
- the mean age was 41 years; and
- 69% (n = 63) were male.

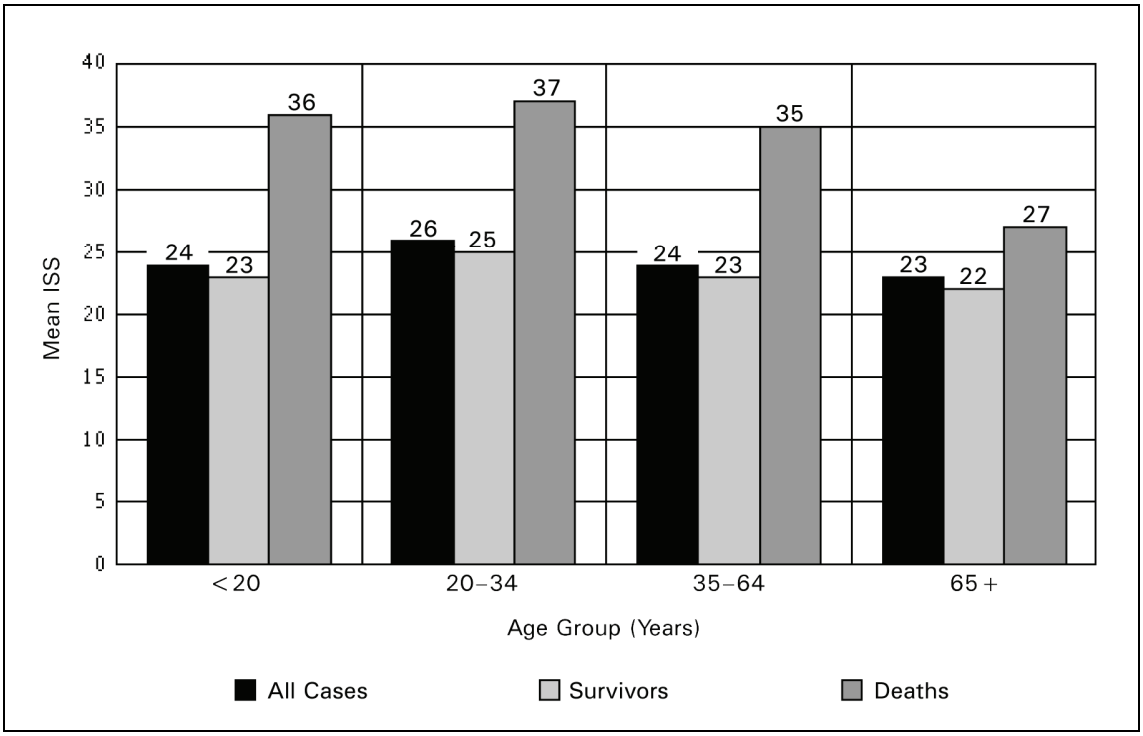
6.5 Injury Severity Score (ISS)

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). Cases with an ISS greater than 12 are included in the OTR CDS.

In the 2006–2007, the mean ISS was 24 (median = 22).

Figure 24 shows the mean ISS by age group and outcome. Among all cases, the mean ISS was slightly higher in the 20 to 34 year age group (ISS = 26). Among deaths, the mean ISS was considerably higher for all age groups compared to survivors. The highest mean ISS for deaths was seen in the 20 to 34 year age group (ISS = 37).

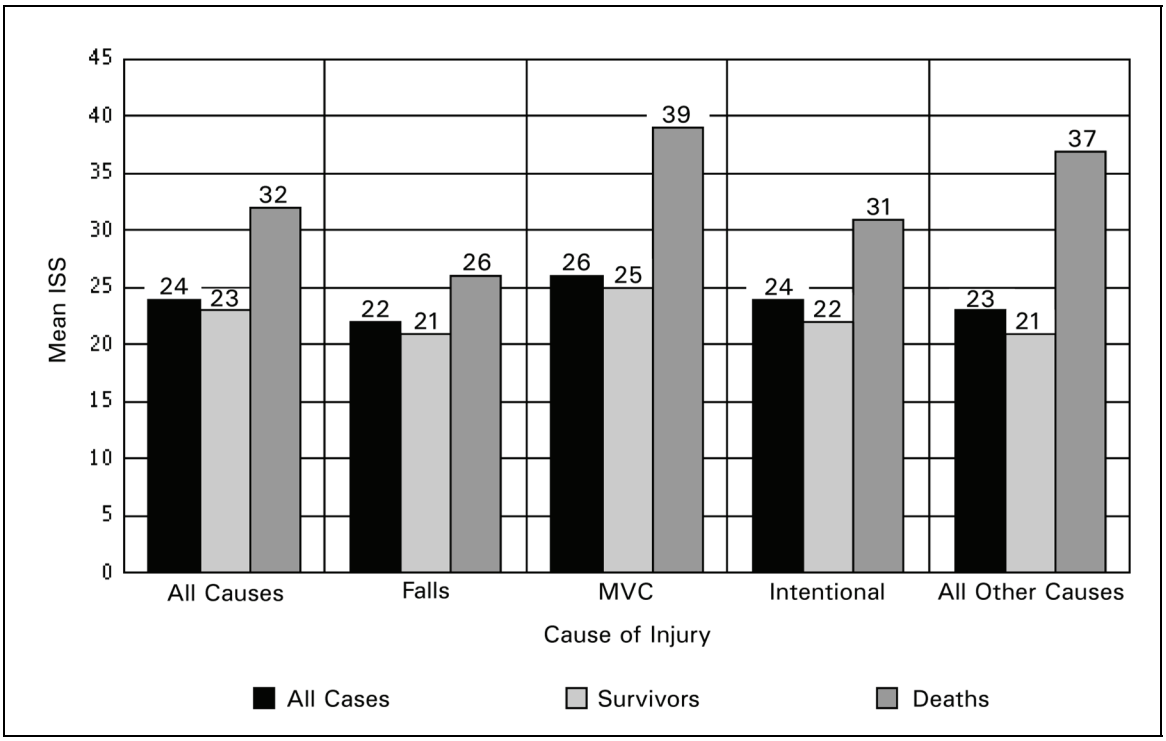
Figure 24 Mean Injury Severity Score (ISS) by Outcome and Age Group, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

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

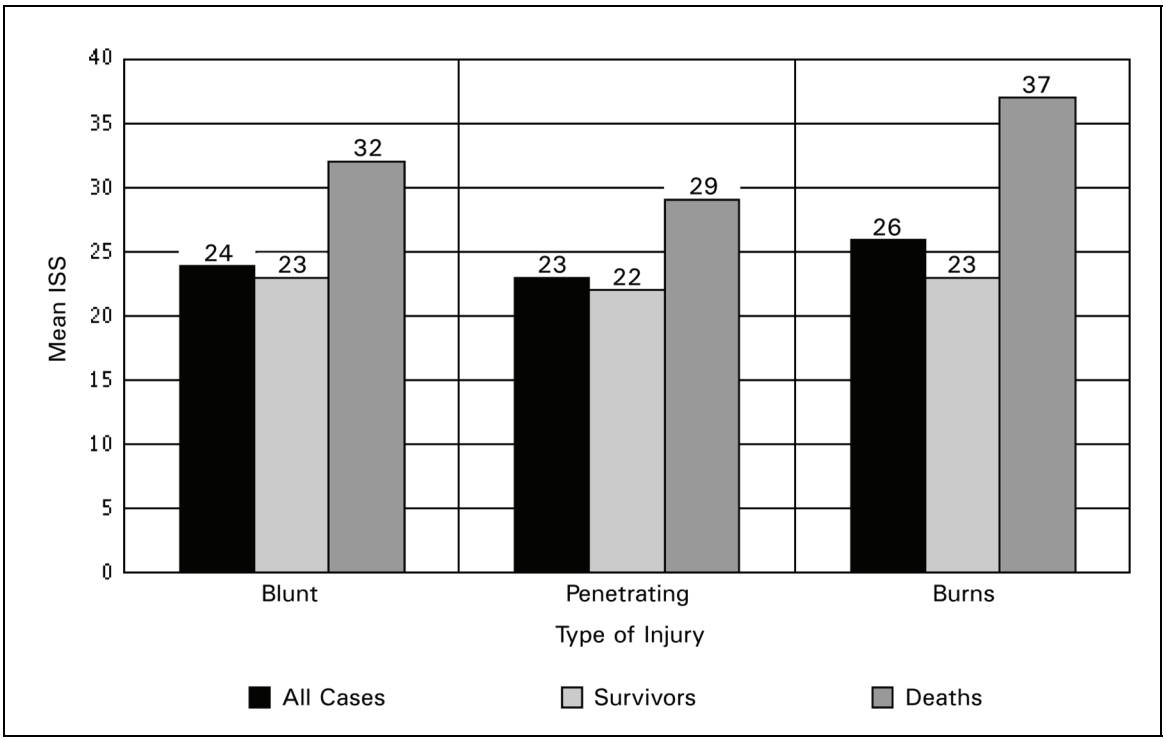
Figure 25 Mean Injury Severity Score (ISS) by Outcome and Cause of Injury, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 26 shows the mean ISS by outcome and type of injury. Among all cases, survivors and deaths, the highest mean ISS was found among cases with burn injuries (ISS = 26, 23 and 37, respectively).

Figure 26 Mean Injury Severity Score (ISS) by Outcome and Type of Injury, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

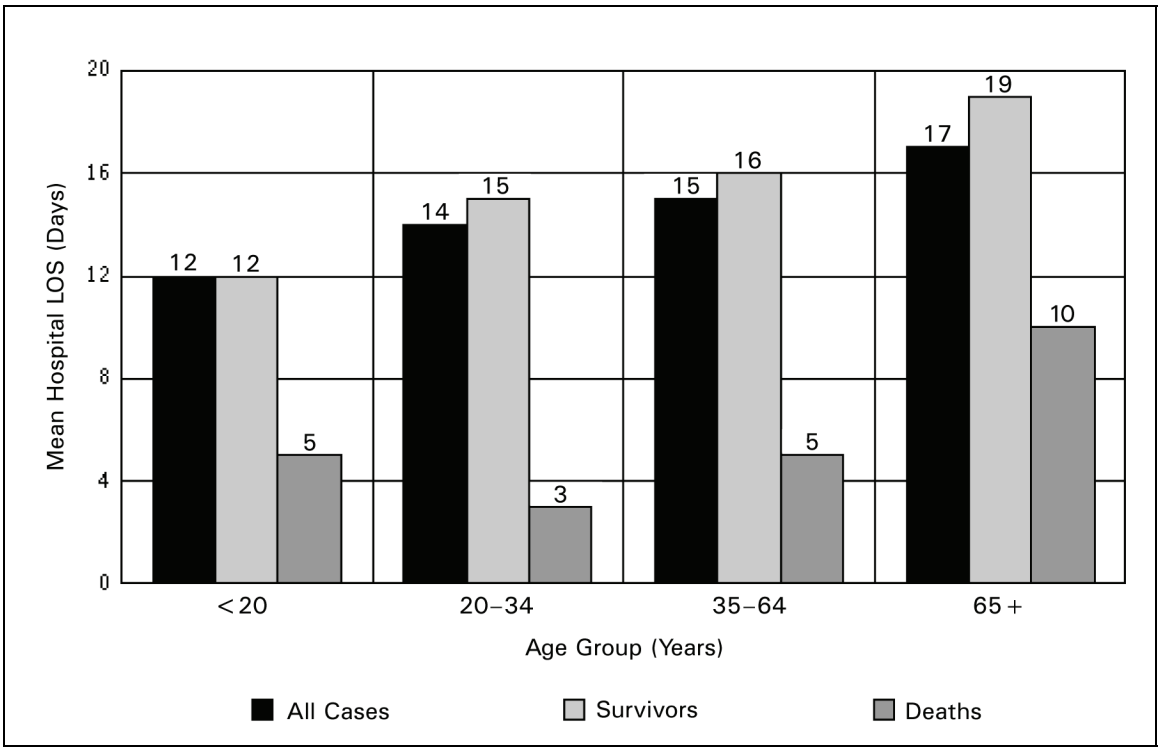
6.6 Length of Stay

LOS is defined as the total number of hospital days as calculated from date of admission to date of discharge or death. Patients who are not admitted are excluded from LOS calculations.

Injury cases in the 2006–2007 OTR CDS accounted for 61,645 hospital days with a mean LOS of 15 days (median = 8).

Figure 27 shows mean LOS by outcome and age group. Among all cases, the highest mean LOS was among cases 65 years of age and older (LOS = 17). Among survivors and deaths, the highest mean LOS was among cases 65 years of age and older (LOS = 19 and 10 days, respectively). There was a general trend of increasing LOS with increasing age.

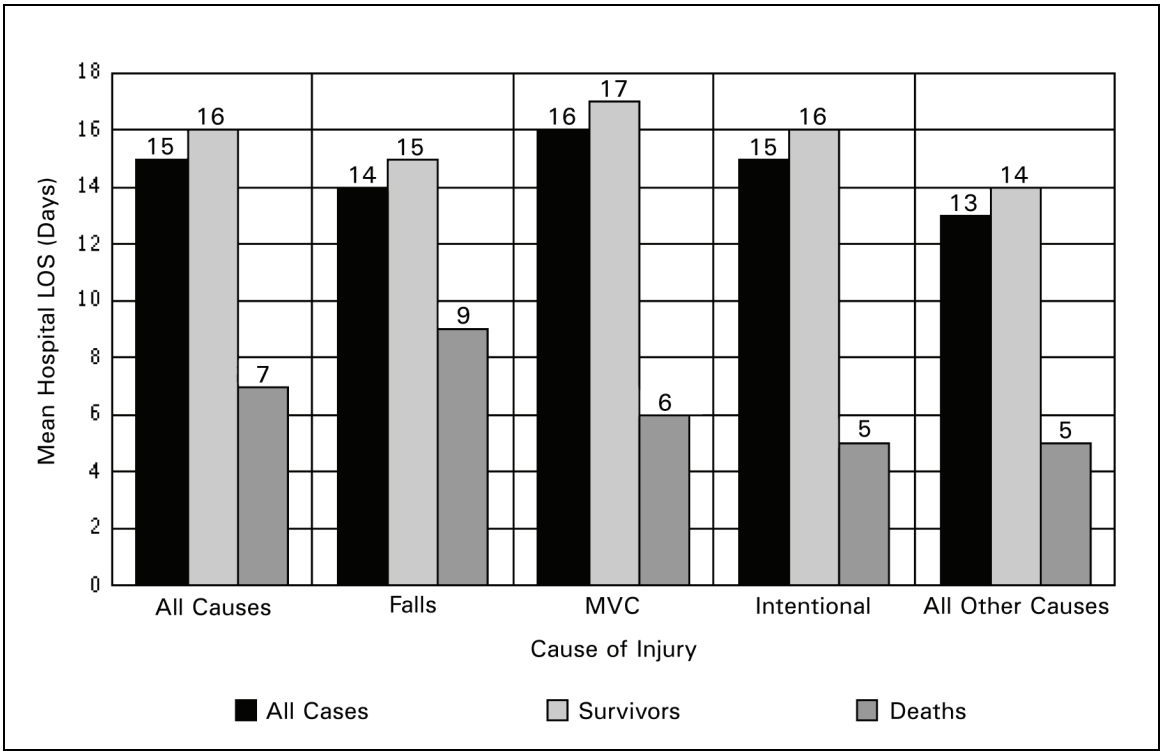
Figure 27 Mean Length of Stay (LOS) by Outcome and Age Group, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 28 shows mean LOS by outcome and major cause of injury. For all cases and survivors, the highest mean LOS was among motor vehicle collisions and intentional injuries (LOS = 16 and 17 days, respectively). Among deaths, the highest mean LOS was among unintentional falls (LOS = 9 days).

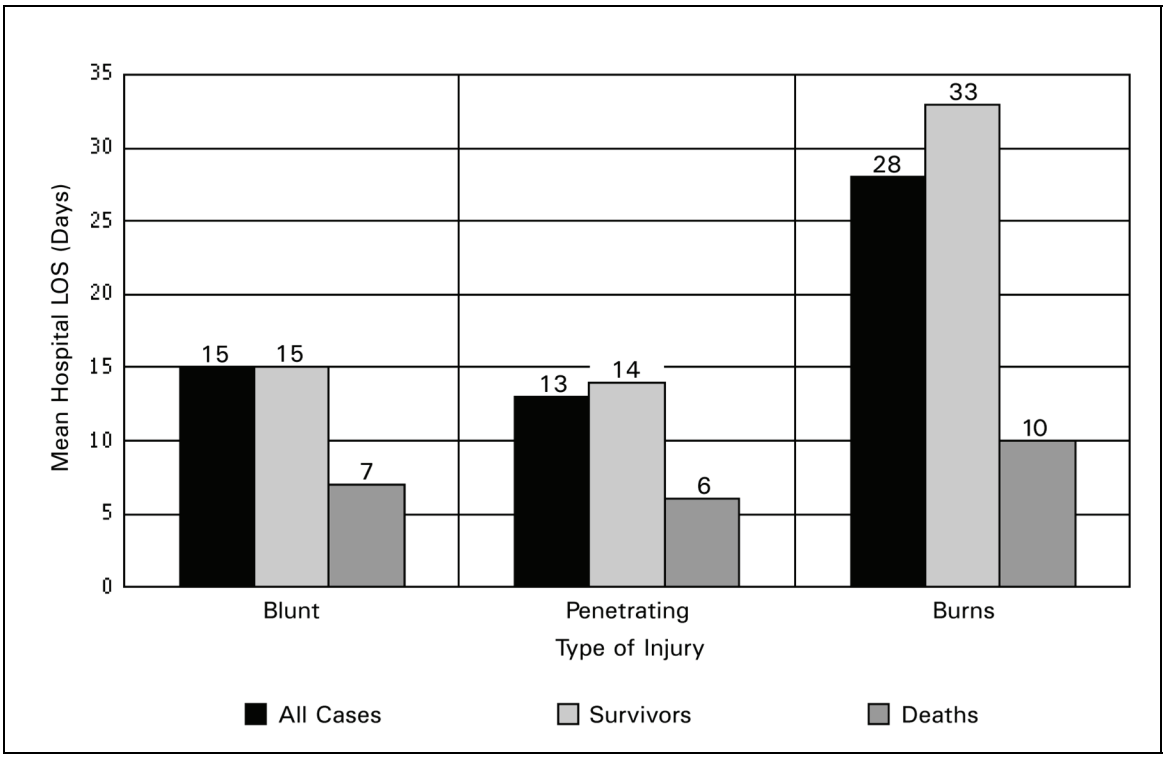
Figure 28 Mean Length of Stay (LOS) by Outcome and Cause of Injury, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Figure 29 shows mean LOS by outcome and type of injury. For all cases, survivors and deaths, the highest mean LOS was among cases with burn injuries (LOS = 28, 33 and 10, respectively).

Figure 29 Mean Length of Stay (LOS) by Outcome and Type of Injury, 2006–2007



Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

6.7 Special Care Units

For the purposes of the OTR CDS, special care units include intensive care and observation units with a normal patient-to-nurse ratio of at least 2:1.

Of the 2,528 cases (58% of all cases) in the OTR CDS that stayed in a special care unit in 2006–2007, 85% (n = 2,155) were discharged from hospital alive and 15% (n = 373) died.

Table 3 shows further information for cases treated in special care units.

Table 3 Summary Statistics for Special Care Unit (SCU) Cases, 2006–2007

Discharge Status	Cases n (%*)	Mean			
		Age (Years)	ISS	SCU LOS (Days)	Hospital LOS (Days)
Discharged Alive	2,155 (85)	42	25	9	20
Died in Hospital	373 (15)	56	33	5	8
All SCU Cases	**2,528**	**44**	**26**	**8**	**18**

Note

* Percent of all special care unit cases (n = 2,528).

Source

Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

6.8 PRE Analysis

PRE analysis is a methodology that can be used by a trauma institution for self-audit. To implement PRE using TRISS,[iii] each patient is characterized by the revised trauma score (RTS) measured at hospital admission and the injury severity score (ISS) based on surgery, CT scan, autopsy or definitive diagnosis. Each patient's values are plotted on a graph with ISS and RTS axes. Survivors (L) and non-survivors (D) have different plotting symbols. The sloping line identified as "P_s50" represents the combinations of RTS and ISS, which have a 0.50 probability of survival for patients in the baseline population (see Appendix G).

Patients whose RTS–ISS coordinates are above the P_s50 line (non-shaded region) have probabilities of survival less than 0.50. Patients whose coordinates are below the line (shaded region) have survival probabilities which exceed 0.50. Survivors whose coordinates are above the P_s50 line (non-shaded region) and non-survivors whose coordinates are below the line (shaded region) are considered atypical (unexpected in a statistical sense) and worthy of medical review. Data from such non-survivors may be reviewed for the possibility of predictive index failure, health care system failure or therapeutic failure. Reviews for exceptional survivors may provide guidelines for future patient management.

iii. TRISS is a calculated field by COLLECTOR based on the first recorded set of vital signs at the lead trauma hospital. It combines both physiologic and anatomic indices to characterize the severity of injury and estimate patient survival probability.

Appendix G shows PRE analyses for adult patients 15 to 54 years of age and 55 years of age and older for blunt and penetrating wounds. PRE analysis for pediatric patients (younger than 15 years of age) is also shown. Due to the current software specifications, PRE analyses were conducted on cases in 2006–2007 based on fiscal year of admission and not on fiscal year of discharge.

6.8.1 Blunt Injuries: 2002–2003 Through 2006–2007

As indicated above, PRE analyses are available for five different groups. However, only blunt injuries to adults offer enough cases to provide meaningful comparison across the five years of data since 2002–2003.

Table 4 shows that over the past five years, the proportion of unexpected deaths among adults aged 15 to 54 years hospitalized with blunt injuries fluctuated from a low of 0.8% (n = 15) in 2004–2005 to a high of 1.2% (n = 22) in 2003–2004. The percentage of unexpected survivors ranged from 0.3% (n = 5) in 2002–2003 to 0.6% (n = 11) in 2004–2005.

Table 4 PRE Analyses of Adult (Aged 15 to 54 Years) Blunt Injuries, 2002–2003 to 2006–2007

	2002–2003 n (%)	2003–2004 n (%)	2004–2005 n (%)	2005–2006 n (%)	2006–2007 n (%)
Unexpected Deaths	20 (1.0)	22 (1.2)	15 (0.8)	19 (0.9)	24 (1.1)
Unexpected Survivors	5 (0.3)	9 (0.5)	11 (0.6)	9 (0.4)	9 (0.4)
Eligible Cases	1,962	1,869	1,951	2,048	2,202

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

PRE analyses indicate that the percentage of unexpected deaths among cases 55 years of age and older fluctuated from a low of 7.0% in 2004–2005 (n = 96) to a high of 8.2% in 2003–2004 (n = 100). The proportion of unexpected survivors also fluctuated, with a low of 1.1% (n = 15) in 2004–2005 and a high of 1.7% (n = 21) in 2002–2003 (Table 5).

Table 5 PRE Analyses of Adult (Aged 55+ Years) Blunt Injuries, 2002–2003 to 2006–2007

	2002–2003 n (%)	2003–2004 n (%)	2004–2005 n (%)	2005–2006 n (%)	2006–2007 n (%)
Unexpected Deaths	90 (7.5)	100 (8.2)	96 (7.0)	102 (7.1)	118 (7.8)
Unexpected Survivors	21 (1.7)	17 (1.4)	15 (1.1)	18 (1.3)	22 (1.5)
Eligible Cases	1,208	1,225	1,374	1,432	1,517

Source
Ontario Trauma Registry, 2006, Canadian Institute for Health Information.

Appendix A

Definition of Terms

Note: In this report, the terms "accident" and "accidentally" used in the International Classification of Diseases have been replaced with "incident" and "unintentionally."

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

Acute Care Hospital
A hospital in which active treatment is received.

Admission
An admission to a participating acute care hospital in Ontario as a result of injury, defined by an appropriate ICD external cause of injury code and an ISS greater than 12. Admissions include hospital deaths. For more information on inclusion criteria for admissions in the Comprehensive Data Set, refer to appendices B and C.

