2005 Report

Injury Deaths in Ontario

(Includes 2002–2003 Data)

Ontario Trauma Registry

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Executive Summary

The source of data for this report is the Ontario Trauma Registry (OTR) Death Data Set (DDS). This data set contains information on all injury deaths in Ontario, which is provided by the Office of the Chief Coroner of Ontario. The inclusion of an injury or trauma case is based on whether the case met the OTR definition of trauma, "injury resulting from the transfer of energy", applied clinically.

Provincial Analyses

Five-Year Trends

In 2002–2003, there were 3,798 injury deaths in Ontario. This represents an increase of 8% since 1998–1999 and an average annual increase of 1.7%. The age-standardized injury death rate in 2002–2003 was 2.9 deaths per 10,000 population compared to 3.0 per 10,000 in 1998–1999. This represents a five-year reduction of 3.3% and an average annual decrease of 0.7%.

Demographics

In 2002–2003, the mean age of injury deaths was 55 years. Males accounted for approximately two-thirds (64%, n = 2,447) of all injury deaths.

Persons 65 years of age and over constituted the largest percentage of injury deaths (41%, n = 1,550), followed by those between the ages of 35 and 64 years (33%, n = 1,262). Persons aged 20 to 34 years accounted for 17% (n = 639), and those under the age of 20 years accounted for 9% (n = 346).

Causes of Injury Death

Among injury deaths in 2002–2003, the leading causes of injury were unintentional falls (33%, n = 1,260), motor vehicle collisions (24%, n = 911) and suicide and self-inflicted injury (excluding poisoning) (23%, n = 857). Other causes of injury death included homicide and injury purposely inflicted (excluding poisoning) (5%, n = 188), drowning (4%, n = 142) and fire and flames (3%, n = 105).

Injury Deaths Due to Falling

In 2002–2003, unintentional falls accounted for 33% (n = 1,260) of all injury deaths in the province. The majority (87%, n = 1,096) of these deaths occurred among persons aged 65 years of age and over. Females represented 56% (n = 710) of all fall-related deaths.

Injury Deaths Due to Motor Vehicle Collisions

In 2002–2003, 24% (n = 911) of all injury-related deaths in Ontario were attributed to motor vehicle collisions. Males comprised two-thirds (65%, n = 596) of these deaths.

Of the motor vehicle collision deaths, nearly one-half (48%, n = 433) were drivers and almost one-quarter (24%, n = 218) were passengers. The remainder (29%, n = 260) included motorcyclists, pedestrians, ATV and snowmobile riders.

Seatbelts were known to be present in the vehicle for 388 motor vehicle occupant deaths. Among these cases, seatbelts were used 64% (n = 247) of the time.

Drugs and/or alcohol were involved in nearly one-quarter (22%, n = 201) of all injury deaths due to motor vehicle collision.

Injury Deaths Due to Suicide

Deaths due to suicide (excluding poisoning) accounted for 23% (n = 857) of all injury deaths in Ontario in 2002–2003. Persons between the ages of 35 and 64 years comprised over one-half (54%, n= 459) of these deaths. Firearms were used in 18% (n = 154) of suicide and self-inflicted injury deaths (excluding poisoning) and 6% (n = 55) involved drugs and/or alcohol.

Firearm-Related Deaths

There were 226 firearm related deaths in 2002–2003, representing 6% of injury deaths in Ontario. Nearly all (92%, n = 209) of these deaths were among males. Of all firearm-related injury deaths, 68% (n = 154) were related to suicide and 29% (n = 65) were related to homicide. The remaining deaths were unintentional injuries or injuries where the intent was undetermined.

Work-Related Deaths

In 2002–2003, there were 106 work-related deaths in the province. The most commonly reported specific work environments were inside factory/plant/warehouse work (30%, n = 32), construction (20%, n = 21) and farming (11%, n = 12). Nearly all (93%, n = 99) of these cases were male, and the mean age was 46 years.

Regional Analyses

Regional analyses were based on where the injury occurred rather than the person's place of residence, and reflect the seven Ontario health planning regions as defined by the Ministry of Health and Long-Term Care. From 1998–1999 to 2002–2003, the Northern region of Ontario consistently had the highest age-standardized injury death rate compared to the other regions in Ontario (5.0 per 10,000 population in 2002–2003). In 2002–2003, Eastern region experienced the lowest age-standardized injury death rate (2.4 per 10,000 population).