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

Age Groups
The age groups used by the OTR for reporting were selected for comparability to other sources of information and to report on specific trends such as injury in children, young adults and the elderly. Generally, the age groups reported are younger than 1; 1 to 4; 5 to 9; 10 to 14; 15 to 19; 20 to 24; 25 to 34; 35 to 44; 45 to 54; 55 to 64; 65 to 74; 75 to 84; and older than 85 years of age. Age groups were adjusted in Table 17 to match the *Ontario Road Safety Annual Report* from the Ministry of Transportation.

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

Autopsy
Refers to a case for which a post-mortem examination or autopsy was completed.

Blood Alcohol Concentration (BAC)
A positive blood alcohol concentration (BAC) is greater than or equal to 17.4 mmol/L. The Trauma Registry Advisory Committee recommends that BAC be routinely collected on all trauma patients 10 years of age and older with an ISS greater than 12 who are admitted within 12 hours of the incident.

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

Burn Injury Type
Isolated burns with an ISS greater than 12 or burns with AIS = 1 are documented as a burn injury. These cases would not be included in a TRISS analysis. A burn injury with another injury AIS greater than 1 should be documented as a blunt or penetrating injury type, depending on the other injury.

Canadian Institute for Health Information (CIHI)
The Canadian Institute for Health Information (CIHI) was established in February 1994. This not-for-profit corporation was created by integrating the Hospital Medical Records Institute, the MIS Group and specific health information programs from Health Canada and Statistics Canada.

Case
A case in the Comprehensive Data Set is any patient who has an ISS greater than 12 and an appropriate external cause of injury code and who meets one of the following criteria:

- Admitted to a lead trauma hospital; or
- Treated in the emergency department of a lead trauma hospital (not admitted); or
- Died in the emergency department of a lead trauma hospital after treatment was initiated (not admitted).

Chronic Care
The level of care required by a person who is chronically ill or has a functional disability (physical or mental) whose acute phase of illness is over, whose vital processes may or may not be stable, whose potential for rehabilitation may be limited and who requires a range of therapeutic services, medical management and/or skilled nursing care plus provision for meeting psychosocial needs. The period of time during which care is required is unpredictable but usually consists of months or years.

COLLECTOR
Specialized software from Digital Innovation, Inc. and Tri-Analytics, Inc. used by participating hospitals to collect pre-hospital, demographic, nature and cause of injury and follow-up information on severely injured patients. This software was customized for use in Ontario.

Comprehensive Data Set
One of three major data sets of the OTR that includes data on severely injured patients admitted to trauma hospitals in the province. Inclusion in the Comprehensive Data Set is based on injury severity.

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

Death Data Set From the Office of the Chief Coroner
One of three major data sets of the OTR that includes data on all injury deaths in the province of Ontario. These data are provided by the Office of the Chief Coroner.

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

Died in Emergency (DIE)
A DIE (died in emergency) is defined as a patient who dies in the emergency department after any active treatment or resuscitation by the trauma team or emergency department physician after the patient enters the emergency department. DIEs may include patients who arrive VSA (vital signs absent) if treatment or resuscitation is initiated. Patients who are admitted to hospital and die in the emergency department while waiting for transfer are considered an in-hospital death rather than a DIE.

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

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

Discharge Disposition
A patient's discharge disposition is the location to which the patient is discharged or the services arranged for the patient immediately upon discharge from the lead trauma hospital. Discharge disposition is documented as inappropriate for deaths. Menu options for discharge disposition include home, home with support services, another acute care facility, general rehabilitation facility, chronic care facility, nursing home, special rehabilitation facility, foster care/children's aid and other.

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

English-Speaking
Refers to patients who are reasonably conversant in the English language and do not require an interpreter.

External Cause of Injury
The external cause of injury codes in the ICD coding system allow the classification and analysis of environmental events and circumstances as the cause of injury. External cause of injury codes vary depending on the coding system (for example, unintentional falls are coded as E880 to E888 in the ICD-9 coding system and as W00 to W19 in ICD-10-CA. Please see the definition *ICD (International Classification of Diseases)* for an explanation of the various coding systems. All OTR reports are based on the first valid external cause code recorded unless otherwise specified. COLLECTOR allows hospitals to document up to three external cause of injury codes. External cause codes that are *included* in the trauma definition are listed in Appendix B. Note that external cause codes are termed e*xternal causes of morbidity and mortality* (V01 to Y98) in the ICD-10-CA coding system.

Extrication Required
Extrication is documented if a patient was trapped and required release from the scene of the incident. Examples include extrication from motor vehicles, dwellings on fire and falls where extrication is required.

General Rehabilitation
See *Rehabilitation* definition. General rehabilitation involves less-intensive rehabilitation of shorter duration than special rehabilitation.

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, indexing of hospital records by disease and operations and data storage and retrieval. ICD manuals may be located 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's 9th revision.

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

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

In-Hospital Deaths
A patient who dies after arrival at the participating hospital, excluding those patients who are dead on arrival (DOA).

Intracranial Pressure (ICP) Days
Refers to the number of days that intracranial pressure is monitored. ICP days include any part of one day up to midnight including the days the ICP is discontinued (excluding the day ICP is begun). ICP monitoring is used to evaluate a head injury patient's response to therapy and may also be used as a treatment modality to vent cerebrospinal fluid.

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

Injury Resulting From Operations of War
An external cause of injury code category used to classify injuries to military personnel and civilians caused by war and civil insurrection and occurring during the 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; 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 Undetermined Whether Unintentionally or Purposely Inflicted
An external cause of injury 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.

Intubated
Refers to patients who are intubated for airway maintenance.

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 external cause of injury 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.

Master Numbering System
A system developed for the purpose of bringing together all health facilities and programs under one system of identification. Included are health and health-related units, facilities, clinics, programs and services. Each such organization has been assigned a unique four-digit identifying code. A two-digit alphabetic code is used to identify the type of institution.

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 OTR that includes data on injury admissions to acute care hospitals in Ontario. Data are downloaded from CIHI's Discharge Abstract Database.

Month of Admission
Reports are generated by the month in which a patient was admitted to hospital rather than discharge date.

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

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

Motor Vehicle Non-Traffic Incident
Any motor vehicle incident which occurs entirely in any place other than a public highway.

Motor Vehicle Traffic Incident
Any motor vehicle incident occurring on a public highway (originating, terminating 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.

Nature of Injury
Injury diagnosis codes have been divided into the following broad categories of injuries to accommodate the reporting of both ICD-9 and ICD-10-CA codes: superficial; musculoskeletal; burns and corrosion; internal organs; crushing; open wound (including traumatic amputation); blood vessels; nerves and spinal cord; other; and unspecified. The specific diagnosis codes that define these categories are found in Appendix E—Nature of Injury Reporting Categories.

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 supported on a cushion of air. This category includes all-terrain vehicles, army tanks, hovercrafts and snowmobiles.

Operative Procedures
Up to 10 operative procedures may be documented for 5 operating room (OR) visits at the primary and secondary hospital and 10 OR visits at the participating hospital.

OR Visits per Admission
Refers to the number of OR encounters for the patient's admission. Up to 99 OR visits may be documented for each patient. Detailed information is collected on 5 OR visits at the primary and secondary hospital and 10 OR visits at the participating hospital.

Organ Donations
Up to four specific organs or tissue samples may be documented. Participating hospitals may also document if more than four organs or tissue samples were procured.

Other Incidents
This category was created from several ICD-10-CA external cause of injury codes. For specific ICD-10-CA codes included in this category, please see the *External Cause Groupings* document.

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.

Out-of-Province Residents
Defined as a patient whose province of residence is not Ontario.

Paralytic Agents
The purpose of collecting the number of paralytic agents in the Comprehensive Data Set is not to document the number of paralytic agents administered but the number of cases in which the Glasgow Coma Scale score could not be calculated because a paralytic agent was administered. Paralytic agents stop muscular activity and help preserve or increase cerebral venous draining in severe head injury, helping to reduce or keep the intracranial pressure in the normal range.

Participating Hospital
One of 11 hospitals (14 sites) in the province which contributes data on severely injured patients to the Comprehensive Data Set using specialized software and dedicated staff.

Patient Days
The number of days a patient is hospitalized.

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

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

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

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

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

Place of Injury
The ICD options are used to specify place of injury for all cases in the Comprehensive Data Set. Options include home, farm, mine, industry, recreation, street, public building, residential institution, other and unspecified. A place of injury may be documented for the primary, secondary and tertiary external cause of injury codes.

Pre-Hospital Time
Pre-hospital time is calculated based on the incident time to the time the ambulance arrived at the first hospital.

Protective Devices
Any devices in use or not in use by the injured patient at the time of the incident. Menu options for protective devices include none, lap and shoulder belt, lap belt only, lap belt only of combined assembly, child safety seat used incorrectly, child safety seat used correctly, air bag deployed, other passive restraint device, helmet, equipment available but not used, no equipment available, use unknown, other safety equipment used, infant seat (less than 20 pounds), child seat (between 20 and 40 pounds), booster seat (greater than 40 pounds), seatbelt NFS and helmet flew off. Up to four menu options may be documented.

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

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

Readmission
A readmission is an inpatient admission to the same participating hospital related to a previous trauma (ISS greater than 12) within unlimited time.

Rehabilitation
That required by a person whose condition is relatively stable but unlikely to be resolved through convalescence or the normal healing process and who requires a specialized rehabilitation program to restore or improve functional ability. The intensity and duration of the type of care is dependent on the nature of the disability and patient progress, but maximum benefits usually can be expected within a period of several months. Also see *Special Rehabilitation* or *General Rehabilitation*.

Residence Code
Unique four-digit numbers were assigned to each municipality and populated Indian Reserve or settlement in the province to classify patient residence information. The first two digits represent the county, district or regional municipality in which the place is located. Digits three and four identify municipalities within the county.

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.

Scene Time
Scene time is calculated based on the time the ambulance arrived at the scene to the time the ambulance left the scene.

SCU (Special Care Unit)
A special care unit is any unit where the normal patient-to-nurse ratio is 2:1. Other beds, such as those in the ED or recovery room, may be documented as SCU beds if they are used for more than 24 hours as SCU beds. SCUs include surgical intensive care units (ICUs), pediatric ICUs, neuro ICUs, burn ICUs, ICU step-down/observation units or other designated SCUs. Up to five SCU visits may be documented.

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 10.

Special Rehabilitation
See *Rehabilitation* definition. Special rehabilitation involves more intensive rehabilitation of longer duration than general rehabilitation.

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 to E848 and ICD-10-CA codes V01 to V99) involving a device designed primarily for, or being used at the time primarily for, conveying persons or goods from one place to another. In classifying incidents 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 (for example, kinetic or thermal). See Appendix B for external causes of injury codes used to define trauma.

Trauma Registry Advisory Committee (TRAC)
The multidisciplinary group responsible for guiding the implementation and operation of the OTR.

Ventilator Days
The number of days the patient was intubated and mechanically ventilated intermittently or continuously, excluding non-intubated patients on BIPAP and intubated patients on CPAP. Ventilator days include any part of one day up to midnight, including the day the ventilator is discontinued and excluding the day the ventilator is begun. A ventilator day is counted if a ventilated patient is admitted and discharged 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 B

Trauma Definition: External Cause of Injury Code Inclusions and Exclusions

The definition of trauma as injury resulting from the transfer of energy was approved by the Ontario Trauma Registry Advisory Committee.

The following lists the categories used for trauma reporting purposes based on this definition. "Incident" and "unintentional" have been substituted for the terms "accidents" and "accidental" used in the ICD definitions.

A. OTR CDS ICD-10-CA Inclusions

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

B. OTR CDS ICD-9 Inclusions

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

Trauma Definition: External Cause of Injury Code Exclusions

The following lists the ICD-9 and ICD-10-CA external cause codes that are *excluded* from the Ontario Trauma Registry based on the definition of trauma.

ICD-10-CA Code Exclusions	Definition	ICD-9 Code Exclusions	Definition
W78 to 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 to X29	Contact with venomous animals and plants	E905	Venomous animals and plants
X40 to X49	Unintentional poisoning and exposure to noxious substances	E850 to E858, E860 to 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 to X69	Intentional self-harm by poisoning	E950 to E952	Suicide and self-inflicted injury (poisonings)
X85, X87 to X90	Assault by poisoning	E962	Assault by poisoning
Y10 to Y19	Poisonings of undetermined intent	E980 to E982	Poisoning undetermined whether unintentionally or purposely inflicted
Y40 to Y59	Drugs, medicaments and biological substances causing adverse effects in therapeutic use	E930 to E949	Drugs, medicinal and biological substances causing adverse effects
Y60 to Y69	Misadventures to patients during surgical and medical care	E870 to E876	Misadventures
Y70 to 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 to Y89	Sequelae of external causes of morbidity and mortality	E929, E959, E969, E977, E989, E999	Late effects
Y90 to Y98	Supplementary factors related to causes of morbidity and mortality classified elsewhere	New Category—No ICD-9 Equivalent	

Appendix C

Definition of Trauma

The following points are guidelines for inclusion criteria for the OTR CDS. The inclusion and exclusion criteria for the OTR CDS listed below reflect discussion by TRAC, the TRAC subcommittee and the OTR CDS Working Group.

Inclusion criteria are effective for patients admitted on and after April 1, 1995.

1. Patients included in the Comprehensive Data Set must have an ISS greater than 12 with an appropriate external cause of injury code as defined by the Minimal Data Set Trauma Patient Definition (attached). In addition to the included external cause of injury codes, patients admitted with the following external cause of injury codes may also be included in the OTR CDS (as of April 1, 1995).

   External Cause of Injury Code Exceptions

   - Inhalation injury as defined in the *AIS Dictionary* should be used as a reference when there is documentation of the carboxyhemoglobin level. Inhalation injury should not be used in drowning or hanging cases.
   - Ingestion poisoning resulting in a physical injury with an ISS greater than 12 can be included. An example is a perforated esophagus due to chemical ingestion. If the perforated esophagus was due to vomiting, the case would not be included.
   - AIS 90 injuries describing length of unconsciousness and level of consciousness (includes response to painful stimuli) found in the Head section of the *AIS Dictionary* can be used for hypoxic injury, including hanging, strangulation and near drowning. Any documented head injury (hypoxic brain injury, cerebral edema) from the post-mortem report or diagnostic tests (CT, X-ray) must be included for these cases. If there is no documented head injury, either from diagnostic tests or a post-mortem examination, level of consciousness cannot be used. As stated in the *AIS Dictionary*, length of unconsciousness should always be used in preference to level of consciousness. Length of unconsciousness is defined from the first time the patient is known to be unconscious to the time the patient wakes up or is pronounced dead.

2. Patients that are DIEs (died in emergency) are included and will be included in reports created centrally. A DIE is defined as a patient who dies in the emergency department after any active treatment or resuscitation by the trauma team or emergency department physician after the patient enters the emergency department. DIEs may include patients who arrive VSA if treatment or resuscitation is initiated. Patients who are admitted to hospital and die in the emergency department while waiting for transfer are considered an in-hospital death rather than a DIE.
3. Patients that are DOA (dead on arrival) are excluded. A DOA is defined as a patient who has not had active treatment by the trauma team or emergency department physician and is pronounced dead in the emergency department.

4. The injury must have occurred within one year of hospital admission and be the first admission to the lead trauma hospital. Patients admitted with chronic subdurals are included in the OTR CDS as a new record if the injury occurred within one year and the admission is the first to the lead trauma hospital.
5. The trauma team leader or trauma team need not be activated.
6. Patients may bypass the emergency department and be directly admitted to a service.
7. Patients with ISS greater than 12 and an appropriate external cause of injury code who are treated in the emergency department at a lead trauma hospital and transferred to another lead trauma hospital for admission should be included in both lead trauma hospitals.
8. These cases will be reported centrally in the lead trauma hospital where the majority of the critical care is given rather than using the longest length of stay.
9. Only cases where active care is being given should be included. Patients who are admitted to a lead trauma hospital for convalescence or rehabilitation because the facility is closer to home should not be included.
10. If a trauma patient with an ISS less than 12 is admitted to hospital and then is further injured in hospital (ISS less than 12), the case should not be included in either instance. Injuries should not be combined. If the second incident results in an ISS greater than 12 the case should be included; however, the injuries from the first incident should not be included but should be listed as a comorbidity if they contribute to the patient's LOS. The only injuries used for scoring are the ones sustained related to the incident resulting in an ISS greater than 12.
11. A trauma patient (ISS greater than 12) admitted to a lead trauma hospital who is further injured in hospital (ISS greater than 12) should be considered two separate incidents and would require two records in the OTR CDS.

General Coding Guidelines

1. Every data element in the OTR CDS should be documented. As of April 1, 1995, blanks are not acceptable except in cases where data elements are skipped by COLLECTOR. All menus include "unknown" and "inappropriate" as a menu selection to facilitate documenting every data element.

   Unknown should be used in cases where the information is not documented. Unknown should also be used if there are two conflicting sources of information that cannot be verified or for data elements where the information is expected to be made available but has not arrived at the time the record is closed. In cases where there are conflicting sources of information, the medical director should be consulted.

   Inappropriate is used when the information would not be meaningful or appropriate for a specific case. An example is a BAC in a child younger than 10 years of age or occupation in a non-work-related injury.

2. Dates and times should be documented whenever they are known. Many calculations are done in COLLECTOR, including pre-hospital time, scene time and length of stay. It is important that all dates and times are entered sequentially for these calculations to be done. Data checks have been built in to alert the user to times that are not sequential. For example, the time the ambulance call is received and the time the ambulance is dispatched (Screen 3.3) must be sequential. If these times are documented as the same on the ambulance call report, the second time should be documented as one second later. A best guess should not be used in order to maintain the integrity of the data. It is possible to enter "U" in portions of the date and time data elements in COLLECTOR when all the information is not available. A data element has been added to COLLECTOR to document the approximate date of injury (within one week, within one month, within three months, within one year) when the actual date is not available.

3. Old injuries such as healing fractures should not be included. Only injuries that are related to the cause of admission should be documented.

4. When patients are readmitted to a participating hospital with a missed injury, the missed injury should be added to the original list of injuries. If the patient is admitted for the first time to the lead trauma hospital with a missed injury, all injuries relating to the ISS greater than 12 incident should be documented.

Appendix D

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 to E816, E818 to 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 to 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 to 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 to E816, E818, E819 (.3)
MOTOR VEHICLE TRAFFIC—Pedestrian	V02.1, V02.9, V03.1, V03.9, V04.1, V04.9, V09.2	E810 to 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 to 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 to 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 to E823, E825 (.0)
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 to 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 to 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 to E823, E825 (.3)

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
MOTOR VEHICLE NON-TRAFFIC—Pedestrian	V02.0, V03.0, V04.0, V09.0	E820 to 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 to E823, E825 (.6)
MOTOR VEHICLE NON-TRAFFIC—Other/ Unspecified	V20.2, V21.2, V22.2, V23.2, V24.2, V25.2, V26.2, V27.2, V28.2, V29.2, V29.3, V30.2, V30.3, V31.2, V31.3, V32.2, V32.3, V33.2, V33.3, V34.2, V34.3, V35.2, V35.3, V36.2, V36.3, V37.2, V37.3, V38.2, V38.3, V39.2, V39.3, V40.2, V40.3, V41.2, V41.3, V42.2, V42.3, V43.2, V43.3, V44.2, V44.3, V45.2, V45.3, V46.2, V46.3, V47.2, V47.3, V48.2, V48.3, V49.2, V49.3, V50.2, V50.3, V51.2, V51.3, V52.2, V52.3, V53.2, V53.3, V54.2, V54.3, V55.2, V55.3, V56.2, V56.3, V57.2, V57.3, V58.2, V58.3, V59.2, V59.3, V60.2, V60.3, V61.2, V61.3, V62.2, V62.3, V63.2, V63.3, V64.2, V64.3, V65.2, V65.3, V66.2, V66.3, V67.2, V67.3, V68.2, V68.3, V69.2, V69.3, V70.2, V70.3, V71.2, V71.3, V72.2, V72.3, V73.2, V73.3, V74.2, V74.3, V75.2, V75.3, V76.2, V76.3, V77.2, V77.3, V78.2, V78.3, V79.2, V79.3, V80 (.3, .4, .5), V82.0, V83.7, V83.9, V84.7, V84.9, V85.7, V85.9, V86.7, V86.90, V86.91, V86.98, V88 (.0, .1, .2, .3, .4, .5, .6, .7, .8), V89.0	E820 to 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 to E807 (.0, .1)
RAILWAY—Pedestrian	V05 (.0, .1, .9)	E800 to E807 (.2)
RAILWAY—Pedal Cyclist	V15 (.0, .1, .2, .3, .4, .5, .9)	E800 to E807 (.3)
RAILWAY—Other	V80.6	E800 to E807 (.8, .9)
OTHER ROAD VEHICLE—Pedestrian	V01 (.0, .1, .9), V06 (.0, .1, .9), V09.1, V09.3, V09.9	E826 to E829 (.0)
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 to E829 (.1)

External Cause Code Groups	ICD-10-CA Codes	ICD-9 Codes
OTHER ROAD VEHICLE—Animal Rider/Occupant of Animal-Drawn Vehicle	V80.0, V80.1, V80.2, V80.7, V80.8, V80.9	E826 to E829 (.2, .3)
OTHER ROAD VEHICLE—Occupant of Streetcar	V82 (.2, .3, .4, .5, .6, .7, .8, .9)	E826 to E829 (.4)
OTHER ROAD VEHICLE—Other	V87.9, V88.9, V89 (.1, .3)	E826 to 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 to 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 to E845 (.0, .1, .2, .3, .4, .5, .6, .7, .8, .9)
Vehicle Incidents Not Elsewhere Classified	V89.9, V98, V99	E846 to E848
UNINTENTIONAL FALLS—Slipping, Tripping and Stumbling	W01	E885
UNINTENTIONAL FALLS—Collision With/Pushed by Another Person	W03	E886
UNINTENTIONAL FALLS—Fall on/From Stairs and Steps	W10	E880
UNINTENTIONAL FALLS—Fall on/From Ladder or Scaffolding	W11, W12	E881
UNINTENTIONAL FALLS—Fall From, Out of or Through Building or Structure	W13	E882
UNINTENTIONAL FALLS—Other Fall From One Level to Another	W06 to W09, W14 to W17	E883, E884
UNINTENTIONAL FALLS—Other/Unspecified Fall	W00, W02, W04, W05, W18, W19	E888
Fire and Flames	X00 to X06, X08, X09	E890 to E899
Drowning	W65 to W70, W73, W74	E910
Operations of War	Y36	E990 to E998

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

Appendix E

Nature of Injury Reporting Categories

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 to 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 to 848
Burns and Corrosion	T20 to T32	940 to 949
Internal Organ	S06, S09.7, S09.8, S09.9, S26, S27, S36, S37, S39.6, T06.5	850 to 854, 860 to 869
Crushing	S07, S17, S28.0, S38.0, S38.1, S47, S57, S67, S77, S87, S97, T04	925 to 929
Open Wound, Including Traumatic Amputation	S01, S05.2 to 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 to 887, 890 to 897
Blood Vessels	S09.0, S15, S25, S35, S45, S55, S65, S75, S85, S95, T06.3, T11.4, T13.4, T14.5	900 to 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 to 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 to 939, 959, 990 to 994 (Excludes 933.1, 994.2, 994.3, 994.6)

Appendix F

Comprehensive Data Set Data Elements

"Restricted" in the Comments column means that the specific data element is unavailable to researchers.

Data Element—Group/Single	Data Element—Single	Comments
Accident Number		
ACS Filters		
Address (Legal Next of Kin)	Street Address City Province Country Postal Code Postal Code (Other Country)	**Restricted**
Address (Patient)	Street Address City Province Country Postal Code Postal Code (Other Country)	**Restricted**
Admission Date		
Admitting Service		
Age		
Age Units		
AIS Code		
AIS Version		
ALC Days: Number of, Reasons for, Form Completed, Date Ready		
BAC (mm/L)	Primary Hospital Secondary Hospital Lead Trauma Hospital	
Campus Number		
Cause of Injury: Specify		
Chart Number		**Restricted**
Collision Detail Comorbidities	Primary Impact Secondary Impact	
Complications		
Coroner Notified?		
CT Scan Location	Primary Hospital Secondary Hospital Lead Trauma Hospital	
Date of Arrival	Primary Hospital Secondary Hospital Lead Trauma Hospital Lead Trauma Hospital ED	
Date of Birth		

Data Element—Group/Single	Data Element—Single	Comments
Date of Departure	Primary Hospital Secondary Hospital Lead Trauma Hospital ED	
Dates: Scene	Date Call Received Date Dispatched Date Arrived at Scene Date Arrived at Patient Date Departed From Scene	
Direct Admission to Service (Bypass ED)		
Disposition		
Disposition: Other		
Distance Ejected (in Metres)		
External Cause of Injury Codes (ICD-9-CM)	Primary, Secondary, Tertiary, Sports/Recreational	
External Cause Codes (ICD-10-CA)		
ED Physician (Lead Trauma Hospital)		**Restricted**
Ejected From Vehicle		
Extrication Required?		
Extrication Time		
FIM Components	At Discharge, At Follow-Up	
FIM Total Score	At Discharge, At Follow-Up	
FIM Type	At Discharge, At Follow-Up	
FIM: Taken From Chart at Discharge?		
Follow-Up: Admissions Related to Injury in Six Months Post-Discharge?		
Follow-Up: Contact		
Follow-Up: Date		
Follow-Up: Hospital Admitted To		
Follow-Up: Level of Employment		
Follow-Up: Level of Study		
Follow-Up: Percent of Previous Income		
Follow-Up: Therapy Received After Discharge?		
Follow-Up: Therapy Type (Other)		
Follow-Up: Therapy Type		
Geocode of Incident Location		

Data Element—Group/Single	Data Element—Single	Comments
Glasgow Coma Scale	**Scene, Primary Hospital, Secondary Hospital, Lead Trauma Hospital** Eye Opening Motor Response Verbal Response Total GCS	
Health Number (Ontario)		**Restricted**
Health Number (Other Than Ontario)		**Restricted**
Heart Rate	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Height (Not Collected as of April 1, 1995)		
Home With Support Services		
Home With Support Services: Other		
ICD-9-CM Injury Codes		
ICD-10-CA Injury Codes		
ICP Days	Primary Hospital Secondary Hospital Lead Trauma Hospital	
Impact Location	Primary Impact Secondary Impact	
Impact Type		
Incident Date		
Incident Location (If Out of Province): Other		
Incident Location (If Out of Province)		
Incident Time		
Injury Text		**Restricted**
Injury Type (Primary)		
Institution Discharged to Outside of Ontario		**Restricted**
Institution Discharged to Outside of Canada		**Restricted**
Institution Discharged to Inside of Ontario		**Restricted**
Institution Transferred To	Primary Hospital Secondary Hospital Second Secondary Hospital Lead Trauma Hospital	**Restricted** **Restricted** **Restricted** **Restricted**

Data Element—Group/Single	Data Element—Single	Comments
Intentional Injury		
Intubated (Was the Patient)?	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Is This a Readmission?		
ISS		
IV Lines	Primary Hospital Secondary Hospital Lead Trauma Hospital	
Language Spoken	Patient, Legal Next of Kin	
Legal Next of Kin: Relationship to Patient		
Length of Stay	Special Care Units Lead Trauma Hospital	
MAIS		
Memo Fields	Demographic Follow-Up Injury Lead Trauma Hospital Lead Trauma Hospital Care Nursing Outcome Primary Hospital Quality Assurance Readmission Scene Secondary Hospital System	**Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted** **Restricted**
Modes of Transport	**Scene, From Primary Hospital, From Secondary Hospital** First Provider Second Provider Third Provider	
Name: Legal Next of Kin (Middle Name Not Collected as of April 1, 1995)	Surname, First Name, Middle Name	**Restricted**
Name: Patient	Surname, First Name, Middle Name	**Restricted**
Non-Operative Procedures	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Occupation		
Occupation (Other)		

Data Element—Group/Single	Data Element—Single	Comments
OR Visits: Dates	Primary Hospital (5 Visits) Secondary Hospital (5 Visits) Lead Trauma Hospital (10 Visits)	
OR Visits: Elapsed Times	Primary Hospital (5 Visits) Secondary Hospital (5 Visits) Lead Trauma Hospital (10 Visits)	
OR Visits: Finish Time	Primary Hospital (5 Visits) Secondary Hospital (5 Visits) Lead Trauma Hospital (10 Visits)	
OR Visits: Number Of	Primary Hospital Secondary Hospital Lead Trauma Hospital	
OR Visits: Procedures	Primary Hospital (5 Visits) Secondary Hospital (5 Visits) Lead Trauma Hospital (10 Visits)	
OR Visits: Services Performing Operation Procedures	Primary Hospital (5 Visits) Secondary Hospital (5 Visits) Lead Trauma Hospital (10 Visits)	
OR Visits: Start Time	Primary Hospital (5 Visits) Secondary Hospital (5 Visits) Lead Trauma Hospital (10 Visits)	
Organ Donation: Was Family Approached?		
Organs Donated: List Of		
Organs Donated: Were Organs Donated?		
Overflow		
Paralytic Agents in Effect	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Pediatric Trauma Score	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Place of Death		
Place of Injury	Primary, Secondary, Tertiary	
Place of Injury: Specify		
Police Force		**Restricted**
Police Force Division		**Restricted**
Position in Vehicle		
Post-ED Destination		
Post-Mortem Examination Done?		

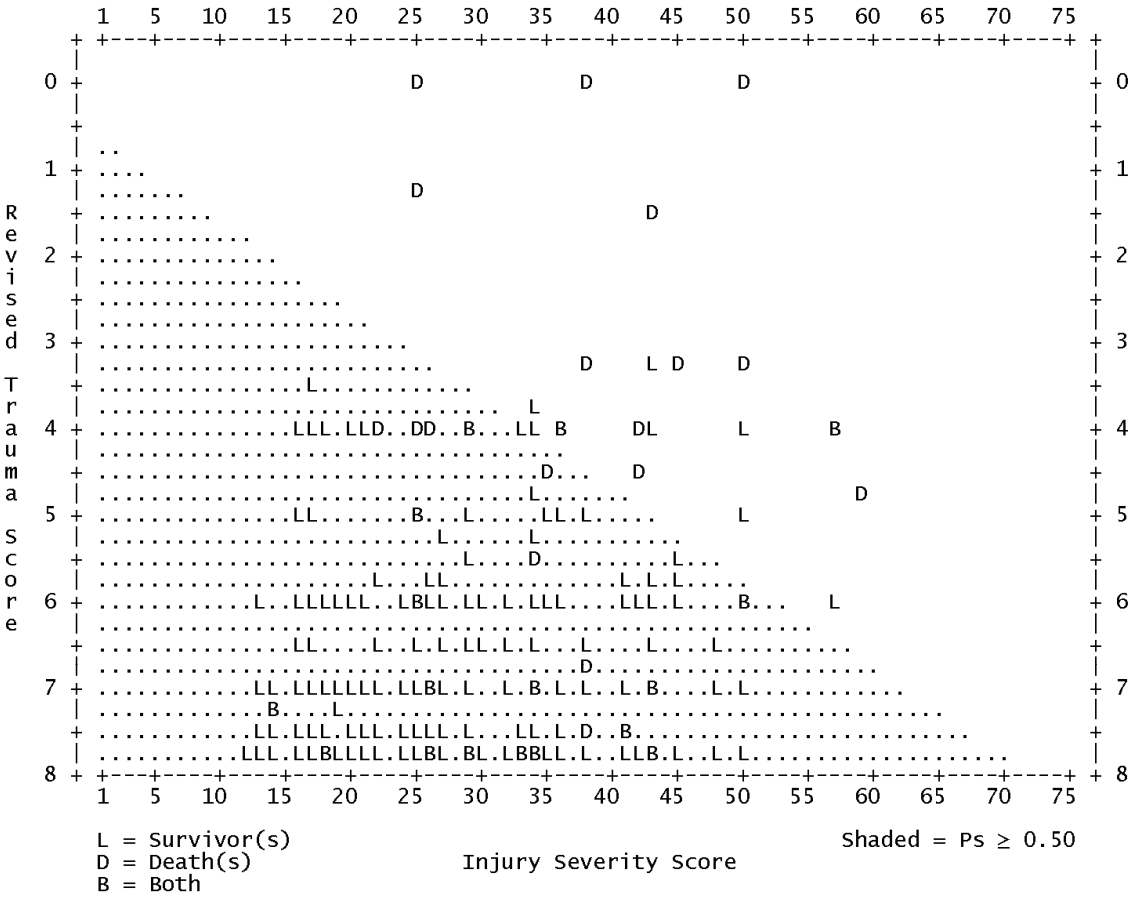
Data Element—Group/Single	Data Element—Single	Comments
Post-Mortem Report Received?		
Post-OR Destination		
Post-OR Destination: SCU		
Predot Code		
Pre-Hospital Number	**First, Second and Third Provider** From Scene From Primary Hospital From Secondary Hospital	
Pre-Hospital Time: Total		
Protective Devices		
Protective Devices (Other)		
Qualified Personnel (Number of)	**First, Second and Third Provider** From Scene From Primary Hospital From Secondary Hospital	
RANCHOS at Discharge		
Readmission	Number of Readmissions	
Referring Physician	Primary Hospital Secondary Hospital	**Restricted**
Residence Code		
Residence: Province Of		
Respiration Rate (Unassisted)	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Revised Trauma Score: Total	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Runsheet Available	**First, Second and Third Provider** From Scene From Primary Hospital From Secondary Hospital	
Scene Time: Total		
Separation	Date, Time, Status	
Service Transfers	**Type of Service, Date Admitted, Date Discharged, Length of Stay** Up to Six Service Transfers	
Sex		

Data Element—Group/Single	Data Element—Single	Comments
Special Care Units	**Type of Special Care Unit, Date Admitted, Date Discharged, Length of Stay** Up to Five SCUs	
Systolic Blood Pressure	Scene Primary Hospital Secondary Hospital Lead Trauma Hospital	
Telephone Number (Patient)		**Restricted**
Temperature	Primary Hospital Secondary Hospital Lead Trauma Hospital	
Time of Arrival	Primary Hospital Secondary Hospital Lead Trauma Hospital Lead Trauma Hospital ED	
Time of Departure	Primary Hospital Secondary Hospital Lead Trauma Hospital ED	
Times: Scene	Time Call Received Time Call Dispatched Time Arrived at Scene Time Arrived at Patient Time Departed From Scene	
Transport Mode to Discharge Care Facility (Not Collected as of April 1, 1995)		
Trauma Number		
Trauma Team Activated		
Trauma Team Leader		**Restricted**
TRISS		
Vehicle Type		
Vehicle Type: Other		
Ventilator Days	Primary Hospital Secondary Hospital Lead Trauma Hospital	
Weight		
Work-Related?		

Appendix G

PRE Analysis

PRECHART Adult Blunt (15–54) 2006–2007 Data



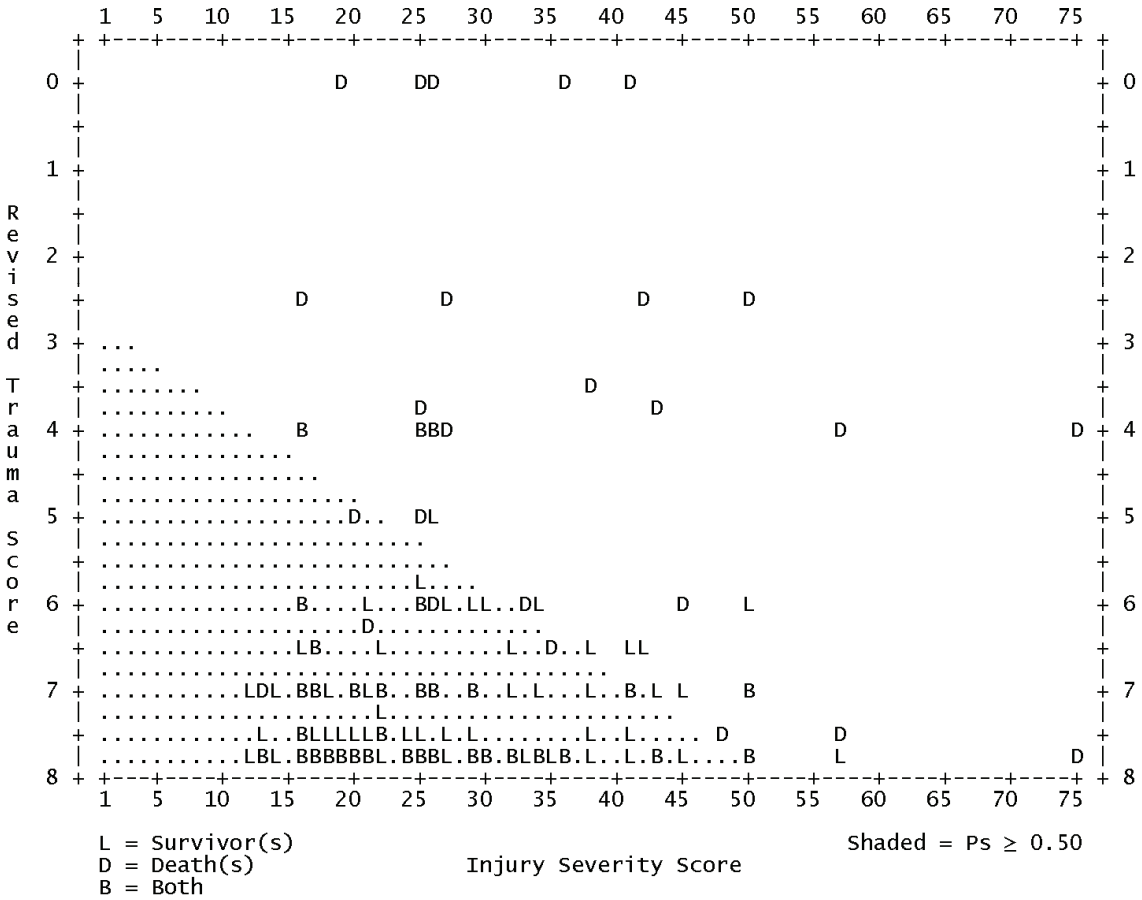
No. of Unexpected Deaths: 24

No. of Unexpected Survivors: 9

Note

PRE analyses were conducted on cases in 2006–2007 based on fiscal year of admission and not on fiscal year of discharge.

PRECHART Adult Blunt (55+) 2006–2007 Data



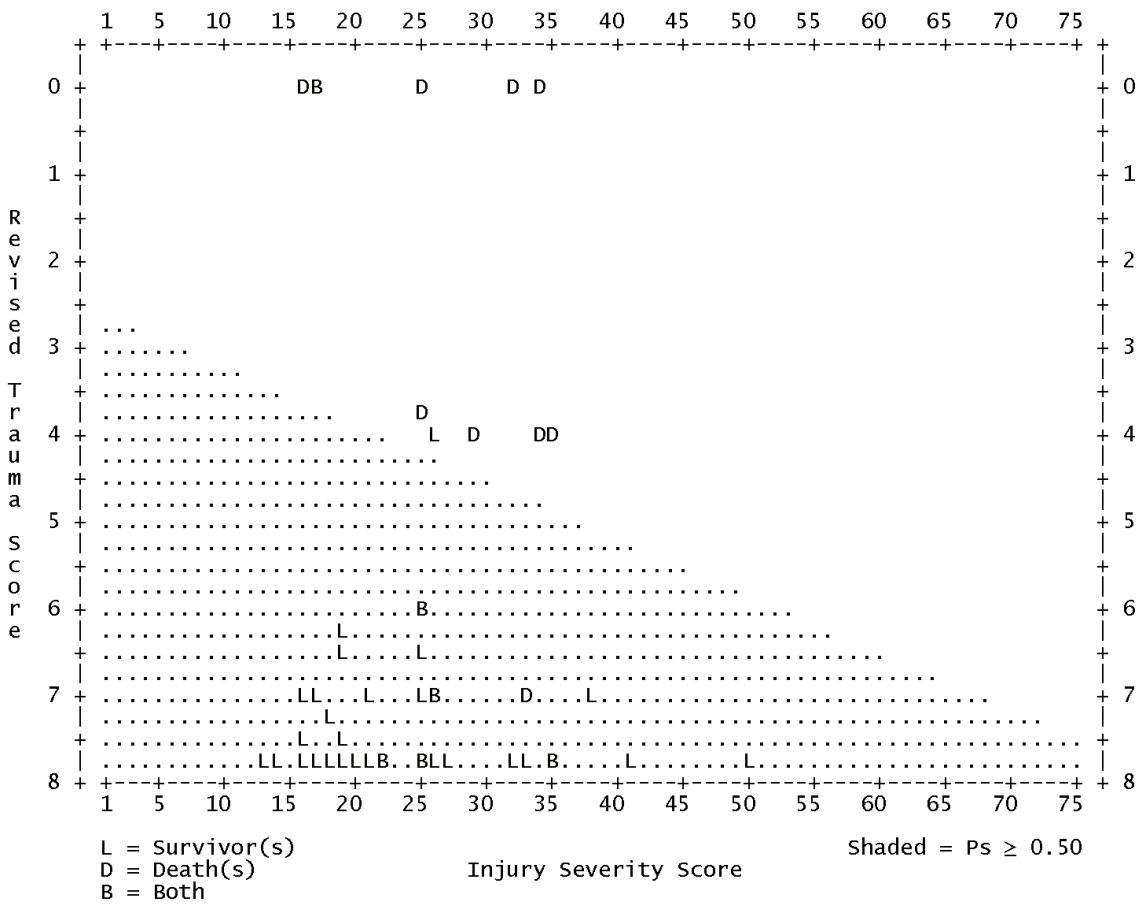
No. of Unexpected Deaths: 118

No. of Unexpected Survivors: 22

Note

PRE analyses were conducted on cases in 2006–2007 based on fiscal year of admission and not on fiscal year of discharge.

PRECHART Adult Penetrating (15–54) 2006–2007 Data



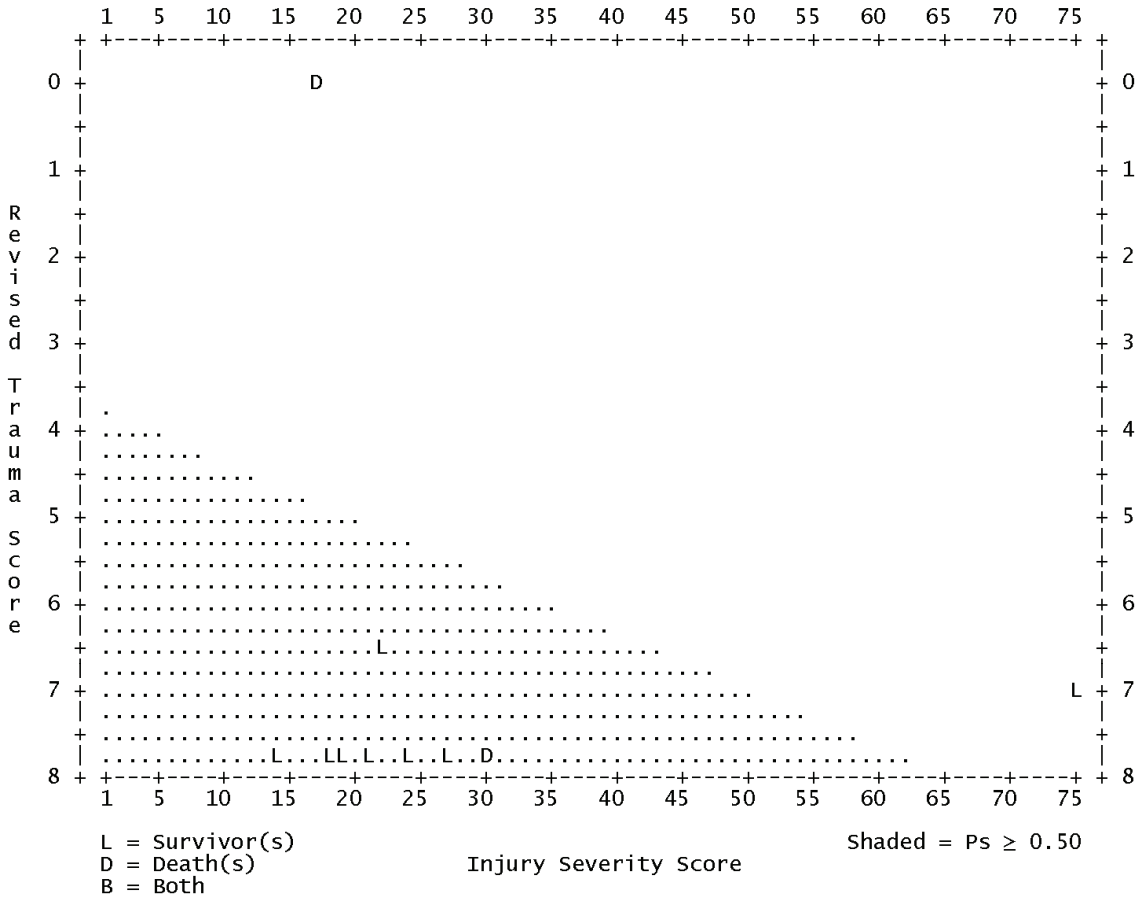
No. of Unexpected Deaths: 6

No. of Unexpected Survivors: 2

Note

PRE analyses were conducted on cases in 2006–2007 based on fiscal year of admission and not on fiscal year of discharge.

PRECHART Adult Penetrating (55+) 2006–2007 Data



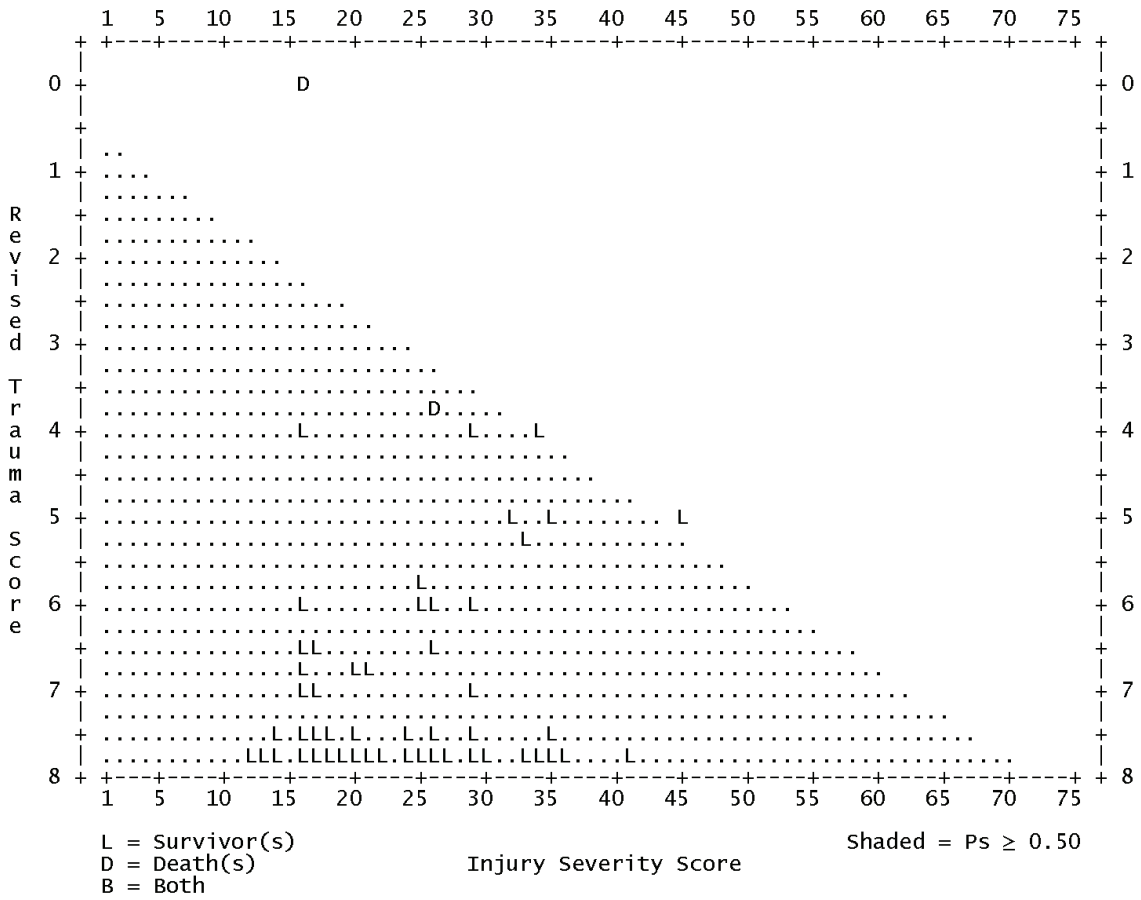
No. of Unexpected Deaths: 1

No. of Unexpected Survivors: 1

Note

PRE analyses were conducted on cases in 2006–2007 based on fiscal year of admission and not on fiscal year of discharge.