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Injury Deaths in Ontario
(includes 2002–2003 data)

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1. Introduction

A. Purpose of Report

The purpose of this report is to provide a descriptive analysis of injury-related deaths in Ontario. The data source for this report is the Ontario Trauma Registry Death Data Set (OTR DDS), which contains information from the Office of the Chief Coroner of Ontario as of September 2005.

B. About the Ontario Trauma Registry (OTR)

i) Goal

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

1. Permit planning and evaluation of prevention programs, legislative changes and cost expenditures; and
2. Aid in resource allocation decisions and contribute to cost reductions.

ii) History

The OTR, funded by the Ontario Ministry of Health and Long-Term Care, was established in May 1992. A multidisciplinary advisory committee provides guidance to the OTR. The Trauma Registry Advisory Committee (TRAC) includes representatives from the Ontario Ministry of Health and Long-Term Care, Ministry of Labour, Ministry of Transportation, CIHI, epidemiologists, trauma care providers, the Office of the Chief Coroner of Ontario and the Trauma Association of Canada. The current structure and implementation of the OTR is based on the data elements, data collection procedures, report formats and management procedures determined by TRAC.

The primary users of the OTR include the eleven lead trauma hospitals in Ontario, the members of TRAC and Area Emergency Health Services (EHS) Committees. The Area EHS Committees are part of regional planning networks composed of committees at the provincial, regional and local levels involving health care planners, providers and consumers in emergency health initiatives.

iii) Structure

For injury prevention programs to be effective, data are needed to clearly define the nature and scope of injury in the province. The OTR consists of three major sources of data as listed on the following page. Standard and ad hoc reports from these data sets detail demographic information, cause and nature of injury hospitalizations and deaths both provincially and regionally. This information is used by policy makers, planners, researchers and injury prevention specialists to develop and monitor injury prevention programs, and to improve trauma patient care.

The Ontario Trauma Registry is composed of 3 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 Discharge Abstract Database at CIHI and downloaded to the Registry's data processing system. Selection criteria for inclusion in the OTR MDS are based on specific External Cause of Injury Codes within the International Classification of Disease, 9th revision (ICD-9) (E Codes). For the 2005 Injury Hospitalizations Report (2003–2004 data), inclusion criteria was based on specific External Cause of Injury Codes within the International Classification of Disease, 10th revision.

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 OTR MDS.

2. The **Comprehensive Data Set (CDS)** consists of detailed information on patients hospitalized with major trauma in 11 participating trauma facilities in the province. These lead trauma hospitals have been 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 major trauma in the OTR CDS is based on the Injury Severity Score (ISS), an international scoring system created to calculate the severity of injury, and an External Cause of Injury Code that falls within the OTR definition of trauma.

Specialized trauma software (COLLECTOR and TRI-CODE from Digital Innovation Inc. and Tri-Analytics, Inc.) is used to collect and analyze data on approximately 3,600 cases annually. This software has been customized for the province of Ontario with input from participating hospitals and TRAC. Detailed data are collected including demographics, pre-hospital and hospital care, and patient outcomes including a 6-month follow up interview. Data are electronically transmitted to the OTR on a monthly basis.

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

2. Methodological Notes

A. Data Source

The data source for this report is the **Ontario Trauma Registry Death Data Set (OTR DDS).** Data comprising the OTR DDS are provided by the Office of the Chief Coroner of Ontario. The OTR DDS contains information on deaths in the province due to injury, including demographics, cause of death and factors contributing to death such as alcohol use. Reporting on all injury deaths rather than only in-hospital deaths provides a more complete picture of trauma in the province. Information contained in the database at the Office of the Chief Coroner is important to injury prevention programs because a large percentage of injured persons die before admission to hospital. Therefore, these persons are not captured in hospital-based statistics.

B. Definition of Trauma for Injury Deaths

As directed by the Ontario Trauma Patient Registry Task Force Report, the definition of trauma used by the OTR is injury resulting from the transfer of energy. The External Cause of Injury Codes are used to define trauma hospitalizations in the Minimal and Comprehensive Data Sets of the OTR. These codes can be found in Appendix B (Trauma Definition: external Cause of Injury Code Inclusions and Exclusions). However, the death data provided by the Office of the Chief Coroner does not include External Cause of Injury Codes. The Office of the Chief Coroner categorizes deaths using a classification system including death types, death factors, environments and involvements. These components describe the cause of death and the events surrounding the death.