PRECHART Pediatric 2006–2007 Data



No. of Unexpected Deaths: 2

No. of Unexpected Survivors: 1

Note
PRE analyses were conducted on cases in 2006–2007 based on fiscal year of admission and not on fiscal year of discharge.

Appendix H

2006–2007
Data Tables

Table of Contents

Table H-1 Trend Analysis Report, 2002–2003 to 2006–2007

		2002–2003		2003–2004		2004–2005		2005–2006		2006–2007	
		No.	%	No.	%	No.	%	No.	%	No.	%
Number of Cases		3,965	-	3,784	-	3,985	-	4,139	-	4,347	-
In-Hospital Deaths		437	11.0	450	11.9	426	10.7	453	10.9	461	10.6
Died in Emergency Room		114	2.9	112	3.0	120	3.0	118	2.9	91	2.1
Direct Admissions		1,963	49.5	1,957	51.7	2,038	51.1	2,106	50.9	2,293	52.7
Males		2,812	70.9	2,735	72.3	2,817	70.7	2,957	71.4	3,118	71.7
Age Groups	< 20 Years	768	19.4	687	18.2	677	17.0	738	17.8	734	16.9
	20–34 Years	855	21.6	801	21.2	845	21.2	823	19.9	919	21.1
	35–64 Years	1,442	36.4	1,360	35.9	1,436	36.0	1,560	37.7	1,604	36.9
	65+ Years	897	22.6	931	24.6	1,025	25.7	1,017	24.6	1,088	25.0
	Unknown Age	3	0.1	5	0.1	2	0.1	1	0.0	2	0.0
Type of Injury	Blunt	3,633	91.6	3,506	92.7	3,713	93.2	3,784	91.4	4,026	92.6
	Penetrating	229	5.8	196	5.2	203	5.1	251	6.1	242	5.6
	Burns	103	2.6	82	2.2	69	1.7	104	2.5	79	1.8
External Cause of Injury	MVC	1,790	45.1	1,754	46.4	1,762	44.2	1,873	45.3	1,897	43.6
	Falls	1,151	29.0	1,225	32.4	1,356	34.0	1,313	31.7	1,466	33.7
	Intentional*	435	11.0	388	10.3	421	10.6	468	11.3	470	10.8
	All Other	589	14.9	417	11.0	446	11.2	485	11.7	514	11.8

Table H-1 Trend Analysis Report, 2002–2003 to 2006–2007 (cont'd)

		2002–2003		2003–2004		2004–2005		2005–2006		2006–2007	
		No.	%	No.	%	No.	%	No.	%	No.	%
Discharge Disposition	**Deaths**	551	13.9	562	14.9	546	13.7	572	13.8	555	12.8
	Home	1,533	38.7	1,543	40.8	1,564	39.2	1,657	40.0	1,711	39.4
	Home With Support Service	480	12.1	448	11.8	482	12.1	470	11.4	470	10.8
	Other Acute Care Facility	623	15.7	495	13.1	599	15.0	593	14.3	667	15.3
	General Rehabilitation	322	8.1	325	8.6	349	8.8	312	7.5	353	8.1
	Chronic Care	37	0.9	26	0.7	36	0.9	44	1.1	53	1.2
	Nursing Home	77	1.9	58	1.5	65	1.6	94	2.3	82	1.9
	Special Rehabilitation	251	6.3	236	6.2	231	5.8	254	6.1	328	7.5
	Foster Care	13	0.3	14	0.4	16	0.4	17	0.4	13	0.3
	Other	74	1.9	75	2.0	97	2.4	126	3.0	111	2.6
	Unknown	4	0.1	2	0.1	-	-	-	-	4	0.1
Injury Severity Score	**Mean**	25	-	25	-	24	-	25	-	24	-
	Standard Deviation	11	-	10	-	10	-	10	-	10	-
	Median	22	-	24	-	22	-	22	-	22	-
Age (Years)	**Mean**	43	-	44	-	45	-	45	-	45	-
	Standard Deviation	24	-	24	-	24	-	24	-	24	-
	Median	41	-	43	-	43	-	44	-	44	-
Length of Stay (Days)	**Mean**	17	-	15	-	15	-	15	-	15	-
	Standard Deviation	29	-	26	-	23	-	22	-	22	-
	Median	8	-	8	-	8	-	8	-	8	-

Notes

* Intentional injury includes:

– Suicide excluding poisoning (ICD-9-CM: E953 to E958 and ICD-10-CA: X70 to X84); and

– Injury purposely inflicted by other person (ICD-9-CM: E960, E961, E963 to E968 and ICD10-CA: X86, X91 to X99, Y00 to Y05, Y07 to Y09).

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-2 Patient Days, Mean and Median Length of Stay by Sex and Age, 2006–2007 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+	Un-known	Total
Number of Cases	Females	Count	13	28	32	33	104	73	107	129	150	129	132	180	116	2	1,228
		%	1.1	2.3	2.6	2.7	8.5	5.9	8.7	10.5	12.2	10.5	10.7	14.7	9.4	0.2	100
	Males	Count	35	29	64	88	307	332	407	410	450	336	275	277	108	N/A	3,118
		%	1.1	0.9	2.1	2.8	9.8	10.6	13.1	13.1	14.4	10.8	8.8	8.9	3.5	N/A	100
	Total	Count	48	57	96	121	411	405	514	539	600	465	407	457	224	2	4,346
		%	1.1	1.3	2.2	2.8	9.5	9.3	11.8	12.4	13.8	10.7	9.4	10.5	5.2	0.0	100
Length of Hospital Stay	Females	No. Days	52	288	354	486	1,507	941	1,748	2,231	2,060	1,597	2,195	2,960	1,823	N/A	18,242
		%*	0.3	1.6	1.9	2.7	8.3	5.2	9.6	12.2	11.3	8.8	12.0	16.2	10.0	N/A	100
		Mean	4.3	10.3	11.1	15.2	15.1	13.1	17.5	17.7	14.4	13.1	16.9	16.8	16.0	N/A	15
		Standard Deviation	6.8	14.2	13.1	18.5	38.9	14.1	26.4	31.6	18.5	13.7	21.0	22.3	20.4	N/A	23
		Median	1.5	5.0	6.5	8.5	6.0	7.5	9.5	10.0	8.0	9.0	9.0	10.0	8.5	N/A	8
	Males	No. Days	333	479	628	906	3,410	4,074	5,735	5,790	5,668	5,171	4,889	4,627	1,687	N/A	43,397
		%*	0.8	1.1	1.4	2.1	7.9	9.4	13.2	13.3	13.1	11.9	11.3	10.7	3.9	N/A	100
		Mean	10.4	17.7	10.1	11.0	11.6	12.9	14.7	14.8	13.2	15.8	18.2	17.1	16.2	N/A	14
		Standard Deviation	14.5	30.9	22.9	19.2	17.5	15.4	19.6	22.5	15.9	24.1	25.7	25.1	20.4	N/A	21
		Median	4.0	6.0	5.5	5.0	6.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0	7.0	N/A	7
	Total	No. Days	385	767	982	1,392	4,917	5,015	7,483	8,021	7,728	6,768	7,084	7,587	3,510	N/A	61,639
		%*	0.6	1.2	1.6	2.3	8.0	8.1	12.1	13.0	12.5	11.0	11.5	12.3	5.7	N/A	100
		Mean	8.8	13.9	10.4	12.2	12.4	13.0	15.3	15.5	13.5	15.1	17.8	17.0	16.1	N/A	15
		Standard Deviation	13.1	24.0	20.0	19.0	24.7	15.1	21.1	25.0	16.6	21.8	24.2	24.0	20.4	N/A	22
		Median	3.0	6.0	6.0	5.0	6.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0	8.0	N/A	8

Notes

Cases with no length of stay recorded and unknown sex are excluded from length of stay calculations.
Zero cases with unknown sex.
* Percentage calculated within sex.

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-3 Patient Days, Mean and Median Length of Stay by Sex and Age for In-Hospital Deaths, 2006–2007 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 +	Un-known	Total
Number of Cases	**Females**	**Count**	0	1	1	1	11	4	7	14	18	14	27	35	27	160	0
		%	0	0.6	0.6	0.6	6.9	2.5	4.4	8.8	11.3	8.8	16.9	21.9	16.9	100	0
	Males	**Count**	2	2	1	4	19	18	25	21	40	30	42	69	28	301	2
		%	0.7	0.7	0.3	1.3	6.3	6.0	8.3	7.0	13.3	10.0	14.0	22.9	9.3	100	0.7
	Total	**Count**	2	3	2	5	30	22	32	35	58	44	69	104	55	461	2
		%	0.4	0.7	0.4	1.1	6.5	4.8	6.9	7.6	12.6	9.5	15.0	22.6	11.9	100	0.4
Length of Hospital Stay	**Females**	**No. Days**	0	6	4	6	18	17	9	60	98	102	124	239	275	958	0
		%*	0	0.6	0.4	0.6	1.9	1.8	0.9	6.3	10.2	10.6	12.9	24.9	28.7	100	0
		Mean	0	6.0	4.0	6.0	1.6	4.3	1.3	4.3	5.4	7.3	4.6	6.8	10.2	6	0
		Standard Deviation	0	0	0	0	1.8	5.9	0.5	7.6	5.2	7.4	5.7	8.0	12.0	8	0
		Median	0	6.0	4.0	6.0	1.0	1.5	1.0	1.0	4.0	5.5	1.0	4.0	5.0	2	0
	Males	**No. Days**	11	7	7	56	75	51	73	114	141	159	441	1,009	280	2,424	11
		%*	0.5	0.3	0.3	2.3	3.1	2.1	3.0	4.7	5.8	6.6	18.2	41.6	11.6	100	0.5
		Mean	5.5	3.5	7.0	14.0	3.9	2.8	2.9	5.4	3.5	5.3	10.5	14.6	10.0	8	5.5
		Standard Deviation	6.4	3.5	0	26.0	4.6	3.6	2.3	6.6	4.8	6.9	20.5	27.3	14.4	17	6.4
		Median	5.5	3.5	7.0	1.0	3.0	1.0	2.0	3.0	1.0	2.5	2.0	5.0	4.5	3	5.5
	Total	**No. Days**	11	13	11	62	93	68	82	174	239	261	565	1,248	555	3,382	11
		%*	0.3	0.4	0.3	1.8	2.7	2.0	2.4	5.1	7.1	7.7	16.7	36.9	16.4	100	0.3
		Mean	5.5	4.3	5.5	12.4	3.1	3.1	2.6	5.0	4.1	5.9	8.2	12.0	10.1	7	5.5
		Standard Deviation	6.4	2.9	2.1	22.8	3.9	3.9	2.1	6.9	5.0	7.0	16.6	23.0	13.2	14	6.4
		Median	5.5	6.0	5.5	1.0	1.0	1.0	1.5	1.0	1.0	4.0	2.0	5.0	5.0	2	5.5

Notes

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

* Percentage calculated within sex.

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-4 Denominators by Institution Code, 2006–2007

	Institution Code														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Number of Cases	139	632	413	60	71	587	208	165	82	197	980	212	545	56	4,347
Number of Cases Discharged Alive	122	555	348	46	71	511	177	158	78	173	858	182	465	48	3,792
Number of Deaths*	17	77	65	14	0	76	31	7	4	24	122	30	80	8	555
Number Who Died in Emergency Room	5	15	9	3	0	6	4	1	1	5	27	7	8	0	91
Number of Pediatric Cases (<18 Years of Age)	14	26	0	0	70	25	23	165	82	18	42	17	7	56	545
Number of Cases >10 Years of Age†	136	630	413	60	35	587	201	66	47	195	980	207	545	25	4,127
Number of Cases <20 Years of Age	17	50	28	2	71	51	32	165	82	30	97	26	27	56	734
Number of Cases 20–64 Years of Age	91	403	300	32	0	373	120	0	0	113	676	111	304	0	2,523
Number of Cases >64 Years of Age	31	177	85	26	0	163	56	0	0	54	207	75	214	0	1,088

Notes

This table provides denominators to allow calculation of percentages.

* The total number of deaths reported include in-hospital deaths and DIEs. Deaths occurring at the scene are excluded.

† Number of cases older than 10 years of age can be used for BAC calculation.

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-5 Demographics by Institution Code, 2006–2007 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Total Number of Cases	**Number**	139	632	413	60	71	587	208	165	82	197	980	212	545	56	4,347
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Direct Admissions	**Number**	94	282	210	53	29	310	88	42	32	165	520	140	305	23	2,293
	%	67.6	44.6	50.8	88.3	40.8	52.8	42.3	25.5	39.0	83.8	53.1	66.0	56.0	41.1	52.7
Readmissions	**Number**	1	1	3	0	0	0	0	0	0	1	71	2	0	0	79
	%	0.7	0.2	0.7	0	0	0	0	0	0	0.5	7.2	0.9	0	0	1.8
< 20 Years of Age	**Number**	17	50	28	2	71	51	32	165	82	30	97	26	27	56	734
	%	12.2	7.9	6.8	3.3	100.0	8.7	15.4	100.0	100.0	15.2	9.9	12.3	5.0	100.0	16.9
≥ 65 Years of Age	**Number**	31	177	85	26	0	163	56	0	0	54	207	75	214	0	1,088
	%	22.3	28.0	20.6	43.3	0	27.8	26.9	0	0	27.4	21.1	35.4	39.3	0	25.0
Out-of-Province Residents	**Number**	8	6	7	1	19	3	7	1	0	2	13	8	47	2	124
	%	5.8	0.9	1.7	1.7	26.8	0.5	3.4	0.6	0	1.0	1.3	3.8	8.6	3.6	2.9
Positive BAC (≥ 17.4 mmol/l)	**Number**	22	95	56	2	1	80	20	0	3	29	107	20	56	0	491
	%	15.8	15.0	13.6	3.3	1.4	13.6	9.6	0	3.7	14.7	10.9	9.4	10.3	0	11.3
Age (Years)	**Mean**	45.7	48.5	46.5	59.8	9.5	49.0	47.3	8.4	10.5	46.3	45.3	50.9	55.6	8.6	45.2
	Standard Deviation	22.7	22.3	20.4	21.2	6.1	22.2	23.9	5.1	5.9	23.5	21.1	22.8	21.7	5.8	23.9
	Median	43.0	46.0	45.0	62.0	10.0	47.0	47.0	8.0	12.5	43.0	43.0	54.0	56.0	8.5	44.0

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-6 Injury Severity Score (ISS) and Glasgow Coma Scale (GCS) Score by Institution Code, 2006–2007 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
ISS—All Cases	**Mean**	24.2	23.0	26.0	20.5	20.7	23.6	24.9	21.8	24.1	22.2	27.1	22.1	22.8	20.4	24.2
	Standard Deviation	11.3	8.2	11.0	8.9	9.3	9.0	12.0	8.4	10.8	9.4	11.3	6.9	8.1	6.4	9.9
	Median	22.0	22.0	25.0	18.0	17.0	22.0	22.0	17.0	21.5	20.0	25.0	22.0	22.0	18.0	22.0
ISS—Survivors	**Mean**	22.7	22.3	24.1	19.0	20.7	22.4	23.1	21.5	23.2	21.1	25.7	21.5	22.1	19.3	23.0
	Standard Deviation	8.7	7.8	9.2	9.6	9.3	7.4	9.1	8.2	9.1	7.9	10.0	6.5	7.5	5.5	8.7
	Median	20.0	21.0	22.0	16.0	17.0	21.0	20.0	17.0	20.5	19.0	25.0	20.5	20.0	16.0	21.0
ISS—Deaths	**Mean**	35.0	27.9	35.9	25.1	.	31.5	35.0	30.1	42.8	30.0	37.6	26.1	26.8	27.1	32.0
	Standard Deviation	19.3	9.3	14.2	3.5	.	13.6	19.4	10.3	23.4	14.6	13.9	7.9	10.4	7.4	13.7
	Median	25.0	25.0	34.0	25.0	.	25.0	25.0	30.0	35.5	25.0	35.0	25.0	25.0	25.0	26.0
GCS	**Mean**	13.3	13.3	13.5	14.2	14.3	13.7	13.7	14.4	13.5	13.0	14.0	13.2	13.7	13.4	13.7
	Standard Deviation	3.3	3.4	3.2	2.3	1.7	2.7	2.9	1.9	2.9	3.7	2.5	3.5	2.6	3.2	2.9
	Median	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
GCS Incomplete Due to Use of Paralytic Agents	**Number**	10.0	30.0	38.0	5.0	12.0	11.0	19.0	25.0	9.0	7.0	8.0	5.0	64.0	2.0	245.0
	%	7.2	4.7	9.2	8.3	16.9	1.9	9.1	15.2	11.0	3.6	0.8	2.4	11.7	3.6	5.6

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-7 Type and Place of Injury by Institution Code, 2006–2007 Cases

Type of Injury		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Blunt	**Number**	126	579	397	55	66	553	200	159	81	183	851	200	523	53	4,026
	%	90.6	91.6	96.1	91.7	93.0	94.2	96.2	96.4	98.8	92.9	86.8	94.3	96.0	94.6	92.6
Penetrating	**Number**	9	53	13	0	4	20	7	1	0	14	90	9	21	1	242
	%	6.5	8.4	3.1	0	5.6	3.4	3.4	0.6	0	7.1	9.2	4.2	3.9	1.8	5.6
Burns	**Number**	4	0	3	5	1	14	1	5	1	0	39	3	1	2	79
	%	2.9	0	0.7	8.3	1.4	2.4	0.5	3.0	1.2	0	4.0	1.4	0.2	3.6	1.8
Sports/Recreational Injuries	**Number**	21	44	46	1	27	55	20	65	23	15	90	25	41	15	488
	%	15.1	7.0	11.1	1.7	38.0	9.4	9.6	39.4	28.0	7.6	9.2	11.8	7.5	26.8	11.2
Work-Related	**Number**	5	40	25	6	0	32	15	1	1	10	85	7	34	0	261
	%	3.6	6.3	6.1	10.0	0	5.5	7.2	0.6	1.2	5.1	8.7	3.3	6.2	0	6.0

Place of Injury*		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Home	**Number**	49	121	76	24	20	179	66	34	17	73	193	61	137	22	1,072
	%	35.3	19.1	18.4	40.0	28.2	30.5	31.7	20.6	20.7	37.1	19.7	28.8	25.1	39.3	24.7
Industrial	**Number**	2	29	8	4	0	15	6	0	0	6	51	1	10	0	132
	%	1.4	4.6	1.9	6.7	0	2.6	2.9	0	0	3.0	5.2	0.5	1.8	0	3.0
Recreation/Sport	**Number**	3	1	12	0	11	14	5	11	7	2	6	4	12	4	92
	%	2.2	0.2	2.9	0	15.5	2.4	2.4	6.7	8.5	1.0	0.6	1.9	2.2	7.1	2.1
Street/Highway	**Number**	47	301	238	14	26	267	97	65	39	83	530	68	210	20	2,005
	%	33.8	47.6	57.6	23.3	36.6	45.5	46.6	39.4	47.6	42.1	54.1	32.1	38.5	35.7	46.1
Other	**Number**	38	180	79	16	14	100	34	55	19	33	200	76	144	10	998
	%	27.3	28.5	19.1	26.7	19.7	17.0	16.3	33.3	23.2	16.8	20.4	35.8	26.4	17.9	23.0

Note

* Place of injury is documented for all cases in the Comprehensive Data Set using ICD categories. There are 48 cases that do not have a documented place of injury.

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-8 External Cause of Injury by Institution Code, 2006–2007 Cases

			Institution Code														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Unintentional Falls	**Survivors**	**Number**	52	227	76	27	19	172	50	42	17	63	204	66	205	13	1,233
		%	37.4	35.9	18.4	45.0	26.8	29.3	24.0	25.5	20.7	32.0	20.8	31.1	37.6	23.2	28.4
	Deaths	**Number**	5	30	21	6	0	37	20	0	1	13	34	13	52	1	233
		%	3.6	4.7	5.1	10.0	0	6.3	9.6	0	1.2	6.6	3.5	6.1	9.5	1.8	5.4
	All	**Number**	57	257	97	33	19	209	70	42	18	76	238	79	257	14	1,466
		%	41.0	40.7	23.5	55.0	26.8	35.6	33.7	25.5	22.0	38.6	24.3	37.3	47.2	25.0	33.7
Motor Vehicle Traffic	**Survivors**	**Number**	29	195	182	6	23	212	81	56	32	52	446	60	152	13	1,539
		%	20.9	30.9	44.1	10.0	32.4	36.1	38.9	33.9	39.0	26.4	45.5	28.3	27.9	23.2	35.4
	Deaths	**Number**	2	23	34	1	0	30	6	3	2	4	46	8	18	2	179
		%	1.4	3.6	8.2	1.7	0	5.1	2.9	1.8	2.4	2.0	4.7	3.8	3.3	3.6	4.1
	All	**Number**	31	218	216	7	23	242	87	59	34	56	492	68	170	15	1,718
		%	22.3	34.5	52.3	11.7	32.4	41.2	41.8	35.8	41.5	28.4	50.2	32.1	31.2	26.8	39.5
Motor Vehicle Non-Traffic	**Survivors**	**Number**	17	12	25	2	8	17	11	8	3	5	18	12	28	6	172
		%	12.2	1.9	6.1	3.3	11.3	2.9	5.3	4.8	3.7	2.5	1.8	5.7	5.1	10.7	4.0
	Deaths	**Number**	1	0	0	0	0	1	1	0	0	1	1	1	1	0	7
		%	0.7	0	0	0	0	0.2	0.5	0	0	0.5	0.1	0.5	0.2	0	0.2
	All	**Number**	18	12	25	2	8	18	12	8	3	6	19	13	29	6	179
		%	12.9	1.9	6.1	3.3	11.3	3.1	5.8	4.8	3.7	3.0	1.9	6.1	5.3	10.7	4.1
Assault and Injury Purposely Inflicted (Excluding Poisonings)	**Survivors**	**Number**	11	69	25	2	4	55	11	8	8	29	76	8	22	3	331
		%	7.9	10.9	6.1	3.3	5.6	9.4	5.3	4.8	9.8	14.7	7.8	3.8	4.0	5.4	7.6
	Deaths	**Number**	1	15	4	0	0	0	0	0	0	3	18	1	4	2	48
		%	0.7	2.4	1.0	0	0	0	0	0	0	1.5	1.8	0.5	0.7	3.6	1.1
	All	**Number**	12	84	29	2	4	55	11	8	8	32	94	9	26	5	379
		%	8.6	13.3	7.0	3.3	5.6	9.4	5.3	4.8	9.8	16.2	9.6	4.2	4.8	8.9	8.7

Table H-8 External Cause of Injury by Institution Code, 2006–2007 Cases (cont'd)

			Institution Code														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Suicide and Self-Inflicted Injury (Excluding Poisonings)	**Survivors**	**Number**	3	10	5	0	0	6	1	0	0	3	20	3	5	0	56
		%	2.2	1.6	1.2	0	0	1.0	0.5	0	0	1.5	2.0	1.4	0.9	0	1.3
	Deaths	**Number**	3	5	2	3	0	2	1	0	0	1	12	2	3	1	35
		%	2.2	0.8	0.5	5.0	0	0.3	0.5	0	0	0.5	1.2	0.9	0.6	1.8	0.8
	All	**Number**	6	15	7	3	0	8	2	0	0	4	32	5	8	1	91
		%	4.3	2.4	1.7	5.0	0	1.4	1.0	0	0	2.0	3.3	2.4	1.5	1.8	2.1
All Other	**Survivors**	**Number**	10	42	35	9	17	49	23	44	18	21	94	33	53	13	461
		%	7.2	6.6	8.5	15.0	23.9	8.3	11.1	26.7	22.0	10.7	9.6	15.6	9.7	23.2	10.6
	Deaths	**Number**	5	4	4	4	0	6	3	4	1	2	11	5	2	2	53
		%	3.6	0.6	1.0	6.7	0	1.0	1.4	2.4	1.2	1.0	1.1	2.4	0.4	3.6	1.2
	All	**Number**	15	46	39	13	17	55	26	48	19	23	105	38	55	15	514
		%	10.8	7.3	9.4	21.7	23.9	9.4	12.5	29.1	23.2	11.7	10.7	17.9	10.1	26.8	11.8

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-9 Scene Information by Institution Code, 2006–2007 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Pre-Hospital Time (Minutes), 95th Percentile*	**Mean**	75.3	53.5	57.5	109.4	62.1	75.4	95.4	77.4	61.7	77.0	67.2	92.6	76.8	52.0	71.0
	Standard Deviation	78.8	51.6	51.3	127.2	51.6	81.8	110.9	89.0	48.3	95.6	76.8	113.7	81.6	15.8	80.3
	Median	60.0	45.0	50.0	60.0	52.0	58.0	68.0	49.0	52.0	52.0	49.0	67.0	58.0	53.0	52.0
Scene Time (Minutes)	**Mean**	20.0	19.5	18.1	20.6	15.7	21.7	22.9	17.7	17.0	19.4	19.7	22.2	21.9	15.6	20.1
	Standard Deviation	11.1	10.5	10.5	7.8	6.5	15.2	10.9	10.7	10.2	12.1	11.7	15.4	12.2	5.2	12.0
	Median	17.0	18.0	15.5	20.0	15.5	19.0	20.0	16.0	15.0	17.0	18.0	19.0	20.0	14.5	18.0
Admissions With Scene Time >1 Hour	**Number**	1.0	2.0	2.0	0.0	0.0	5.0	2.0	1.0	0.0	2.0	6.0	4.0	6.0	0.0	31.0
	%	1.1	0.7	0.7	0.0	0.0	1.8	1.5	1.2	0.0	1.5	1.2	3.4	1.8	0.0	1.3
Admissions With Extrication Required	**Number**	38.0	61.0	135.0	2.0	7.0	75.0	35.0	11.0	16.0	15.0	86.0	69.0	77.0	0.0	627.0
	%	27.3	9.7	32.7	3.3	9.9	12.8	16.8	6.7	19.5	7.6	8.8	32.5	14.1	0.0	14.4

Note

* The 95th percentile is used for pre-hospital time calculations to exclude those who are not transported directly from the scene and therefore have long pre-hospital times (that is, days/weeks). Of the 2,769 cases with pre-hospital times in 2006–2007, 138 (5%) had times greater than 811 minutes.

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-10 Participating Hospital Care, 2006–2007 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Length of Hospital Stay (Days)	All Cases Mean	13.6	14.2	10.7	13.7	20.9	15.3	15.7	10.8	12.1	13.2	16.0	15.5	17.1	9.0	14.7
	All Cases Standard Deviation	13.1	18.1	14.8	19.4	52.1	21.5	19.1	17.7	15.6	16.2	23.0	27.3	24.2	15.2	21.6
	All Cases Median	9.0	7.0	6.0	6.0	5.0	8.0	9.0	5.0	7.0	8.0	9.0	9.0	9.0	4.0	8.0
	Survivors Mean	14.6	15.1	11.6	15.2	20.9	16.4	17.3	10.8	12.4	14.2	17.0	16.0	18.1	9.8	15.7
	Survivors Standard Deviation	13.3	18.6	15.4	20.0	52.1	21.9	19.8	17.7	15.8	16.8	23.5	28.4	24.6	16.3	22.2
	Survivors Median	10.0	8.0	7.0	6.5	5.0	9.0	10.0	5.0	7.0	8.0	9.5	9.0	9.0	4.0	8.0
	Deaths Mean	3.3	7.1	5.5	7.3	0.0	7.3	5.4	10.8	5.0	4.9	6.9	11.4	10.5	4.3	7.3
	Deaths Standard Deviation	2.2	10.3	8.6	15.6	0.0	16.4	7.7	20.8	3.5	4.5	15.3	18.1	20.4	3.7	14.4
	Deaths Median	3.5	3.5	1.0	2.0	0.0	3.5	2.0	2.0	7.0	4.0	2.0	5.0	3.0	3.5	2.0

Table H-10 Participating Hospital Care, 2006–2007 Cases (cont'd)

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Length of SCU Stay (Days)	All Cases Mean	8.8	5.8	6.4	8.7	8.2	10.0	13.9	6.5	4.1	4.8	9.5	5.7	10.3	4.5	8.2
	All Cases Standard Deviation	11.9	7.5	8.5	16.3	17.0	12.8	67.8	9.2	4.7	5.6	19.7	5.8	14.7	4.4	19.5
	All Cases Median	4.0	2.0	3.0	2.0	2.0	5.0	4.5	3.0	2.0	3.0	4.0	4.0	5.0	3.0	4.0
	Survivors Mean	9.9	5.9	6.7	13.2	8.2	11.2	16.0	6.0	4.1	4.9	10.0	5.5	11.0	4.6	8.6
	Survivors Standard Deviation	12.8	7.8	8.5	21.1	17.0	13.7	74.8	6.8	4.7	5.7	20.3	5.1	14.9	4.5	20.6
	Survivors Median	5.0	2.0	4.0	2.0	2.0	7.0	5.0	3.0	2.0	3.0	4.0	4.0	5.0	3.0	4.0
	Deaths Mean	3.4	5.2	5.0	3.1	0.0	4.3	4.2	10.7	5.0	3.5	6.5	6.7	7.1	4.3	5.5
	Deaths Standard Deviation	2.3	4.7	8.4	2.6	0.0	4.6	5.0	20.8	3.5	4.3	15.0	8.7	13.3	3.7	9.8
	Deaths Median	3.0	5.0	1.0	2.0	0.0	2.0	2.0	1.5	7.0	1.5	2.0	2.0	3.0	3.5	2.0
Length of Stay ≥3 Days	Number	125.0	524.0	319.0	43.0	53.0	495.0	168.0	125.0	70.0	149.0	794.0	161.0	444.0	39.0	3,509.0
	%	89.9	82.9	77.2	71.7	74.6	84.3	80.8	75.8	85.4	75.6	81.0	75.9	81.5	69.6	80.7
Number Of or Visits Per Case	Mean	1.3	1.4	1.5	1.2	1.8	1.4	1.5	1.7	1.3	1.3	1.6	1.2	1.3	1.1	1.5
	Standard Deviation	0.6	1.0	0.9	0.6	1.7	0.8	1.0	1.7	0.9	0.9	1.2	0.5	0.7	0.3	1.0
	Median	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cases With ICP Days >0	Number	0.0	39.0	1.0	0.0	7.0	14.0	0.0	10.0	6.0	20.0	36.0	0.0	21.0	2.0	156.0
	%	0.0	6.2	0.2	0.0	9.9	2.4	0.0	6.1	7.3	10.2	3.7	0.0	3.9	3.6	3.6
ICP Days	Mean	0.0	3.8	9.0	0.0	8.0	3.1	0.0	5.0	7.2	2.7	5.4	0.0	3.8	4.0	4.4
	Standard Deviation	0.0	3.7	0.0	0.0	3.9	1.9	0.0	3.7	4.8	2.6	10.4	0.0	3.6	0.0	5.9
	Median	0.0	3.0	9.0	0.0	7.0	3.0	0.0	4.0	6.5	1.5	3.0	0.0	3.0	4.0	3.0

Table H-10 Participating Hospital Care, 2006–2007 Cases (cont'd)

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Cases With Ventilation Days >0	**Number**	44.0	261.0	141.0	13.0	20.0	160.0	65.0	33.0	28.0	52.0	406.0	68.0	113.0	19.0	1,423.0
	%	31.7	41.3	34.1	21.7	28.2	27.3	31.3	20.0	34.1	26.4	41.4	32.1	20.7	33.9	32.7
Ventilation Days	**Mean**	8.2	5.0	5.1	10.8	10.4	5.0	3.8	5.7	4.5	4.4	8.7	2.7	2.8	3.9	5.9
	Standard Deviation	11.4	5.9	6.3	28.4	21.4	4.7	3.1	9.4	4.3	4.5	20.6	3.0	2.7	3.7	12.7
	Median	3.5	2.0	2.0	2.0	6.0	4.0	2.0	2.0	3.0	2.5	2.0	1.0	2.0	2.0	2.0

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-11 Deaths by Institution Code, 2006–2007 Cases

		Institution Code													
		A	B	C	D	F	G	H	I	J	K	L	M	N	Total
ISS for Deaths	**Mean**	35.0	27.9	35.9	25.1	31.5	35.0	30.1	42.8	30.0	37.6	26.1	26.8	27.1	32.0
	Standard Deviation	19.3	9.3	14.2	3.5	13.6	19.4	10.3	23.4	14.6	13.9	7.9	10.4	7.4	13.7
	Median	25.0	25.0	34.0	25.0	25.0	25.0	30.0	35.5	25.0	35.0	25.0	25.0	25.0	26.0
In-Hospital Deaths	**Number**	12.0	62.0	56.0	11.0	70.0	27.0	6.0	3.0	18.0	93.0	23.0	72.0	8.0	461.0
	%	8.6	9.8	13.6	18.3	11.9	13.0	3.6	3.7	9.1	9.5	10.8	13.2	14.3	10.6
Died in Emergency Department (DIE)	**Number**	5.0	15.0	9.0	3.0	6.0	4.0	1.0	1.0	5.0	27.0	7.0	8.0	0.0	91.0
	%	3.6	2.4	2.2	5.0	1.0	1.9	0.6	1.2	2.5	2.8	3.3	1.5	0.0	2.1
Patients Who Donate Organs	**Number**	6.0	12.0	11.0	4.0	12.0	7.0	3.0	2.0	2.0	26.0	6.0	9.0	2.0	102.0
	%	35.3	15.6	16.9	28.6	15.8	22.6	42.9	50.0	8.3	21.3	20.0	11.3	25.0	18.4

Note

The denominator used in the percentage calculations is the total number of admissions for a specific institution. The only exception is denominator for post-mortem examinations and patients who donate organs, which is the total number of deaths for a specific institution.

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-12 Outcome Scores by Institution Code, 2006–2007 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Number of Cases		139.00	632.00	413.00	60.00	71.00	587.00	208.00	165.00	82.00	197.00	980.00	212.00	545.00	56.00	4,347.00
ISS	**Mean**	24.17	22.99	25.98	20.45	20.68	23.60	24.86	21.83	24.13	22.19	27.14	22.13	22.76	20.38	24.18
	Standard Deviation	11.26	8.17	11.00	8.92	9.26	8.99	11.97	8.43	10.82	9.42	11.26	6.91	8.15	6.35	9.90
	Median	22.00	22.00	25.00	18.00	17.00	22.00	22.00	17.00	21.50	20.00	25.00	22.00	22.00	18.00	22.00
RTS @ L/T	**Mean**	7.61	7.41	7.67	7.67	7.64	7.56	7.52	7.61	7.51	7.35	7.69	7.54	7.59	7.38	7.56
	Standard Deviation	0.59	1.12	0.50	0.64	0.52	0.74	0.81	0.60	0.69	1.04	0.51	0.76	0.68	0.99	0.77
	Median	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
TRISS	**Mean**	0.92	0.88	0.90	0.92	0.98	0.92	0.90	0.97	0.97	0.89	0.92	0.90	0.92	0.96	0.91
	Standard Deviation	0.14	0.20	0.19	0.11	0.02	0.13	0.16	0.07	0.06	0.20	0.11	0.15	0.11	0.07	0.15
	Median	0.97	0.94	0.97	0.94	0.99	0.96	0.94	0.98	0.99	0.96	0.96	0.94	0.94	0.99	0.96
ASCOT	**Mean**	0.93	0.86	0.91	0.91	0.98	0.92	0.91	0.97	0.96	0.88	0.96	0.92	0.92	0.96	0.92
	Standard Deviation	0.14	0.24	0.19	0.16	0.03	0.15	0.17	0.07	0.08	0.21	0.05	0.16	0.12	0.08	0.16
	Median	0.98	0.96	0.98	0.96	0.99	0.97	0.97	0.99	0.99	0.97	0.99	0.97	0.96	0.99	0.98

Notes
ISS—Injury Severity Score
RTS @ L/T—Revised Trauma Score at Lead/Trauma Hospital
TRISS—Trauma and Injury Severity Score
ASCOT—A Severity Characterization of Trauma

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-13 Total Injuries and Deaths by External Causes of Injury and Sex, 2006–2007 Cases

		Females				Males				Total			
		No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths
Total		1,228	100.0	188	100.0	3,118	100.0	367	100.0	4,346	100.0	555	100.0
Railway	**Pedestrians**	1	0.1	0	0	7	0.2	1	0.3	8	0.2	1	0.2
	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	1	0.1	0	0	8	0.3	1	0.3	9	0.2	1	0.2
Motor Vehicle Traffic	**Pedestrians**	123	10.0	21	11.2	163	5.2	24	6.5	286	6.6	45	8.1
	Pedal Cyclists	13	1.1	3	1.6	69	2.2	13	3.5	82	1.9	16	2.9
	Drivers	222	18.1	30	16.0	546	17.5	43	11.7	768	17.7	73	13.2
	Passengers	209	17.0	17	9.0	172	5.5	14	3.8	381	8.8	31	5.6
	Motorcycle Drivers	11	0.9	0	0	164	5.3	11	3.0	175	4.0	11	2.0
	Motorcycle Passengers	8	0.7	2	1.1	0	0	0	0	8	0.2	2	0.4
	Other	7	0.6	1	0.5	11	0.4	0	0	18	0.4	1	0.2
	Subtotal	593	48.3	74	39.4	1,125	36.1	105	28.6	1,718	39.5	179	32.3
Motor Vehicle Non-Traffic	**Pedestrians**	1	0.1	0	0	12	0.4	0	0	13	0.3	0	0.0
	Pedal Cyclists	0	0	0	0	0	0	0	0	0	0	0	0
	Drivers	11	0.9	2	1.1	112	3.6	2	0.5	123	2.8	4	0.7
	Passengers	8	0.7	1	0.5	9	0.3	0	0	17	0.4	1	0.2
	Motorcycle Drivers	0	0	0	0	17	0.5	0	0	17	0.4	0	0.0
	Motorcycle Passengers	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
	Other	1	0.1	0	0	7	0.2	2	0.5	8	0.2	2	0.4
	Subtotal	21	1.7	3	1.6	158	5.1	4	1.1	179	4.1	7	1.3
Motor Vehicle Boarding Or Alighting		3	0.2	0	0	6	0.2	1	0.3	9	0.2	1	0.2

Table H-13 Total Injuries and Deaths by External Causes of Injury and Sex, 2006–2007 Cases (cont'd)

		Females				Males				Total			
		No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths
Other Road Vehicle	**Pedestrians**	4	0.3	1	0.5	4	0.1	1	0.3	8	0.2	2	0.4
	Pedal Cyclists	9	0.7	0	0	85	2.7	2	0.5	94	2.2	2	0.4
	Other	9	0.7	0	0	12	0.4	0	0	21	0.5	0	0.0
	Subtotal	22	1.8	1	0.5	101	3.2	3	0.8	123	2.8	4	0.7
Water Transport		4	0.3	1	0.5	9	0.3	0	0	13	0.3	1	0.2
Air and Space Transport		0	0	0	0	9	0.3	1	0.3	9	0.2	1	0.2
Vehicle Incidents Not Elsewhere Classified		0	0	0	0	3	0.1	0	0	3	0.1	0	0.0
Unintentional Falls		458	37.3	84	44.7	1,008	32.3	149	40.6	1,466	33.7	233	42.0
Fire and Flames		18	1.5	6	3.2	41	1.3	7	1.9	59	1.4	13	2.3
Natural and Environmental Factors		5	0.4	1	0.5	12	0.4	0	0	17	0.4	1	0.2
Drowning		4	0.3	0	0	10	0.3	8	2.2	14	0.3	8	1.4
Suffocation		0	0	0	0	1	0.0	1	0.3	1	0.0	1	0.2
Foreign Bodies (Excluding Choking)		0	0	0	0	0	0	0	0	0	0	0	0
Suicide and Self-Inflicted Injury (Excluding Poisonings)		19	1.5	7	3.7	72	2.3	28	7.6	91	2.1	35	6.3
Assault and Injury Purposely Inflicted		41	3.3	9	4.8	338	10.8	39	10.6	379	8.7	48	8.6
Legal Intervention		0	0	0	0	10	0.3	2	0.5	10	0.2	2	0.4

Table H-13 Total Injuries and Deaths by External Causes of Injury and Sex, 2006–2007 Cases (cont'd)

		Females				Males				Total			
		No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths
Undetermined Whether Unintentionally Or Purposely Inflicted		1	0.1	0	0	12	0.4	2	0.5	13	0.3	2	0.4
Operations of War		0	0	0	0	6	0.2	0	0	6	0.1	0	0.0
Other Incidents		38	3.1	2	1.1	189	6.1	16	4.4	227	5.2	18	3.2
All Other		0	0	0	0	0	0	0	0	0	0	0	0

Note
One case with unknown sex code is excluded from the total calculation.

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-14 Injury Case Summary by External Causes of Injury and Sex, 2006–2007 Cases

		Females					Males					Total				
		Mean			Median	Standard Deviation	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Total		49.9	24.4	15.4	8.0	23.4	43.3	24.1	14.5	7.0	20.9	45.2	24.2	14.7	8.0	21.6
Railway	**Pedestrians**	57.0	25.0	5.0	5.0	0	30.6	30.1	12.5	9.0	10.5	33.9	29.5	11.4	6.0	10.0
	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	14.0	14.0	3.0	3.0	0	14.0	14.0	3.0	3.0	0
	Subtotal	57.0	25.0	5.0	5.0	0	28.5	28.1	11.1	6.0	10.3	31.7	27.8	10.4	5.5	9.7
Motor Vehicle Traffic	**Pedestrians**	47.2	29.0	17.2	11.0	20.0	41.8	26.9	20.1	9.5	24.4	44.1	27.8	18.8	10.0	22.6
	Pedal Cyclists	31.8	30.8	15.6	9.5	16.5	34.3	28.1	14.1	9.0	20.1	33.9	28.5	14.3	9.0	19.5
	Drivers	42.7	26.7	15.3	9.0	20.1	41.0	26.7	15.3	9.0	18.0	41.5	26.7	15.3	9.0	18.6
	Passengers	39.4	27.3	19.6	11.0	36.8	28.1	26.2	14.8	7.0	20.7	34.3	26.8	17.4	9.0	30.7
	Motorcycle Drivers	35.4	21.2	13.5	13.0	8.4	38.1	26.5	14.8	10.0	16.2	37.9	26.2	14.7	10.0	15.8
	Motorcycle Passengers	35.1	26.6	24.4	16.0	22.4	0	0	0	0	0	35.1	26.6	24.4	16.0	22.4
	Other	46.4	27.9	4.0	3.0	3.1	39.7	23.9	16.2	11.0	12.6	42.3	25.4	11.4	5.5	11.6
	Subtotal	42.0	27.4	17.2	10.0	27.1	38.3	26.7	15.7	9.0	19.4	39.6	26.9	16.2	9.0	22.3
Motor Vehicle Non-Traffic	**Pedestrians**	81.0	24.0	12.0	12.0	0	43.6	18.1	15.5	7.0	20.9	46.5	18.5	15.3	7.5	19.9
	Pedal Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Drivers	30.6	22.1	7.8	5.0	6.2	36.7	22.3	11.9	6.5	26.8	36.2	22.3	11.6	6.0	25.9
	Passengers	31.6	29.9	6.4	4.0	7.0	22.7	20.7	9.6	7.0	9.0	26.9	25.0	8.1	5.0	8.0
	Motorcycle Drivers	0	0	0	0	0	33.1	21.2	10.5	5.0	11.5	33.1	21.2	10.5	5.0	11.5
	Motorcycle Passengers	0	0	0	0	0	22.0	25.0	37.0	37.0	0	22.0	25.0	37.0	37.0	0
	Other	14.0	14.0	5.0	5.0	0	38.0	21.7	5.3	3.5	5.8	35.0	20.8	5.3	5.0	5.3
	Subtotal	32.6	24.8	7.3	5.0	6.2	36.0	21.8	11.8	7.0	23.8	35.6	22.1	11.3	6.0	22.6

Table H-14 Injury Case Summary by External Causes of Injury and Sex, 2006–2007 Cases (cont'd)

		Females					Males					Total				
		Mean			Median	Standard Deviation	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Motor Vehicle Boarding or Alighting		51.0	23.3	19.0	20.0	13.5	41.7	30.7	10.8	7.5	10.0	44.8	28.2	13.6	9.0	11.2
Other Road Vehicle	Pedestrians	56.0	23.0	5.3	4.5	3.4	36.0	32.0	13.8	9.0	16.3	46.0	27.5	9.5	4.5	11.8
	Pedal Cyclists	36.6	19.0	7.2	6.0	6.1	38.0	20.4	10.6	6.0	17.5	37.9	20.2	10.3	6.0	16.7
	Other	37.2	21.4	5.0	4.0	3.7	52.3	22.1	14.3	8.0	17.3	45.8	21.8	10.3	5.0	13.9
	Subtotal	40.4	20.7	6.0	4.5	4.7	39.6	21.0	11.2	6.0	17.3	39.8	21.0	10.2	5.5	15.9
Water Transport		31.3	33.3	7.8	3.0	10.9	34.4	23.8	13.2	6.0	17.5	33.5	26.7	11.5	6.0	15.5
Air and Space Transport		0	0	0	0	0	39.0	36.2	15.3	11.5	9.4	39.0	36.2	15.3	11.5	9.4
Vehicle Incidents Not Elsewhere Classified		0	0	0	0	0	35.7	18.0	8.0	5.0	7.9	35.7	18.0	8.0	5.0	7.9
Unintentional Falls		65.8	20.6	13.8	7.0	19.4	57.3	22.3	13.9	7.0	20.9	59.9	21.8	13.9	7.0	20.5
Fire and Flames		44.0	26.6	17.4	10.5	17.9	40.5	23.4	27.2	18.0	35.2	41.6	24.4	24.0	17.0	30.8
Natural and Environmental Factors		34.8	32.0	9.8	7.0	11.0	42.4	24.3	14.7	6.0	14.2	40.2	26.5	13.2	6.0	13.2
Drowning		13.5	25.0	17.5	12.5	18.8	11.4	27.6	6.3	6.5	3.0	12.0	26.9	10.8	7.5	12.5
Suffocation		0	0	0	0	0	0.1	25.0	0	0	0	0.1	25.0	0	0	0
Foreign Bodies (Excluding Choking)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table H-14 Injury Case Summary by External Causes of Injury and Sex, 2006–2007 Cases (cont'd)