To take advantage of the information documented by the Coroner's Office and to allow comparability with other sources of injury information, the OTR has developed a system to map the death type, death factor and environment components of the classification system used by the Office of the Chief Coroner to ICD-9 E Code categories. This allows standardized reporting across the data sets of the OTR and comparisons to other sources of data. However, trauma deaths cannot always be mapped to specific E Codes because of the differences in the ICD and Coroner's coding systems. A summary of the mapping methodology used is found in Appendix C—Trauma Definition: Mapping Methodology.

i) Selection Criteria

The electronic file provided to the OTR by the Integrated Justice Information Technology Division includes:

- All deaths documented with a death type of unintentional, homicide, suicide and undetermined; and
- Deaths documented with a death type of natural with documentation indicating a fall in an institution.

ii) The Classification System of the Office of the Chief Coroner

The following are the components of the classification system used by the Office of the Chief Coroner to categorize deaths.

Death Type

Death type is the classification of the intent of the action, force, instrument or disease that caused death. There are six death types defined by the Office of the Chief Coroner including unintentional, homicide, suicide, natural, undetermined and archaeological/ skeletal/animal remains. It is important to note that suicide deaths resulting from poisoning are not included in the definition of trauma and therefore are generally not included in other trauma reports provided by the OTR. However, Appendix E—Tables 10 and 11 report all suicide deaths (including poisoning) and have been included in this report to provide a more complete representation of suicide deaths in the province.

Death Factors

A death factor is an action, force, instrument or disease occurring in an environment, which leads directly toward death. For each death, the Coroner codes a primary death factor that identifies the most significant circumstances or events leading to death. There are over 80 death factors used by the Office of the Chief Coroner to describe the cause of death. TRAC and lead/trauma hospital staff reviewed these death factors in 1992. This group identified 39 death factors that parallel the definition of trauma used in the Minimal Data Set and that are used to define trauma in this report. A list of these death factors is found in Appendix D—Trauma Definition: Death Factors.

Motor vehicle crashes, shooting and drowning are examples of death factors that meet the definition of trauma. Examples of excluded death factors include alcohol poisoning and intestinal obstruction.

Environments

An environment is a combination of the location and the activity of the deceased when an action, force, instrument or disease was applied which led toward death. Up to four environments may be documented for each death. Over 80 environments are defined by the Office of the Chief Coroner. Environments are divided into the following categories: occupational, recreation and sporting, institutions (patients and inmates), general living and traveling. Examples of environments are hunting, snowmobiling, bicycles, drivers, passengers and pedestrians.

Involvements

An involvement is an activity or circumstance related to the deceased that did not directly lead to death but which may be of significance or a contributing factor. Involvements are generally combinations of certain environments, institutions, overdose agents or death factors that are of particular interest to the Coroner's office. Examples of involvements are alcohol and drug use, a fall in a nursing home or helmet use. The Office of the Chief Coroner codes more than 60 involvements; up to 3 can be coded per case.

C. Reporting Guidelines

This report:

- Is created by fiscal year and contains information on all injury deaths occurring in fiscal year 2002–2003 and trend analysis for injury deaths occurring between 1998–1999 through 2002–2003;
- Is created using data downloaded from the Office of the Chief Coroner of Ontario as of September 2005. Historical data dating back to 1995 have also been updated as of September 2005;
- Uses the population of the area in which the injury occurred for the denominator for rate calculations;
- Generally presents causes of death by E Code categories, although death factors are reported in Appendix E—Table 3;
- Has changed all references to "accident" reported by the ICD or Office of the Chief Coroner definitions to "incident" or "collision" to reinforce injury prevention efforts; "accidental" (as in accidental death type) has been changed to "unintentional";
- Uses historical data which may have been updated, therefore data may not always reconcile with data presented in previous reports;
- May present percentages that do not sum to 100% because of rounding;
- Does not include deaths with sex not documented in reports based on sex (e.g. single year of age by sex);
- Does not include suicide deaths resulting from poisoning as determined by the definition of trauma except in Tables 10 and 11 in Appendix E;
- Injury death rates are per 10,000 and are age standardized using 1991 population estimates from Statistics Canada; and
- The number of injury deaths reported as dead on arrival (DOA) at hospital emergency departments since 2001 were lower than previous years. Discussions with the Office of the Chief Coroner revealed that this could be the result of several factors including an increased number of attempts being made to resuscitate patients who present at hospital emergency departments without vital signs and changes in coding practices.
- Deaths due to Unintentional Falls that are not investigated by the Office of the Chief Coroner are not included in this report. Therefore, Unintentional Falls may be under reported in this report. In hospital deaths due to Unintentional Falls for the data year 2002–2003 may be found in the OTR Injury Hospitalizations 2004 Report.