	Females					Males					Total				
	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation
	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Suicide and Self-Inflicted Injury (Excluding Poisonings)	37.5	28.4	26.9	9.0	37.8	40.4	29.6	20.3	13.5	22.1	39.8	29.4	21.9	13.0	26.5
Assault and Injury Purposely Inflicted	30.1	24.5	12.8	7.0	16.5	29.6	22.1	13.0	6.0	22.1	29.7	22.4	13.0	6.0	21.6
Legal Intervention	0	0	0	0	0	33.7	23.3	3.0	2.0	2.4	33.7	23.3	3.0	2.0	2.4
Undetermined Whether Unintentionally or Purposely Inflicted	1.3	26.0	5.0	5.0	0	35.8	21.3	7.5	6.0	7.6	33.2	21.6	7.3	6.0	7.3
Operations of War	0	0	0	0	0	24.3	25.5	19.5	9.0	23.5	24.3	25.5	19.5	9.0	23.5
Other Incidents	37.6	21.9	13.3	8.0	14.6	37.9	22.3	13.7	7.0	23.3	37.8	22.2	13.6	7.0	22.1
All Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-15 External Causes of Injury by Age Group, 2006–2007 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+	Un-known	Total	%
Number of Cases		48	57	96	121	412	405	514	539	600	465	407	457	224	2	4,347	100
Percentage of Cases		1.1	1.3	2.2	2.8	9.5	9.3	11.8	12.4	13.8	10.7	9.4	10.5	5.2	0	100	0
Railway	**Pedestrians**	0	0	0	0	1	2	2	1	0	1	1	0	0	0	8	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	1	0	0	0	0	0	0	0	0	0	0	1	0
	Subtotal	0	0	0	1	1	2	2	1	0	1	1	0	0	0	9	0.2
Motor Vehicle Traffic	**Pedestrians**	0	4	11	11	26	22	39	33	37	38	27	33	5	0	286	6.6
	Pedal Cyclists	0	0	3	7	18	5	10	9	21	5	3	1	0	0	82	1.9
	Drivers	0	1	1	2	85	113	124	129	116	101	40	41	15	0	768	17.7
	Passengers	1	5	22	23	78	58	44	30	43	21	26	23	7	0	381	8.8
	Motorcycle Drivers	0	0	0	4	8	22	48	36	31	21	3	1	1	0	175	4
	Motorcycle Passengers	0	0	0	1	0	1	2	1	3	0	0	0	0	0	8	0.2
	Other	0	0	0	1	3	1	2	3	2	2	1	3	0	0	18	0.4
	Subtotal	1	10	37	49	218	222	269	241	253	188	100	102	28	0	1,718	39.5
Motor Vehicle Non-Traffic	**Pedestrians**	0	0	2	1	0	0	1	3	0	2	1	2	1	0	13	0.3
	Pedal Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Drivers	0	0	1	7	18	9	18	31	24	9	5	1	0	0	123	2.8
	Passengers	0	1	1	1	7	1	1	2	1	1	0	1	0	0	17	0.4
	Motorcycle Drivers	0	0	1	2	1	2	3	5	1	1	1	0	0	0	17	0.4
	Motorcycle Passengers	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
	Other	0	0	0	2	2	1	0	0	0	1	2	0	0	0	8	0.2
	Subtotal	0	1	5	13	28	14	23	41	26	14	9	4	1	0	179	4.1

Table H-15 External Causes of Injury by Age Group, 2006–2007 Cases (cont'd)

		<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Unknown	Total	%
Motor Vehicle Boarding or Alighting		0	0	0	0	1	1	2	2	0	1	0	1	1	0	9	0.2
Other Road Vehicle	**Pedestrians**	0	0	1	0	0	0	1	2	2	0	1	0	1	0	8	0.2
	Pedal Cyclists	0	0	4	14	16	3	4	8	19	15	9	2	0	0	94	2.2
	Other	0	1	2	1	0	0	1	3	4	4	4	1	0	0	21	0.5
	Subtotal	0	1	7	15	16	3	6	13	25	19	14	3	1	0	123	2.8
Water Transport		0	1	0	2	0	4	1	0	2	2	1	0	0	0	13	0.3
Air and Space Transport		0	0	0	0	0	0	5	1	2	0	1	0	0	0	9	0.2
Vehicle Incidents Not Elsewhere Classified		0	0	0	1	0	0	0	1	0	1	0	0	0	0	3	0.1
Unintentional Falls		24	22	27	13	37	38	71	107	193	171	252	323	186	2	1,466	33.7
Fire and Flames		0	1	6	0	3	5	5	13	14	2	5	3	2	0	59	1.4
Natural and Environmental Factors		1	0	1	0	2	1	2	2	1	4	3	0	0	0	17	0.4
Drowning		1	4	1	2	3	1	1	1	0	0	0	0	0	0	14	0.3
Suffocation		1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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 (Excluding Poisonings)		0	0	0	2	10	12	16	17	16	7	3	7	1	0	91	2.1
Assault and Injury Purposely Inflicted		17	5	0	4	66	80	85	63	33	19	5	1	1	0	379	8.7

Table H-15 External Causes of Injury by Age Group, 2006–2007 Cases (cont'd)

		<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Un-known	Total	%
Legal Intervention		0	0	0	0	0	4	2	2	0	2	0	0	0	0	10	0.2
Undetermined Whether Unintentionally or Purposely Inflicted		1	3	0	0	1	1	1	1	2	1	2	0	0	0	13	0.3
Operations of War		0	0	0	0	0	4	2	0	0	0	0	0	0	0	6	0.1
Other Incidents		2	9	12	19	26	13	21	33	33	33	11	13	3	0	228	5.2
All Other		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-16 External Causes of Injury by Age Group For Falls, 2006–2007 Cases (ICD-10-CA W00 to 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	%	<1
Number of Cases		24	22	27	13	37	38	71	107	193	171	252	323	186	2	1,466	100
Percentage of Cases		1.6	1.5	1.8	0.9	2.5	2.6	4.8	7.3	13.2	11.7	17.2	22	12.7	0.1	100	0
W00—Involving Ice and Snow		0	0	0	0	0	0	0	1	5	5	9	11	1	0	32	2.2
W01—Slipping, Tripping and Stumbling		0	1	2	1	2	2	2	10	19	18	46	55	54	0	212	14.5
W02—Involving Skates, Skis, Sport Boards and Rollerblades	**Ice Skates**	0	0	0	0	0	1	0	0	0	1	3	0	0	0	5	0.3
	Skis	0	0	0	0	1	0	1	0	2	0	4	1	1	0	10	0.7
	Roller Skates/ Rollerblades	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.1
	Skateboards	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.1
	Snowboards	0	0	0	2	4	4	0	0	0	0	0	0	0	0	10	0.7
	Other Specified	0	0	0	1	1	0	0	0	1	0	0	0	0	0	3	0.2
	Subtotal	0	0	0	4	7	6	1	0	3	1	7	1	1	0	31	2.1
W03—Collision With/Pushing by Another Person		0	0	1	1	0	0	0	0	1	0	1	1	0	0	5	0.3
W04—While Being Carried or Supported by Other Persons		9	2	0	0	1	0	0	0	0	0	0	0	0	0	12	0.8
W05—Involving Wheelchair and Other Types of Walking Devices		1	2	0	0	0	0	0	0	1	2	1	8	8	0	23	1.6
W06—Involving Bed		3	1	0	0	0	2	0	1	0	6	2	9	14	0	38	2.6
W07—Involving Chair		0	0	0	0	0	0	0	0	0	1	3	2	5	0	11	0.8

Table H-16 External Causes of Injury by Age Group For Falls, 2006–2007 Cases (ICD-10-CA W00 to W19) (cont'd)

		<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	%	<1
W08—Involving Other Furniture		3	1	0	0	0	0	0	0	0	0	2	2	0	0	8	0.5
W09—Playground Equipment		0	1	3	2	0	0	0	0	0	0	0	0	0	0	6	0.4
W10—On/From Stairs/Steps		3	7	6	1	5	5	11	18	46	51	56	85	26	1	321	21.9
W11—On/From Ladder		0	0	3	0	0	3	8	20	27	22	24	9	0	0	116	7.9
W12—On/From Scaffolding		0	0	0	0	0	0	4	6	6	1	2	1	0	0	20	1.4
W13—From, Out Of or Through Building or Structure		0	4	5	0	8	11	19	23	30	14	12	7	0	1	134	9.1
W14—From Tree		0	0	2	1	3	0	2	4	4	5	3	1	0	0	25	1.7
W15—From Cliff		0	0	0	0	1	1	2	2	1	0	1	0	0	0	8	0.5
W16—Diving/Jumping Into Water		0	0	0	0	1	0	3	0	2	0	0	0	0	0	6	0.4
W17—Other Fall From One Level To Another		4	3	5	1	3	4	8	4	16	7	2	3	3	0	63	4.3
W18—Other Fall On Same Level		1	0	0	2	5	4	8	9	20	21	44	74	40	0	228	15.6
W19—Unspecified Fall		0	0	0	0	1	0	3	9	12	17	37	54	34	0	167	11.4

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-17 External Causes of Injury by Age Group For Traffic, Non-Traffic and Other Road Vehicle Incidents, 2006–2007

		0–4	5–9	10–15	16	17	18	19	20	21–24	25–34	35–44	45–54	55–64	65–74	75+	Un-known	Total	%
Number of Admissions		13	49	118	49	59	50	64	52	188	300	297	304	222	123	141	0	2,029	100
Percentage of Admissions		0.6	2.4	5.8	2.4	2.9	2.5	3.2	2.6	9.3	14.8	14.6	15	10.9	6.1	6.9	0	100	0
Motor Vehicle Traffic	**Drivers**	1	1	6	10	17	20	34	24	89	124	129	116	101	40	56	0	768	37.9
	Passengers	6	22	38	17	17	14	15	16	42	44	30	43	21	26	30	0	381	18.8
	Motorcycle Drivers	0	0	5	1	1	2	3	4	18	48	36	31	21	3	2	0	175	8.6
	Motorcycle Passengers	0	0	1	0	0	0	0	1	0	2	1	3	0	0	0	0	8	0.4
	Pedal Cyclists	0	3	11	3	4	4	3	1	4	10	9	21	5	3	1	0	82	4
	Pedestrians	4	11	17	3	10	3	4	3	19	39	33	37	38	27	38	0	286	14.1
	Other	0	0	2	0	1	0	1	0	1	2	3	2	2	1	3	0	18	0.9
	Subtotal	11	37	80	34	50	43	60	49	173	269	241	253	188	100	130	0	1,718	84.7
Motor Vehicle Non-Traffic	**Drivers**	0	1	13	4	2	3	3	1	8	18	31	24	9	5	1	0	123	6.1
	Passengers	1	1	2	4	1	0	1	0	1	1	2	1	1	0	1	0	17	0.8
	Motorcycle Drivers	0	1	2	0	0	1	0	0	2	3	5	1	1	1	0	0	17	0.8
	Motorcycle Passengers	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
	Pedal Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pedestrians	0	2	1	0	0	0	0	0	0	1	3	0	2	1	3	0	13	0.6
	Other	0	0	2	1	0	1	0	1	0	0	0	0	1	2	0	0	8	0.4
	Subtotal	1	5	20	9	3	5	4	2	12	23	41	26	14	9	5	0	179	8.8

Table H-17 External Causes of Injury by Age Group For Traffic, Non-Traffic and Other Road Vehicle Incidents, 2006–2007 (cont'd)

		0–4	5–9	10–15	16	17	18	19	20	21–24	25–34	35–44	45–54	55–64	65–74	75+	Un-known	Total	%
Motor Vehicle Boarding or Alighting		0	0	0	0	1	0	0	1	0	2	2	0	1	0	2	0	9	0.4
Other Road Vehicle	**Pedal Cyclists**	0	4	17	6	5	2	0	0	3	4	8	19	15	9	2	0	94	4.6
	Pedestrians	0	1	0	0	0	0	0	0	0	1	2	2	0	1	1	0	8	0.4
	Other	1	2	1	0	0	0	0	0	0	1	3	4	4	4	1	0	21	1
	Subtotal	1	7	18	6	5	2	0	0	3	6	13	25	19	14	4	0	123	6.1

Note
These age groups match the *Ontario Road Safety Annual Report* from the Ontario Ministry of Transportation.

Source
Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Table H-18 Total Injuries and Injury Type by Five-Year Age Group, 2006–2007 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+	Un-known	Total	%†
Total*	94	130	225	288	1,026	1,087	1,418	1,370	1,492	1,065	828	875	403	2	10,303	
Percentage of Total†	2.2	3	5.2	6.6	23.6	25	32.6	31.5	34.3	24.5	19	20.1	9.3	0		
Superficial	17	24	46	58	137	139	202	196	197	143	107	103	48	0	1,417	32.6
Musculoskeletal	30	37	69	84	298	339	428	434	497	361	246	243	108	1	3,175	73
Burns and Corrosion	1	3	6	2	6	5	15	24	26	7	7	5	2	0	109	2.5
Internal Organ	41	51	85	99	373	354	442	437	495	394	349	395	194	1	3,710	85.3
Crushing	1	1	1	1	4	4	11	13	7	6	9	3	2	0	63	1.4
Open Wound, Including Traumatic Amputation	3	8	11	25	145	174	216	177	180	112	78	89	46	0	1,264	29.1
Blood Vessels	0	0	0	3	20	34	43	43	31	16	10	7	1	0	208	4.8
Nerves and Spinal Cord	0	2	5	10	36	28	49	42	54	24	19	28	2	0	299	6.9
Other and Unspecified	1	4	2	6	7	10	12	4	5	2	3	2	0	0	58	1.3

Notes

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

* Total number of injury types.

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

Source

Ontario Trauma Registry, 2006–2007, Canadian Institute for Health Information.

Appendix I

2005–2006
Data Tables

Table of Contents

Table I-1 Trend Analysis Report, 2001–2002 to 2005–2006

		2001–2002		2002–2003		2003–2004		2004–2005		2005–2006	
		No.	%	No.	%	No.	%	No.	%	No.	%
Number of Cases		3,678	-	3,965	-	3,784	-	3,985	-	4,139	-
In-Hospital Deaths		426	11.6	437	11.0	450	11.9	426	10.7	453	10.9
Died in Emergency Room		85	2.3	114	2.9	112	3.0	120	3.0	118	2.9
Direct Admissions		1,762	47.9	1,963	49.5	1,957	51.7	2,038	51.1	2,106	50.9
Males		2,629	71.5	2,812	70.9	2,735	72.3	2,817	70.7	2,957	71.4
Age Groups	< 20 Years	687	18.7	768	19.4	687	18.2	677	17.0	738	17.8
	20–34 Years	820	22.3	855	21.6	801	21.2	845	21.2	823	19.9
	35–64 Years	1,308	35.6	1,442	36.4	1,360	35.9	1,436	36.0	1,560	37.7
	65+ Years	862	23.4	897	22.6	931	24.6	1,025	25.7	1,017	24.6
	Unknown Age	1	0.0	3	0.1	5	0.1	2	0.1	1	0.0
Type of Injury	Blunt	3,386	92.1	3,633	91.6	3,506	92.7	3,713	93.2	3,784	91.4
	Penetrating	192	5.2	229	5.8	196	5.2	203	5.1	251	6.1
	Burns	100	2.7	103	2.6	82	2.2	69	1.7	104	2.5
External Cause of Injury	MVC	1,730	47.0	1,790	45.1	1,754	46.4	1,762	44.2	1,873	45.3
	Falls	1,105	30.0	1,151	29.0	1,225	32.4	1,356	34.0	1,313	31.7
	Intentional*	383	10.4	435	11.0	388	10.3	421	10.6	468	11.3
	All Other	460	12.5	589	14.9	417	11.0	446	11.2	485	11.7

Table I-1 Trend Analysis Report, 2001–2002 to 2005–2006 (cont'd)

		2001–2002		2002–2003		2003–2004		2004–2005		2005–2006	
		No.	%	No.	%	No.	%	No.	%	No.	%
Discharge Disposition	**Deaths†**	511	13.9	551	13.9	562	14.9	546	13.7	572	13.8
	Home	1,382	37.6	1,533	38.7	1,543	40.8	1,564	39.2	1,657	40.0
	Home With Support Services	436	11.9	480	12.1	448	11.8	482	12.1	470	11.4
	Other Acute Care Facility	586	15.9	623	15.7	495	13.1	599	15.0	593	14.3
	General Rehabilitation	295	8.0	322	8.1	325	8.6	349	8.8	312	7.5
	Chronic Care	27	0.7	37	0.9	26	0.7	36	0.9	44	1.1
	Nursing Home	66	1.8	77	1.9	58	1.5	65	1.6	94	2.3
	Special Rehabilitation	261	7.1	251	6.3	236	6.2	231	5.8	254	6.1
	Foster Care	17	0.5	13	0.3	14	0.4	16	0.4	17	0.4
	Other	93	2.5	74	1.9	75	2.0	97	2.4	126	3.0
	Unknown	4	0.1	4	0.1	2	0.1	-	-	-	-
Injury Severity Score	**Mean**	25	-	25	-	25	-	24	-	25	-
	Standard Deviation	11	-	11	-	10	-	10	-	10	-
	Median	24	-	22	-	24	-	22	-	22	-
Age (Years)	**Mean**	43	-	43	-	44	-	45	-	45	-
	Standard Deviation	24	-	24	-	24	-	24	-	24	-
	Median	40	-	41	-	43	-	43	-	44	-
Length of Stay (Days)	**Mean**	16	-	17	-	15	-	15	-	15	-
	Standard Deviation	22	-	29	-	26	-	23	-	22	-
	Median	9	-	8	-	8	-	8	-	8	-

Notes

* Intentional injury includes:
- Suicide excluding poisoning (ICD-9-CM: E953 to E958 and ICD-10-CA: X70 to X84); and
- Injury purposely inflicted by other person (ICD-9-CM: E960, E961, E963 to E968 and ICD10-CA: X86, X91 to X99, Y00 to Y05, Y07 to Y09).

† Number of deaths is greater than the total of in-hospital deaths and DIEs due to coding discrepancy.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-2 Patient Days, Mean and Median Length of Stay by Sex and Age, 2005–2006 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+	Un-known	Total
Number of Cases	Females	Count	18	26	21	38	113	81	85	128	144	127	135	182	84	N/A	1,182
		%	1.5	2.2	1.8	3.2	9.6	6.9	7.2	10.8	12.2	10.7	11.4	15.4	7.1	N/A	100
	Males	Count	35	36	58	93	300	297	360	407	426	328	266	274	76	1	2,957
		%	1.2	1.2	2.0	3.1	10.1	10.0	12.2	13.8	14.4	11.1	9.0	9.3	2.6	0.0	100
	Total	Count	53	62	79	131	413	378	445	535	570	455	401	456	160	1	4,139
		%	1.3	1.5	1.9	3.2	10.0	9.1	10.8	12.9	13.8	11.0	9.7	11.0	3.9	0.0	100
Length of Hospital Stay	Females	No. Days	157	219	189	339	1,721	1,097	1,278	2,002	2,544	2,200	1,860	2,705	1,521	N/A	17,832
		%*	0.9	1.2	1.1	1.9	9.7	6.2	7.2	11.2	14.3	12.3	10.4	15.2	8.5	N/A	100
		Mean	8.7	9.1	9.0	9.2	15.6	14.4	15.8	16.7	17.9	18.2	14.4	15.3	18.5	N/A	16
		Standard Deviation	11.4	9.8	11.5	12.1	17.7	18.2	17.6	24.1	24.0	19.7	15.8	15.6	32.7	N/A	20
		Median	4.5	6.0	4.0	6.0	10.0	7.0	9.0	8.0	9.0	13.0	9.0	10.0	7.0	N/A	9
	Males	No. Days	384	463	521	1,006	3,479	4,285	4,668	4,955	6,416	4,513	4,064	4,036	1,076	1	39,867
		%*	1.0	1.2	1.3	2.5	8.7	10.7	11.7	12.4	16.1	11.3	10.2	10.1	2.7	0.0	100
		Mean	11.0	12.9	9.5	11.2	12.0	15.6	13.8	12.7	15.9	14.5	15.9	15.5	14.5	1.0	14
		Standard Deviation	17.2	23.8	13.6	15.1	22.2	31.5	17.6	15.0	23.0	25.7	27.4	24.7	20.4	N/A	23
		Median	4.0	5.0	5.0	5.0	6.0	7.0	7.0	8.0	8.0	8.0	7.0	7.0	7.0	1.0	7
	Total	No. Days	541	682	710	1,345	5,200	5,382	5,946	6,957	8,960	6,713	5,924	6,741	2,597	1	57,699
		%*	0.9	1.2	1.2	2.3	9.0	9.3	10.3	12.1	15.5	11.6	10.3	11.7	4.5	0.0	100
		Mean	10.2	11.4	9.3	10.6	13.0	15.3	14.2	13.6	16.4	15.5	15.4	15.4	16.6	1.0	15
		Standard Deviation	15.4	19.4	12.9	14.3	21.1	29.1	17.6	17.6	23.3	24.2	24.1	21.5	27.5	N/A	22
		Median	4.0	5.0	5.0	5.0	7.0	7.0	8.0	8.0	8.0	9.0	8.0	8.0	7.0	1.0	8

Notes

Cases with no length of stay recorded and unknown sex are excluded from length of stay calculations.
Zero cases with unknown sex.
* Percentage calculated within sex.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-3 Patient Days, Mean and Median Length of Stay by Sex and Age for In-Hospital Deaths, 2005–2006 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 +	Un-known	Total
Number of Cases	**Females**	**Count**	2	2	0	1	9	5	5	10	12	14	26	33	17	0	136
		%	1.5	1.5	0	0.7	6.6	3.7	3.7	7.4	8.8	10.3	19.1	24.3	12.5	0	100
	Males	**Count**	3	1	5	2	19	15	21	35	34	43	55	63	20	1	317
		%	0.9	0.3	1.6	0.6	6.0	4.7	6.6	11.0	10.7	13.6	17.4	19.9	6.3	0.3	100
	Total	**Count**	5	3	5	3	28	20	26	45	46	57	81	96	37	1	453
		%	1.1	0.7	1.1	0.7	6.2	4.4	5.7	9.9	10.2	12.6	17.9	21.2	8.2	0.2	100
Length of Hospital Stay	**Females**	**No. Days**	2	5	0	1	24	82	7	34	98	91	305	321	84	0	1,054
		%*	0.2	0.5	0	0.1	2.3	7.8	0.7	3.2	9.3	8.6	28.9	30.5	8.0	0	100
		Mean	1.0	2.5	0	1.0	2.7	16.4	1.4	3.4	8.2	6.5	11.7	9.7	4.9	0	8
		Standard Deviation	0.0	2.1	0	0	2.2	32.2	0.9	3.6	19.0	6.6	15.2	14.5	5.6	0	13
		Median	1.0	2.5	0	1.0	2.0	3.0	1.0	1.5	2.0	3.5	7.0	5.0	3.0	0	3
	Males	**No. Days**	6	1	9	2	86	44	37	158	205	363	652	650	81	1	2,295
		%*	0.3	0.0	0.4	0.1	3.7	1.9	1.6	6.9	8.9	15.8	28.4	28.3	3.5	0.0	100
		Mean	2.0	1.0	1.8	1.0	4.5	2.9	1.8	4.5	6.0	8.4	11.9	10.3	4.1	1.0	7
		Standard Deviation	1.0	0	1.8	0.0	7.3	2.8	1.4	7.9	8.6	13.4	19.8	14.4	4.6	0	13
		Median	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	4.0	1.0	1.0	2
	Total	**No. Days**	8	6	9	3	110	126	44	192	303	454	957	971	165	1	3,349
		%*	0.2	0.2	0.3	0.1	3.3	3.8	1.3	5.7	9.0	13.6	28.6	29.0	4.9	0.0	100
		Mean	1.6	2.0	1.8	1.0	3.9	6.3	1.7	4.3	6.6	8.0	11.8	10.1	4.5	1.0	7
		Standard Deviation	0.9	1.7	1.8	0.0	6.2	16.1	1.3	7.2	12.0	12.0	18.4	14.4	5.0	0	13
		Median	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	3.0	4.0	5.0	2.0	1.0	2

Notes

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

* Percentage calculated within sex.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-4 Denominators by Institution Code, 2005–2006

	Institution Code														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Number of Cases	123	562	394	50	68	524	171	180	92	209	1,053	160	509	44	4,139
Number of Cases Discharged Alive	102	480	337	43	62	427	149	169	85	186	894	142	449	42	3,567
Number of Deaths*	21	82	57	7	6	97	22	11	7	23	159	18	60	2	572
Number Who Died in Emergency Room	8	18	11	1	1	14	4	1	3	9	37	7	4	0	118
Number of Pediatric Cases (<18 Years of Age)	9	20	0	1	68	20	18	180	89	20	58	7	6	44	540
Number of Cases >10 Years of Age†	122	562	394	50	32	523	167	74	59	203	1,053	157	509	21	3,926
Number of Cases <20 Years of Age	13	44	35	1	68	41	24	180	90	33	125	13	27	44	738
Number of Cases 20–64 Years of Age	77	334	271	30	0	325	103	0	2	112	713	88	328	0	2,383
Number of Cases >64 Years of Age	33	184	88	19	0	157	44	0	0	64	215	59	154	0	1,017

Notes

This table provides denominators to allow calculation of percentages.

* The total number of deaths reported includes in-hospital deaths and DIEs. Deaths occurring at the scene are excluded.