3. Provincial Analysis

A. Trend Analysis

i) 1993–1994 Through 2002–2003

Between 1993–1994 and 2002–2003 the number of injury-related deaths decreased by 7%, from 4,092 to 3,798. This represents an average annual decrease of 0.7% over the past 10 years.

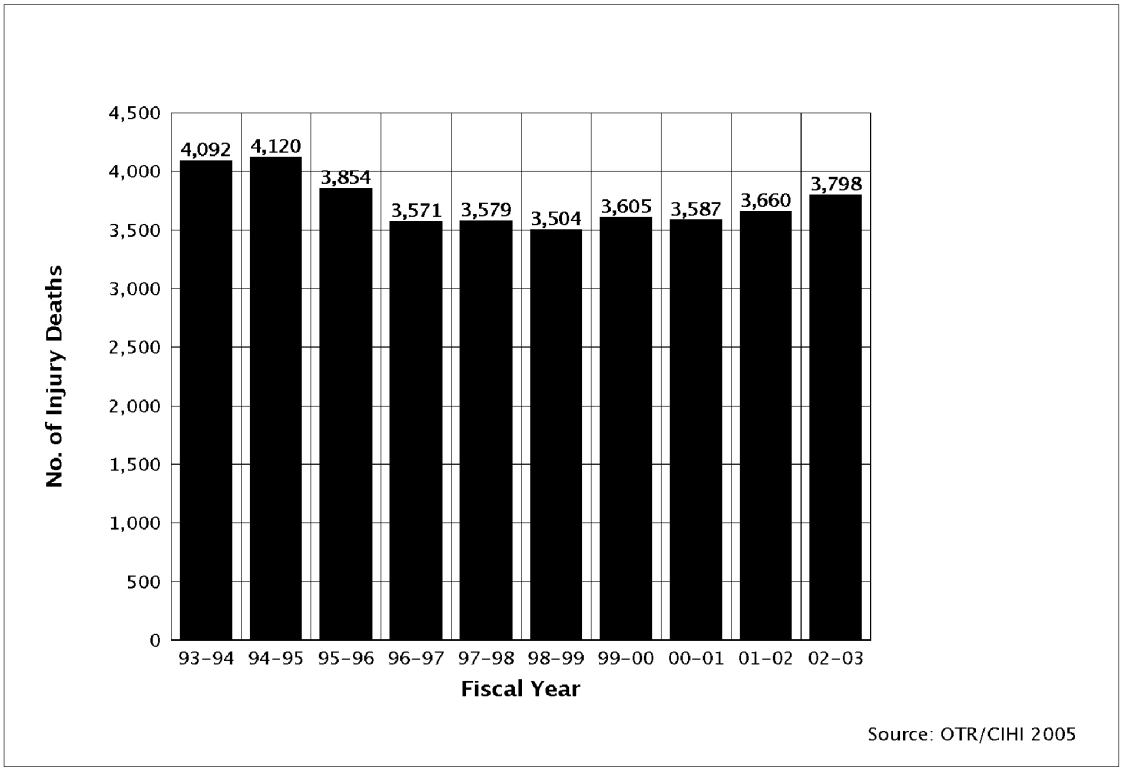

Figure 1. Injury Deaths in Ontario, 1993–1994 Through 2002–2003

ii) 1998–1999 Through 2002–2003

For the five fiscal years from 1998–1999 through 2002–2003:

- The number of deaths increased by 8% from 3,504 in 1998–1999 to 3,798 in 2002–2003, representing an average annual increase of 1.7%;
- The age standardized injury death rate decreased from 3.0 per 10,000 population in 1998–1999 to 2.9 per 10,000 in 2002–2003, representing a five-year reduction of 3.3% and an average annual decrease of 0.7%;
- Mean ages varied between 52 and 55 years; median ages varied between 49 and 55 years;
- Percentage of males decreased from 68% to 64%;
- The proportion of deaths due to motor vehicle collisions has fluctuated between 23% and 26%;

- The proportion of deaths due to unintentional falls has risen from 26% to 33%;
- Deaths due to suicide (excluding poisoning) ranged between 23% and 26%, homicides (excluding poisoning) ranged between 4% and 5%; and
- The proportion of injury deaths reported as dead on arrival (DOA) at hospital emergency has decreased from 14.5% to 4.8%.*

B. Demographics

In 2002–2003, the mean age of injury deaths was 55 years. Figure 2 shows that the greatest proportion of injury deaths occurred among persons aged 65 years and over (41%, n = 1,550), followed by those aged 35 to 64 years (33%, n = 1,262).

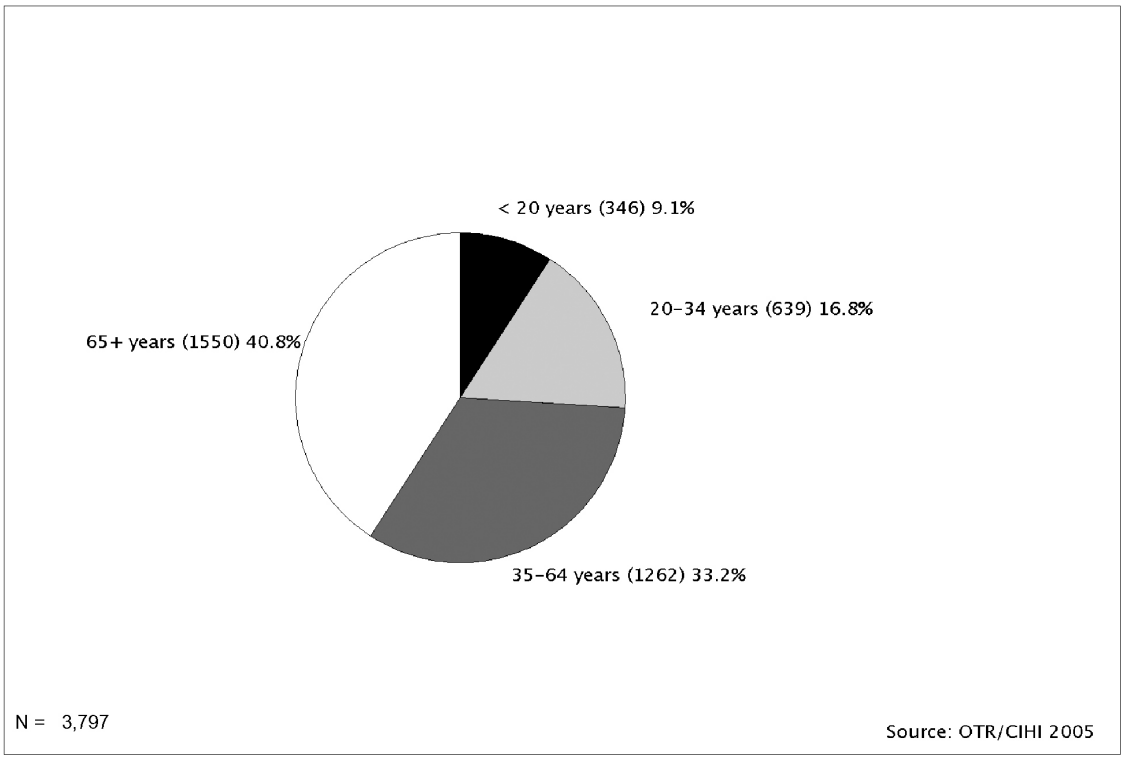

Figure 2. Injury Deaths by Age Group, 2002–2003

Note: one case with unknown age.

* The number of injury deaths reported as dead on arrival (DOA) at hospital emergency departments in 2002 was lower than previous years. Discussions with the Office of the Chief Coroner revealed that this could be the result of several factors including an increased number of attempts being made to resuscitate patients who present at hospital emergency departments without vital signs and changes in coding practices.