† Number of cases older than 10 years of age can be used for BAC calculation.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-5 Demographics by Institution Code, 2005–2006 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Total Number of Cases	**Number**	123	562	394	50	68	524	171	180	92	209	1,053	160	509	44	4,139
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Direct Admissions	**Number**	95	244	203	34	31	250	78	42	40	171	510	94	296	18	2,106
	%	77.2	43.4	51.5	68.0	45.6	47.7	45.6	23.3	43.5	81.8	48.4	58.8	58.2	40.9	50.9
Readmissions	**Number**	1	0	0	0	0	0	0	0	0	0	112	0	0	0	113
	%	0.8	0	0	0	0	0	0	0	0	0	10.6	0	0	0	2.7
< 20 Years of Age	**Number**	13	44	35	1	68	41	24	180	90	33	125	13	27	44	738
	%	10.6	7.8	8.9	2.0	100.0	7.8	14.0	100.0	97.8	15.8	11.9	8.1	5.3	100.0	17.8
≥ 65 Years of Age	**Number**	33	184	88	19	0	157	44	0	0	64	215	59	154	0	1,017
	%	26.8	32.7	22.3	38.0	0	30.0	25.7	0	0	30.6	20.4	36.9	30.3	0	24.6
Out-of-Province Residents	**Number**	7	10	8	4	18	10	5	1	0	2	16	3	49	0	133
	%	5.7	1.8	2.0	8.0	26.5	1.9	2.9	0.6	0	1.0	1.5	1.9	9.6	0	3.2
Positive BAC (≥ 17.4 mmol/l)	**Number**	18	70	66	3	0	81	17	0	4	31	117	10	63	1	481
	%	14.6	12.5	16.8	6.0	0	15.5	9.9	0	4.3	14.8	11.1	6.3	12.4	2.3	11.6
Age (Years)	**Mean**	49.1	50.9	46.8	59.1	8.9	49.6	47.8	8.2	11.8	48.0	44.9	53.0	51.0	8.4	44.8
	Standard Deviation	20.7	21.6	20.8	20.5	6.0	22.0	23.1	5.3	7.2	24.3	20.9	22.5	21.5	6.3	23.7
	Median	48.0	50.0	46.0	57.0	9.5	49.0	47.0	8.5	13.5	47.0	43.0	55.5	51.0	10.0	44.0

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-6 Injury Severity Score (ISS) and Glasgow Coma Scale (GCS) Score by Institution Code, 2005–2006 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
ISS—All Cases	**Mean**	26.8	23.7	24.9	17.9	21.3	23.3	26.1	22.1	23.1	21.9	27.7	23.3	22.9	20.3	24.5
	Standard Deviation	13.9	9.2	10.8	5.2	8.1	9.4	13.0	7.6	9.9	9.0	11.4	9.1	9.1	8.0	10.4
	Median	25.0	22.0	22.0	16.0	17.0	20.0	24.0	20.0	18.0	18.0	26.0	20.5	20.0	16.0	22.0
ISS—Survivors	**Mean**	24.8	22.5	23.4	17.0	20.0	22.0	24.5	21.6	22.4	20.8	26.1	23.1	22.1	19.9	23.3
	Standard Deviation	11.2	8.0	8.9	3.8	6.7	8.0	10.2	7.3	9.2	7.2	10.3	8.7	8.5	7.8	9.1
	Median	25.0	21.0	21.0	16.0	16.0	20.0	22.0	18.0	18.0	18.0	25.0	20.0	20.0	16.0	21.0
ISS—Deaths	**Mean**	36.4	30.7	33.4	23.3	34.3	28.9	36.6	30.5	32.0	31.2	36.8	25.6	28.7	29.5	32.4
	Standard Deviation	20.8	12.3	16.0	9.2	10.0	12.5	22.2	7.1	14.3	15.3	12.9	11.4	11.1	6.4	14.0
	Median	26.0	26.0	26.0	25.0	32.0	25.0	25.5	26.0	26.0	26.0	35.0	25.0	25.0	29.5	26.0
GCS	**Mean**	13.2	13.2	13.5	14.0	13.7	13.5	13.6	14.3	13.9	13.3	13.8	13.8	13.8	13.8	13.6
	Standard Deviation	3.4	3.3	3.2	1.6	3.0	2.8	3.0	1.9	2.7	3.4	2.8	2.9	2.5	2.7	2.9
	Median	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
GCS Incomplete Due to Use of Paralytic Agents	**Number**	9.0	28.0	29.0	4.0	10.0	9.0	19.0	35.0	7.0	9.0	42.0	5.0	57.0	.	263.0
	%	7.3	5.0	7.4	8.0	14.7	1.7	11.1	19.4	7.6	4.3	4.0	3.1	11.2	.	6.4

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-7 Type and Place of Injury by Institution Code, 2005–2006 Cases

Type of Injury		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Blunt	**Number**	115	511	380	41	62	486	163	169	88	200	882	151	494	42	3,784
	%	93.5	90.9	96.4	82.0	91.2	92.7	95.3	93.9	95.7	95.7	83.8	94.4	97.1	95.5	91.4
Penetrating	**Number**	8	51	9	0	1	17	8	4	3	6	122	8	13	1	251
	%	6.5	9.1	2.3	0	1.5	3.2	4.7	2.2	3.3	2.9	11.6	5.0	2.6	2.3	6.1
Burns	**Number**	0	0	5	9	5	21	0	7	1	3	49	1	2	1	104
	%	0	0	1.3	18.0	7.4	4.0	0	3.9	1.1	1.4	4.7	0.6	0.4	2.3	2.5
Sports/Recreational Injuries	**Number**	13	42	24	1	24	26	24	80	28	22	82	21	10	11	408
	%	10.6	7.5	6.1	2.0	35.3	5.0	14.0	44.4	30.4	10.5	7.8	13.1	2.0	25.0	9.9
Work-Related	**Number**	8	42	27	3	1	24	13	0	0	11	82	9	34	0	254
	%	6.5	7.5	6.9	6.0	1.5	4.6	7.6	0	0	5.3	7.8	5.6	6.7	0	6.1

Place of Injury*		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Home	**Number**	31	95	67	27	17	153	49	43	17	73	232	43	123	15	985
	%	25.2	16.9	17.0	54.0	25.0	29.2	28.7	23.9	18.5	34.9	22.0	26.9	24.2	34.1	23.8
Industrial	**Number**	7	32	11	0	0	15	3	0	0	5	64	4	10	0	151
	%	5.7	5.7	2.8	0	0	2.9	1.8	0	0	2.4	6.1	2.5	2.0	0	3.6
Recreation/Sport	**Number**	2	0	4	1	10	5	6	16	6	1	8	2	10	1	72
	%	1.6	0	1.0	2.0	14.7	1.0	3.5	8.9	6.5	0.5	0.8	1.3	2.0	2.3	1.7
Street/Highway	**Number**	42	274	227	8	23	256	78	55	43	86	570	52	233	17	1,964
	%	34.1	48.8	57.6	16.0	33.8	48.9	45.6	30.6	46.7	41.1	54.1	32.5	45.8	38.6	47.5
Other	**Number**	41	161	85	10	18	94	35	66	26	43	179	53	120	11	942
	%	33.3	28.6	21.6	20.0	26.5	17.9	20.5	36.7	28.3	20.6	17.0	33.1	23.6	25.0	22.8

Note

* Place of injury is documented for all cases in the Comprehensive Data Set using ICD categories. There are 25 cases that do not have a documented place of injury.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-8 External Cause of Injury by Institution Code, 2005–2006 Cases

			Institution Code														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Unintentional Falls	**Survivors**	**Number**	41	195	76	23	17	143	42	46	16	69	190	52	172	16	1,098
		%	33.3	34.7	19.3	46.0	25.0	27.3	24.6	25.6	17.4	33.0	18.0	32.5	33.8	36.4	26.5
	Deaths	**Number**	8	35	21	5	0	41	12	2	0	11	35	10	35	0	215
		%	6.5	6.2	5.3	10.0	0	7.8	7.0	1.1	0	5.3	3.3	6.3	6.9	0	5.2
	All	**Number**	49	230	97	28	17	184	54	48	16	80	225	62	207	16	1,313
		%	39.8	40.9	24.6	56.0	25.0	35.1	31.6	26.7	17.4	38.3	21.4	38.8	40.7	36.4	31.7
Motor Vehicle Traffic	**Survivors**	**Number**	34	170	186	5	21	178	65	44	38	61	450	42	175	12	1,481
		%	27.6	30.2	47.2	10.0	30.9	34.0	38.0	24.4	41.3	29.2	42.7	26.3	34.4	27.3	35.8
	Deaths	**Number**	4	25	26	0	4	39	3	5	3	5	71	5	17	2	209
		%	3.3	4.4	6.6	0	5.9	7.4	1.8	2.8	3.3	2.4	6.7	3.1	3.3	4.5	5.0
	All	**Number**	38	195	212	5	25	217	68	49	41	66	521	47	192	14	1,690
		%	30.9	34.7	53.8	10.0	36.8	41.4	39.8	27.2	44.6	31.6	49.5	29.4	37.7	31.8	40.8
Motor Vehicle Non-Traffic	**Survivors**	**Number**	8	10	21	0	3	16	13	7	13	12	31	14	25	2	175
		%	6.5	1.8	5.3	0	4.4	3.1	7.6	3.9	14.1	5.7	2.9	8.8	4.9	4.5	4.2
	Deaths	**Number**	1	0	3	0	0	0	0	0	0	1	2	0	1	0	8
		%	0.8	0	0.8	0	0	0	0	0	0	0.5	0.2	0	0.2	0	0.2
	All	**Number**	9	10	24	0	3	16	13	7	13	13	33	14	26	2	183
		%	7.3	1.8	6.1	0	4.4	3.1	7.6	3.9	14.1	6.2	3.1	8.8	5.1	4.5	4.4
Assault and Injury Purposely Inflicted (Excluding Poisonings)	**Survivors**	**Number**	8	61	17	3	4	44	6	19	4	18	105	8	28	3	328
		%	6.5	10.9	4.3	6.0	5.9	8.4	3.5	10.6	4.3	8.6	10.0	5.0	5.5	6.8	7.9
	Deaths	**Number**	1	16	2	0	0	4	3	1	1	2	24	0	2	0	56
		%	0.8	2.8	0.5	0	0	0.8	1.8	0.6	1.1	1.0	2.3	0	0.4	0	1.4
	All	**Number**	9	77	19	3	4	48	9	20	5	20	129	8	30	3	384
		%	7.3	13.7	4.8	6.0	5.9	9.2	5.3	11.1	5.4	9.6	12.3	5.0	5.9	6.8	9.3

Table I-8 External Cause of Injury by Institution Code, 2005–2006 Cases (cont'd)

			Institution Code														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Suicide and Self-Inflicted Injury (Excluding Poisonings)	**Survivors**	**Number**	2	13	4	1	0	8	2	0	1	2	25	2	5	0	65
		%	1.6	2.3	1.0	2.0	0	1.5	1.2	0	1.1	1.0	2.4	1.3	1.0	0	1.6
	Deaths	**Number**	1	2	1	2	0	3	1	0	0	1	7	0	1	0	19
		%	0.8	0.4	0.3	4.0	0	0.6	0.6	0	0	0.5	0.7	0	0.2	0	0.5
	All	**Number**	3	15	5	3	0	11	3	0	1	3	32	2	6	0	84
		%	2.4	2.7	1.3	6.0	0	2.1	1.8	0	1.1	1.4	3.0	1.3	1.2	0	2.0
All Other	**Survivors**	**Number**	9	31	33	11	17	38	21	53	13	24	93	24	44	9	420
		%	7.3	5.5	8.4	22.0	25.0	7.3	12.3	29.4	14.1	11.5	8.8	15.0	8.6	20.5	10.1
	Deaths	**Number**	6	4	4	0	2	10	3	3	3	3	20	3	4	0	65
		%	4.9	0.7	1.0	0	2.9	1.9	1.8	1.7	3.3	1.4	1.9	1.9	0.8	0	1.6
	All	**Number**	15	35	37	11	19	48	24	56	16	27	113	27	48	9	485
		%	12.2	6.2	9.4	22.0	27.9	9.2	14.0	31.1	17.4	12.9	10.7	16.9	9.4	20.5	11.7

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-9 Scene Information by Institution Code, 2005–2006 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Pre-Hospital Time (Minutes), 95th Percentile*	**Mean**	92.1	53.6	64.9	85.8	79.1	66.5	77.0	70.4	59.7	64.0	64.6	80.3	72.7	57.9	67.0
	Standard Deviation	101.5	44.8	59.5	74.8	69.8	64.4	55.1	73.2	62.7	65.8	60.1	80.7	75.7	28.0	64.5
	Median	55.0	44.5	50.0	69.0	52.0	52.0	63.0	47.0	46.5	49.0	50.0	60.0	52.0	55.0	50.0
Scene Time (Minutes)	**Mean**	22.9	19.9	19.0	24.0	15.5	21.9	22.9	17.6	15.3	20.6	19.0	23.8	20.5	21.9	20.2
	Standard Deviation	17.2	12.0	11.9	12.5	6.6	11.7	12.1	8.1	8.2	16.4	11.4	31.5	8.7	11.9	13.4
	Median	18.5	18.0	17.0	21.5	14.5	20.0	22.0	16.0	13.0	18.0	17.0	19.0	19.0	19.0	18.0
Admissions With Scene Time >1 Hour	**Number**	5.0	1.0	5.0	1.0	0.0	5.0	1.0	0.0	0.0	1.0	4.0	2.0	1.0	0.0	26.0
	%	5.6	0.4	1.7	3.6	0.0	1.6	0.8	0.0	0.0	0.7	0.8	2.0	0.4	0.0	1.1
Admissions With Extrication Required	**Number**	39.0	53.0	132.0	2.0	7.0	78.0	26.0	9.0	20.0	16.0	93.0	50.0	65.0	3.0	593.0
	%	31.7	9.4	33.5	4.0	10.3	14.9	15.2	5.0	21.7	7.7	8.8	31.3	12.8	6.8	14.3

Note

* The 95th percentile is used for pre-hospital time calculations to exclude those who are not transported directly from the scene and therefore have long pre-hospital times (days/weeks). Of the 2,799 cases with pre-hospital times in 2005–2006, 140 (5%) had times greater than 600 minutes.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-10 Participating Hospital Care, 2005–2006 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Length of Hospital Stay (Days)	All Cases Mean	13.4	13.7	9.8	14.4	15.2	14.3	24.2	10.3	10.0	11.0	16.2	14.9	16.9	13.3	14.6
	All Cases Standard Deviation	13.9	22.4	10.8	14.5	27.9	17.6	40.7	14.0	13.8	11.7	22.8	34.9	23.9	19.7	22.1
	All Cases Median	10.5	6.0	6.0	9.0	5.0	8.0	10.0	6.0	5.0	7.0	9.0	8.0	9.0	5.0	8.0
	Survivors Mean	14.7	14.5	10.3	15.7	16.1	15.6	26.5	10.8	10.3	11.2	17.2	15.6	18.0	13.9	15.5
	Survivors Standard Deviation	14.2	23.2	11.0	14.9	28.8	17.5	42.5	14.3	14.0	12.0	23.6	36.2	24.8	20.0	22.9
	Survivors Median	12.0	7.0	7.0	10.0	5.0	10.0	12.0	6.0	5.5	7.0	10.0	8.0	10.0	5.5	8.0
	Deaths Mean	3.9	7.5	5.7	5.0	3.6	7.8	4.9	1.1	2.8	8.1	9.0	5.2	8.7	2.5	7.4
	Deaths Standard Deviation	5.1	13.3	8.3	5.8	2.6	17.0	7.1	0.3	2.9	6.9	14.4	5.5	12.5	2.1	12.9
	Deaths Median	1.0	3.0	2.0	2.0	4.0	2.0	1.5	1.0	1.5	6.0	2.0	3.0	4.5	2.5	2.0

Table I-10 Participating Hospital Care, 2005–2006 Cases (cont'd)

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Length of SCU Stay (Days)	All Cases Mean	6.0	6.8	5.9	9.2	3.7	10.1	7.5	3.7	4.1	4.1	9.7	6.1	10.8	6.4	8.1
	All Cases Standard Deviation	5.8	11.0	8.5	11.6	4.1	12.5	8.2	4.7	5.1	5.2	15.1	7.1	16.8	8.3	12.5
	All Cases Median	4.0	3.0	3.0	4.0	2.0	5.0	4.0	2.0	2.0	2.0	4.0	3.5	6.0	3.0	4.0
	Survivors Mean	6.5	6.9	5.9	9.4	3.7	11.2	8.4	4.1	4.2	4.0	9.8	6.3	11.5	6.6	8.3
	Survivors Standard Deviation	5.9	10.8	8.6	12.1	4.4	12.5	8.5	4.9	5.2	5.3	15.1	7.3	17.8	8.5	12.7
	Survivors Median	5.0	3.0	3.0	4.0	2.0	6.0	4.0	2.0	2.0	2.0	5.0	4.0	6.0	3.0	4.0
	Deaths Mean	4.0	6.2	5.8	8.0	3.6	6.5	2.7	1.1	2.8	5.4	9.5	2.7	6.8	2.5	6.7
	Deaths Standard Deviation	5.3	12.1	8.4	9.9	2.6	11.7	2.7	0.3	2.9	4.1	14.9	1.7	7.4	2.1	11.2
	Deaths Median	1.0	2.5	2.0	8.0	4.0	2.0	1.0	1.0	1.5	5.5	3.0	3.0	4.0	2.5	2.0
Length of Stay ≥3 Days	Number	99.0	447.0	300.0	42.0	53.0	436.0	144.0	143.0	73.0	163.0	851.0	127.0	433.0	30.0	3,341.0
	%	80.5	79.5	76.1	84.0	77.9	83.2	84.2	79.4	79.3	78.0	80.8	79.4	85.1	68.2	80.7
Number Of or Visits Per Case	Mean	1.5	1.4	1.4	1.2	1.4	1.5	1.7	1.6	1.3	1.2	1.6	1.3	1.5	1.2	1.5
	Standard Deviation	0.7	0.9	1.0	0.5	1.0	1.1	1.4	1.3	0.5	0.7	1.3	0.6	1.3	0.6	1.1
	Median	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cases With ICP Days >0	Number	3.0	37.0	0.0	0.0	6.0	11.0	0.0	16.0	6.0	19.0	40.0	0.0	11.0	5.0	154.0
	%	2.4	6.6	0.0	0.0	8.8	2.1	0.0	8.9	6.5	9.1	3.8	0.0	2.2	11.4	3.7
ICP Days	Mean	2.7	3.9	0.0	0.0	5.7	3.7	0.0	6.3	5.8	4.5	6.2	0.0	6.1	5.6	5.1
	Standard Deviation	1.5	3.8	0.0	0.0	1.2	2.8	0.0	2.7	2.8	7.6	8.5	0.0	5.4	3.8	5.8
	Median	3.0	2.0	0.0	0.0	5.5	3.0	0.0	5.5	6.0	2.0	3.0	0.0	5.0	6.0	3.0

Table I-10 Participating Hospital Care, 2005–2006 Cases (cont'd)

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Cases With Ventilation Days >0	**Number**	32.0	237.0	119.0	8.0	20.0	153.0	65.0	44.0	28.0	41.0	501.0	40.0	127.0	13.0	1,428.0
	%	26.0	42.2	30.2	16.0	29.4	29.2	38.0	24.4	30.4	19.6	47.6	25.0	25.0	29.5	34.5
Ventilation Days	**Mean**	5.2	5.9	6.3	4.0	3.6	5.2	4.2	2.9	4.4	3.9	6.6	3.4	3.3	4.9	5.5
	Standard Deviation	5.4	9.8	8.5	3.9	3.6	7.2	3.9	3.3	4.9	5.1	11.8	4.0	3.5	4.2	9.1
	Median	3.0	2.0	3.0	3.0	1.5	3.0	2.0	1.0	2.5	2.0	2.0	2.0	2.0	4.0	2.0

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-11 Deaths by Institution Code, 2005–2006 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
ISS for Deaths	**Mean**	36.4	30.7	33.4	23.3	34.3	28.9	36.6	30.5	32.0	31.2	36.8	25.6	28.7	29.5	32.4
	Standard Deviation	20.8	12.3	16.0	9.2	10.0	12.5	22.2	7.1	14.3	15.3	12.9	11.4	11.1	6.4	14.0
	Median	26.0	26.0	26.0	25.0	32.0	25.0	25.5	26.0	26.0	26.0	35.0	25.0	25.0	29.5	26.0
In-Hospital Deaths	**Number**	13.0	64.0	46.0	6.0	5.0	83.0	18.0	10.0	4.0	14.0	121.0	11.0	56.0	2.0	453.0
	%	10.6	11.4	11.7	12.0	7.4	15.8	10.5	5.6	4.3	6.7	11.5	6.9	11.0	4.5	10.9
Died in Emergency Department (DIE)	**Number**	8.0	18.0	11.0	1.0	1.0	14.0	4.0	1.0	3.0	9.0	37.0	7.0	4.0	0.0	118.0
	%	6.5	3.2	2.8	2.0	1.5	2.7	2.3	0.6	3.3	4.3	3.5	4.4	0.8	0.0	2.9
Patients Who Donate Organs	**Number**	1.0	7.0	9.0	0.0	4.0	16.0	6.0	4.0	2.0	3.0	15.0	3.0	10.0	1.0	81.0
	%	4.8	8.5	15.8	0.0	66.7	16.5	27.3	36.4	28.6	13.0	9.4	16.7	16.7	50.0	14.2

Note

The denominator used in the percentage calculations is the total number of admissions for a specific institution. The only exception is denominator for post-mortem examinations and patients who donate organs, which is the total number of deaths for a specific institution.

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-12 Outcome Scores by Institution Code, 2005–2006 Cases

		Institution Code														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	Total
Number of Cases		123.00	562.00	394.00	50.00	68.00	524.00	171.00	180.00	92.00	209.00	1,053.00	160.00	509.00	44.00	4,139.00
ISS	**Mean**	26.81	23.71	24.86	17.90	21.26	23.27	26.08	22.12	23.14	21.94	27.68	23.34	22.91	20.32	24.53
	Standard Deviation	13.93	9.21	10.78	5.23	8.10	9.37	12.95	7.62	9.88	9.05	11.39	9.07	9.12	7.97	10.41
	Median	25.00	22.00	22.00	16.00	17.00	20.00	24.00	20.00	18.00	18.00	26.00	20.50	20.00	16.00	22.00
RTS @ L/T	**Mean**	7.38	7.57	7.67	7.62	7.49	7.56	7.48	7.67	7.65	7.42	7.65	7.61	7.59	7.43	7.58
	Standard Deviation	1.11	0.71	0.57	0.40	0.81	0.63	0.89	0.41	0.44	0.98	0.57	0.75	0.69	0.83	0.70
	Median	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84	7.84
TRISS	**Mean**	0.85	0.90	0.92	0.94	0.97	0.93	0.89	0.98	0.98	0.90	0.91	0.89	0.92	0.96	0.91
	Standard Deviation	0.24	0.15	0.16	0.06	0.04	0.10	0.16	0.02	0.04	0.19	0.14	0.18	0.13	0.08	0.14
	Median	0.94	0.94	0.97	0.94	0.99	0.94	0.94	0.98	0.99	0.96	0.96	0.94	0.96	0.99	0.96
ASCOT	**Mean**	0.89	0.90	0.92	0.91	0.97	0.93	0.92	0.98	0.97	0.89	0.96	0.90	0.92	0.96	0.93
	Standard Deviation	0.18	0.17	0.18	0.16	0.05	0.12	0.12	0.02	0.08	0.21	0.09	0.19	0.13	0.08	0.14
	Median	0.96	0.96	0.98	0.96	0.98	0.97	0.97	0.99	0.99	0.97	0.98	0.96	0.97	0.99	0.98

Notes
ISS—Injury Severity Score
RTS @ L/T—Revised Trauma Score at Lead/Trauma Hospital
TRISS—Trauma and Injury Severity Score
ASCOT—A Severity Characterization of Trauma

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-13 Total Injuries and Deaths by External Causes of Injury and Sex, 2005–2006 Cases

		Females				Males				Total			
		No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths
Total		1,182	100.0	164	100.0	2,957	100.0	408	100.0	4,139	100.0	572	100.0
Railway	**Pedestrians**	0	0	0	0	7	0.2	2	0.5	7	0.2	2	0.3
	Pedal Cyclists	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
	Occupants and Other	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
	Subtotal	0	0	0	0	9	0.3	2	0.5	9	0.2	2	0.3
Motor Vehicle Traffic	**Pedestrians**	117	9.9	15	9.1	173	5.9	30	7.4	290	7.0	45	7.9
	Pedal Cyclists	16	1.4	1	0.6	54	1.8	12	2.9	70	1.7	13	2.3
	Drivers	235	19.9	30	18.3	522	17.7	63	15.4	757	18.3	93	16.3
	Passengers	181	15.3	21	12.8	184	6.2	15	3.7	365	8.8	36	6.3
	Motorcycle Drivers	13	1.1	1	0.6	155	5.2	13	3.2	168	4.1	14	2.4
	Motorcycle Passengers	17	1.4	3	1.8	3	0.1	0	0	20	0.5	3	0.5
	Other	4	0.3	1	0.6	16	0.5	4	1.0	20	0.5	5	0.9
	Subtotal	583	49.3	72	43.9	1,107	37.4	137	33.6	1,690	40.8	209	36.5
Motor Vehicle Non-Traffic	**Pedestrians**	4	0.3	0	0	9	0.3	0	0	13	0.3	0	0.0
	Pedal Cyclists	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
	Drivers	12	1.0	1	0.6	110	3.7	6	1.5	122	2.9	7	1.2
	Passengers	9	0.8	0	0	10	0.3	0	0	19	0.5	0	0.0
	Motorcycle Drivers	2	0.2	0	0	12	0.4	1	0.2	14	0.3	1	0.2
	Motorcycle Passengers	0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
	Other	5	0.4	0	0	8	0.3	0	0	13	0.3	0	0.0
	Subtotal	32	2.7	1	0.6	151	5.1	7	1.7	183	4.4	8	1.4
Motor Vehicle Boarding Or Alighting		2	0.2	0	0	5	0.2	1	0.2	7	0.2	1	0.2

Table I-13 Total Injuries and Deaths by External Causes of Injury and Sex, 2005–2006 Cases (cont'd)

		Females				Males				Total			
		No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths
Other Road Vehicle	Pedestrians	2	0.2	0	0	3	0.1	0	0	5	0.1	0	0.0
	Pedal Cyclists	10	0.8	0	0	54	1.8	4	1.0	64	1.5	4	0.7
	Other	10	0.8	2	1.2	7	0.2	0	0	17	0.4	2	0.3
	Subtotal	22	1.9	2	1.2	64	2.2	4	1.0	86	2.1	6	1.0
Water Transport		5	0.4	0	0	9	0.3	1	0.2	14	0.3	1	0.2
Air and Space Transport		3	0.3	0	0	10	0.3	2	0.5	13	0.3	2	0.3
Vehicle Incidents Not Elsewhere Classified		0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
Unintentional Falls		403	34.1	68	41.5	910	30.8	147	36.0	1,313	31.7	215	37.6
Fire and Flames		17	1.4	5	3.0	55	1.9	8	2.0	72	1.7	13	2.3
Natural and Environmental Factors		8	0.7	0	0	15	0.5	3	0.7	23	0.6	3	0.5
Drowning		3	0.3	1	0.6	6	0.2	4	1.0	9	0.2	5	0.9
Suffocation		0	0	0	0	1	0.0	1	0.2	1	0.0	1	0.2
Foreign Bodies (Excluding Choking)		0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
Suicide and Self-Inflicted Injury (Excluding Poisonings)		25	2.1	2	1.2	59	2.0	17	4.2	84	2.0	19	3.3
Assault and Injury Purposely Inflicted		36	3.0	8	4.9	348	11.8	48	11.8	384	9.3	56	9.8
Legal Intervention		0	0	0	0	5	0.2	1	0.2	5	0.1	1	0.2

Table I-13 Total Injuries and Deaths by External Causes of Injury and Sex, 2005–2006 Cases (cont'd)

		Females				Males				Total			
		No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths	No. Injuries	% Injuries	No. Deaths	% Deaths
Undetermined Whether Unintentionally Or Purposely Inflicted		8	0.7	0	0	8	0.3	3	0.7	16	0.4	3	0.5
Operations of War		0	0	0	0	1	0.0	0	0	1	0.0	0	0.0
Other Incidents		35	3.0	5	3.0	192	6.5	22	5.4	227	5.5	27	4.7
All Other		0	0	0	0	0	0	0	0	0	0	0	0

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-14 Injury Case Summary by External Causes of Injury and Sex, 2005–2006 Cases

		Females					Males					Total				
		Mean			Median	Standard Deviation	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Total		49.1	24.6	15.7	9.0	20.2	43.1	24.5	14.1	7.0	22.9	44.8	24.5	14.6	8.0	22.1
Railway	**Pedestrians**	0	0	0	0	0	42.7	31.7	22.2	22.5	17.0	42.7	31.7	22.2	22.5	17.0
	Pedal Cyclists	0	0	0	0	0	51.0	13.0	8.0	8.0	0	51.0	13.0	8.0	8.0	0
	Occupants and Other	0	0	0	0	0	55.0	36.0	8.0	8.0	0	55.0	36.0	8.0	8.0	0
	Subtotal	0	0	0	0	0	45.0	30.1	18.6	11.5	15.8	45.0	30.1	18.6	11.5	15.8
Motor Vehicle Traffic	**Pedestrians**	47.1	28.0	21.2	15.0	27.9	40.3	28.2	17.3	8.0	32.8	43.1	28.1	18.9	11.0	30.9
	Pedal Cyclists	31.4	27.9	11.8	8.5	11.2	38.6	26.3	11.1	7.0	13.3	36.9	26.7	11.3	7.5	12.7
	Drivers	45.7	28.5	17.9	10.0	22.6	41.2	27.7	16.3	9.0	24.0	42.6	27.9	16.8	9.0	23.5
	Passengers	40.5	26.5	14.8	9.0	17.1	28.8	25.7	11.6	7.0	11.7	34.6	26.1	13.2	8.0	14.7
	Motorcycle Drivers	40.8	24.5	20.0	16.0	15.5	41.3	27.4	17.4	8.0	25.9	41.2	27.1	17.6	9.0	25.2
	Motorcycle Passengers	39.9	29.1	15.1	10.0	17.4	32.0	25.0	10.7	11.0	1.5	38.7	28.5	14.4	10.5	16.0
	Other	43.5	16.0	7.5	4.0	7.7	44.2	22.6	14.6	5.0	23.9	44.1	21.3	13.0	5.0	21.4
	Subtotal	43.7	27.6	17.3	10.0	21.7	38.9	27.2	15.5	8.0	23.9	40.6	27.4	16.1	9.0	23.2
Motor Vehicle Non-Traffic	**Pedestrians**	68.3	19.8	17.3	16.0	16.1	20.4	27.3	31.4	13.0	42.5	35.2	25.0	27.1	13.0	36.3
	Pedal Cyclists	0	0	0	0	0	82.0	21.0	160.0	160.0	0	82.0	21.0	160.0	160.0	0
	Drivers	37.2	30.7	14.8	9.5	10.9	34.5	24.1	14.8	7.0	33.1	34.7	24.7	14.8	7.0	31.5
	Passengers	20.9	21.3	6.0	6.0	4.3	40.7	26.7	22.0	16.0	23.4	31.3	24.2	14.4	8.0	18.7
	Motorcycle Drivers	24.0	15.5	5.0	5.0	0.0	37.2	20.3	7.8	6.5	6.5	35.3	19.6	7.4	6.0	6.0
	Motorcycle Passengers	0	0	0	0	0	46.0	29.0	3.0	3.0	0	46.0	29.0	3.0	3.0	0
	Other	44.8	18.6	14.5	12.0	13.9	49.5	27.6	36.0	16.5	46.9	47.7	24.2	28.8	16.0	39.6
	Subtotal	36.8	23.8	11.9	8.0	10.7	35.5	24.4	17.8	7.0	34.9	35.7	24.3	16.8	7.0	32.1

Table I-14 Injury Case Summary by External Causes of Injury and Sex, 2005–2006 Cases (cont'd)

		Females					Males					Total				
		Mean			Median	Standard Deviation	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Motor Vehicle Boarding or Alighting		46.0	14.0	8.5	8.5	4.9	51.2	24.4	11.6	10.0	4.7	49.7	21.4	10.7	10.0	4.6
Other Road Vehicle	**Pedestrians**	31.0	17.5	2.0	2.0	0.0	43.0	28.3	36.0	8.0	54.7	38.2	24.0	22.4	2.0	42.9
	Pedal Cyclists	31.4	19.4	9.7	6.5	9.8	27.4	22.1	5.6	4.0	5.9	28.0	21.7	6.3	4.0	6.7
	Other	29.8	25.8	6.5	4.0	6.2	46.6	22.7	8.0	7.5	3.5	36.7	24.5	7.1	6.5	5.1
	Subtotal	30.6	22.1	7.7	5.0	8.1	30.2	22.5	7.3	4.0	13.1	30.3	22.4	7.4	4.5	12.0
Water Transport		30.6	20.2	9.2	6.0	6.6	48.2	19.1	5.3	5.0	3.6	41.9	19.5	6.7	5.5	5.0
Air and Space Transport		60.3	23.7	8.3	8.0	3.5	56.2	25.7	24.8	10.5	29.4	57.2	25.2	21.0	10.0	26.5
Vehicle Incidents Not Elsewhere Classified		0	0	0	0	0	9.0	13.0	12.0	12.0	0	9.0	13.0	12.0	12.0	0
Unintentional Falls		64.2	20.9	13.0	6.0	17.2	57.0	21.9	12.2	6.0	16.9	59.2	21.6	12.4	6.0	17.0
Fire and Flames		45.5	27.1	23.5	21.0	18.3	38.5	26.3	30.6	19.0	35.6	40.2	26.4	29.0	20.0	32.5
Natural and Environmental Factors		35.9	21.1	8.6	9.5	3.6	52.8	22.9	10.9	9.0	6.2	46.9	22.3	10.0	9.0	5.4
Drowning		6.7	25.0	5.7	6.0	4.5	17.1	26.3	3.3	3.0	2.6	13.6	25.9	4.3	5.0	3.5
Suffocation		0	0	0	0	0	51.0	25.0	3.0	3.0	0	51.0	25.0	3.0	3.0	0
Foreign Bodies (Excluding Choking)		0	0	0	0	0	9.0	17.0	9.0	9.0	0	9.0	17.0	9.0	9.0	0

Table I-14 Injury Case Summary by External Causes of Injury and Sex, 2005–2006 Cases (cont'd)

		Females					Males					Total				
		Mean			Median	Standard Deviation	Mean			Median	Standard Deviation	Mean			Median	Standard Deviation
		Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS	Age	ISS	LOS	LOS	LOS
Suicide and Self-Inflicted Injury (Excluding Poisonings)		40.1	25.2	37.5	33.0	28.9	38.3	28.1	22.8	17.0	21.1	38.8	27.2	27.2	21.5	24.5
Assault and Injury Purposely Inflicted		29.6	26.3	19.6	12.0	29.4	29.3	22.6	10.5	6.0	19.7	29.4	22.9	11.3	6.0	20.8
Legal Intervention		0	0	0	0	0	34.4	25.4	13.2	7.0	13.6	34.4	25.4	13.2	7.0	13.6
Undetermined Whether Unintentionally or Purposely Inflicted		26.4	21.5	12.6	10.0	8.2	33.1	26.6	11.3	4.0	16.3	29.8	24.1	12.0	8.0	12.1
Operations of War		0	0	0	0	0	30.0	25.0	11.0	11.0	0	30.0	25.0	11.0	11.0	0
Other Incidents		29.7	19.8	11.1	5.0	13.9	38.8	23.7	14.4	7.0	30.6	37.4	23.1	13.9	7.0	28.7
All Other		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-15 External Causes of Injury by Age Group, 2005–2006 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+	Un-known	Total	%
Number of Cases		53	62	79	131	413	378	445	535	570	455	401	456	160	1	4,139	100
Percentage of Cases		1.3	1.5	1.9	3.2	10	9.1	10.8	12.9	13.8	11	9.7	11	3.9	0	100	0
Railway	**Pedestrians**	0	0	0	0	0	0	1	3	2	1	0	0	0	0	7	0.2
	Pedal Cyclists	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Occupants and Other	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
	Subtotal	0	0	0	0	0	0	1	3	3	2	0	0	0	0	9	0.2
Motor Vehicle Traffic	**Pedestrians**	0	4	9	16	41	27	25	32	31	37	32	28	8	0	290	7
	Pedal Cyclists	0	0	2	11	8	3	7	12	13	6	4	3	0	1	70	1.7
	Drivers	0	0	0	1	82	114	103	126	122	82	62	55	10	0	757	18.3
	Passengers	3	7	13	16	95	42	42	35	29	31	28	15	9	0	365	8.8
	Motorcycle Drivers	0	0	0	1	11	17	26	35	52	23	2	0	1	0	168	4.1
	Motorcycle Passengers	0	0	0	0	3	4	1	2	7	3	0	0	0	0	20	0.5
	Other	0	0	0	0	1	3	4	3	4	2	1	2	0	0	20	0.5
	Subtotal	3	11	24	45	241	210	208	245	258	184	129	103	28	1	1,690	40.8
Motor Vehicle Non-Traffic	**Pedestrians**	0	2	2	0	2	1	0	0	2	1	2	1	0	0	13	0.3
	Pedal Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
	Drivers	0	0	3	12	16	14	20	22	17	11	3	4	0	0	122	2.9
	Passengers	0	0	0	4	4	2	2	3	2	1	0	1	0	0	19	0.5
	Motorcycle Drivers	0	0	1	0	1	2	2	6	0	2	0	0	0	0	14	0.3
	Motorcycle Passengers	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Other	0	0	1	0	2	1	2	0	1	1	2	1	2	0	13	0.3
	Subtotal	0	2	7	16	25	20	26	31	23	16	7	8	2	0	183	4.4

Table I-15 External Causes of Injury by Age Group, 2005–2006 Cases (cont'd)

		<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Unknown	Total	%
Motor Vehicle Boarding or Alighting		0	0	0	0	1	1	1	0	1	0	1	2	0	0	7	0.2
Other Road Vehicle	**Pedestrians**	0	0	0	1	0	0	1	0	3	0	0	0	0	0	5	0.1
	Pedal Cyclists	0	1	5	16	11	3	6	8	6	3	3	2	0	0	64	1.5
	Other	0	1	1	2	1	0	0	4	6	1	1	0	0	0	17	0.4
	Subtotal	0	2	6	19	12	3	7	12	15	4	4	2	0	0	86	2.1
Water Transport		0	0	2	0	0	2	2	0	3	3	2	0	0	0	14	0.3
Air and Space Transport		0	0	0	0	0	0	0	1	6	3	1	1	1	0	13	0.3
Vehicle Incidents Not Elsewhere Classified		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Unintentional Falls		27	18	25	23	31	30	55	107	156	169	224	323	125	0	1,313	31.7
Fire and Flames		1	2	0	1	6	8	10	14	13	9	6	1	1	0	72	1.7
Natural and Environmental Factors		0	0	1	3	0	1	1	2	6	5	1	3	0	0	23	0.6
Drowning		1	2	1	1	2	0	1	1	0	0	0	0	0	0	9	0.2
Suffocation		0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Foreign Bodies (Excluding Choking)		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Suicide and Self-Inflicted Injury (Excluding Poisonings)		0	0	0	0	7	11	14	21	20	8	1	2	0	0	84	2
Assault and Injury Purposely Inflicted		18	6	2	3	65	74	94	64	34	14	5	2	3	0	384	9.3

Table I-15 External Causes of Injury by Age Group, 2005–2006 Cases (cont'd)

		<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Un-known	Total	%
Legal Intervention		0	0	0	0	1	0	1	3	0	0	0	0	0	0	5	0.1
Undetermined Whether Unintentionally or Purposely Inflicted		1	2	0	0	0	3	4	4	0	1	1	0	0	0	16	0.4
Operations of War		0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Other Incidents		2	17	9	20	22	15	19	27	31	37	19	9	0	0	227	5.5
All Other		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-16 External Causes of Injury by Age Group For Falls, 2005–2006 Cases (ICD-10-CA W00 to 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	%
Number of Cases		27	18	25	23	31	30	55	107	156	169	224	323	125	1,313	100
Percentage of Cases		2.1	1.4	1.9	1.8	2.4	2.3	4.2	8.1	11.9	12.9	17.1	24.6	9.5	100	0
W00—Involving Ice and Snow		0	0	0	1	0	1	0	1	7	5	15	16	3	49	3.7
W01—Slipping, Tripping and Stumbling		0	1	2	1	3	3	6	8	19	34	47	90	46	260	19.8
W02—Involving Skates, Skis, Sport Boards and Rollerblades	**Ice Skates**	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0.2
	Skis	0	0	0	3	1	0	0	1	1	1	1	1	0	9	0.7
	Roller Skates/ Rollerblades	0	0	0	0	1	0	0	1	0	0	0	1	0	3	0.2
	Skateboards	0	0	0	2	3	0	1	1	0	0	0	0	0	7	0.5
	Snowboards	0	0	0	4	3	0	0	0	0	0	0	0	0	7	0.5
	Other Specified	0	0	0	1	0	0	0	3	0	0	1	0	0	5	0.4
	Subtotal	0	0	0	10	8	0	1	6	2	3	2	2	0	34	2.6
W03—Collision With/Pushing by Another Person		0	0	4	2	0	0	0	0	0	0	0	1	1	8	0.6
W04—While Being Carried or Supported by Other Persons		11	1	0	0	1	0	0	0	0	0	0	0	0	13	1
W05—Involving Wheelchair and Other Types of Walking Devices		0	2	0	0	0	0	0	1	0	3	1	3	5	15	1.1
W06—Involving Bed		4	0	0	0	0	0	0	2	2	3	4	11	5	31	2.4
W07—Involving Chair		1	0	0	0	0	0	0	0	1	3	0	1	1	7	0.5
W08—Involving Other Furniture		6	0	0	0	0	0	0	0	1	1	1	1	0	10	0.8
W09—Playground Equipment		0	0	6	0	0	0	0	0	0	0	0	0	0	6	0.5

Table I-16 External Causes of Injury by Age Group For Falls, 2005–2006 Cases (ICD-10-CA W00 to W19) (cont'd)

		< 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	%
W10—On/From Stairs/Steps		2	4	5	0	3	2	6	22	35	30	55	62	27	253	19.3
W11—On/From Ladder		0	0	0	0	0	0	4	14	20	21	17	12	0	88	6.7
W12—On/From Scaffolding		0	0	0	0	0	2	5	5	4	2	2	0	0	20	1.5
W13—From, Out Of or Through Building or Structure		0	6	1	2	11	10	20	19	29	13	7	3	0	121	9.2
W14—From Tree		0	0	1	3	0	1	4	5	2	1	1	0	0	18	1.4
W15—From Cliff		0	0	0	0	0	2	2	1	1	2	0	0	0	8	0.6
W16—Diving/Jumping Into Water		0	0	0	0	0	2	1	1	0	0	0	0	0	4	0.3
W17—Other Fall From One Level To Another		3	3	5	3	5	2	4	8	11	12	7	4	0	67	5.1
W18—Other Fall On Same Level		0	1	0	0	0	3	0	13	12	16	37	68	17	167	12.7
W19—Unspecified Fall		0	0	1	1	0	2	2	1	10	20	28	49	20	134	10.2

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-17 External Causes of Injury by Age Group For Traffic, Non-Traffic and Other Road Vehicle Incidents, 2005–2006

		0–4	5–9	10–15	16	17	18	19	20	21–24	25–34	35–44	45–54	55–64	65–74	75+	Un-known	Total	%
Number of Admissions		18	37	116	47	61	65	70	60	174	242	288	297	204	141	145	1	1,966	100
Percentage of Admissions		0.9	1.9	5.9	2.4	3.1	3.3	3.6	3.1	8.9	12.3	14.6	15.1	10.4	7.2	7.4	0.1	100	0
Motor Vehicle Traffic	**Drivers**	0	0	7	4	21	25	26	34	80	103	126	122	82	62	65	0	757	38.5
	Passengers	10	13	30	19	17	23	22	10	32	42	35	29	31	28	24	0	365	18.6
	Motorcycle Drivers	0	0	1	1	3	5	2	3	14	26	35	52	23	2	1	0	168	8.5
	Motorcycle Passengers	0	0	0	0	0	2	1	1	3	1	2	7	3	0	0	0	20	1
	Pedal Cyclists	0	2	13	3	2	0	1	0	3	7	12	13	6	4	3	1	70	3.6
	Pedestrians	4	9	21	10	10	4	12	5	22	25	32	31	37	32	36	0	290	14.8
	Other	0	0	1	0	0	0	0	1	2	4	3	4	2	1	2	0	20	1
	Subtotal	14	24	73	37	53	59	64	54	156	208	245	258	184	129	131	1	1,690	86
Motor Vehicle Non-Traffic	**Drivers**	0	3	16	4	4	2	2	2	12	20	22	17	11	3	4	0	122	6.2
	Passengers	0	0	4	1	1	2	0	0	2	2	3	2	1	0	1	0	19	1
	Motorcycle Drivers	0	1	0	0	1	0	0	1	1	2	6	0	2	0	0	0	14	0.7
	Motorcycle Passengers	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.1
	Pedal Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1
	Pedestrians	2	2	0	1	0	1	0	0	1	0	0	2	1	2	1	0	13	0.7
	Other	0	1	0	0	1	0	1	1	0	2	0	1	1	2	3	0	13	0.7
	Subtotal	2	7	20	6	7	5	3	4	16	26	31	23	16	7	10	0	183	9.3

Table I-17 External Causes of Injury by Age Group For Traffic, Non-Traffic and Other Road Vehicle Incidents, 2005–2006 (cont'd)

		0–4	5–9	10–15	16	17	18	19	20	21–24	25–34	35–44	45–54	55–64	65–74	75+	Un-known	Total	%
Motor Vehicle Boarding or Alighting		0	0	0	0	0	0	1	0	1	1	0	1	0	1	2	0	7	0.4
Other Road Vehicle	**Pedal Cyclists**	1	5	19	4	1	1	2	2	1	6	8	6	3	3	2	0	64	3.3
	Pedestrians	0	0	1	0	0	0	0	0	0	1	0	3	0	0	0	0	5	0.3
	Other	1	1	3	0	0	0	0	0	0	0	4	6	1	1	0	0	17	0.9
	Subtotal	2	6	23	4	1	1	2	2	1	7	12	15	4	4	2	0	86	4.4

Note
These age groups match the *Ontario Road Safety Annual Report* from the Ontario Ministry of Transportation.

Source
Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.

Table I-18 Total Injuries and Injury Type by Five-Year Age Group, 2005–2006 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+	Un-known	Total	%†
Total*	108	136	191	306	1,082	1,017	1,215	1,398	1,424	1,093	828	882	296	2	9,978	
Percentage of Total†	2.6	3.3	4.6	7.4	26.1	24.6	29.4	33.8	34.4	26.4	20	21.3	7.2	0		
Superficial	18	21	38	61	147	146	167	205	205	170	111	117	39	0	1,445	34.9
Musculoskeletal	35	38	50	88	313	292	351	424	472	351	236	216	74	1	2,941	71.1
Burns and Corrosion	3	9	2	2	13	12	16	19	23	15	8	2	1	0	125	3
Internal Organ	49	50	72	115	371	324	382	441	459	374	350	413	145	1	3,546	85.7
Crushing	0	0	0	0	3	7	5	12	9	7	2	3	1	0	49	1.2
Open Wound, Including Traumatic Amputation	2	14	16	33	164	158	199	199	174	121	83	100	29	0	1,292	31.2
Blood Vessels	0	0	4	1	28	32	41	35	27	12	11	9	2	0	202	4.9
Nerves and Spinal Cord	0	1	5	4	31	34	44	45	44	30	21	17	2	0	278	6.7
Other and Unspecified	1	3	4	2	12	12	10	18	11	13	6	5	3	0	100	2.4

Notes

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

* Total number of injury types.

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

Source

Ontario Trauma Registry, 2005–2006, Canadian Institute for Health Information.