Males represented approximately two-thirds (64%, n = 2,447) of all injury deaths. Figure 3 illustrates that the distribution of injury deaths by age among males differed markedly from that of females. Over one-half (60%, n = 806) of female injury deaths occurred among those 65 years and over, whereas a little over one-quarter (30%, n = 740) of injury deaths among males occurred in this age group. The greatest proportion (39%, n = 955) of injury deaths among males were among those aged 35 to 64 years and 21% (n = 520) occurred in the 20 to 34 year age group.

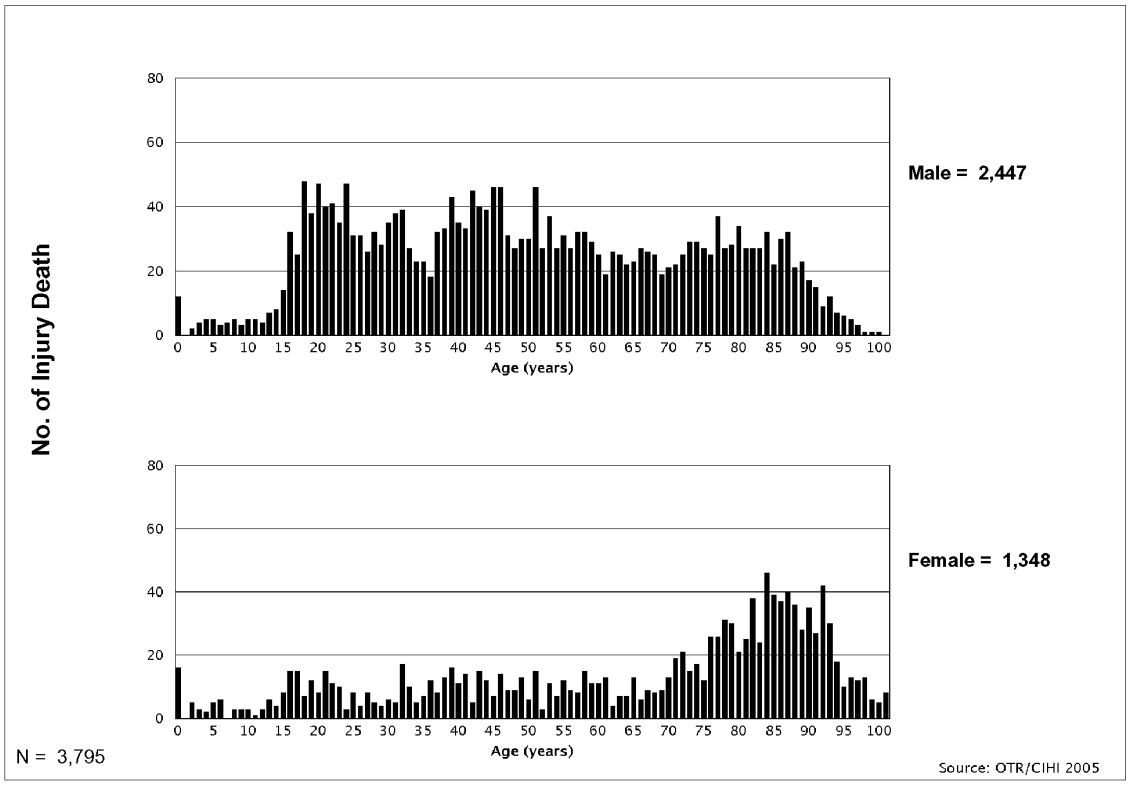

Figure 3. Injury Deaths by Sex and Single Year of Age, 2002–2003

Note: two cases with unknown sex.
one case with unknown age.

C. Causes of Death

i) Overall Causes

Figure 4 shows that the leading three causes of injury-related death in 2002–2003 were unintentional falls (33%, n = 1,260), motor vehicle collisions (24%, n = 911), and suicide and self-inflicted injury (excluding poisoning) (23%, n = 857). The "All other causes" group, which represented 9% (n = 335) of the total, included (but was not limited to):

- Deaths due to injuries in which intentionality is undetermined (n = 95);
- Suffocation (n = 49);
- Natural and environmental factors (n = 39);
- Pedal cycle incidents (n = 24); and
- Railway incidents (n = 14).

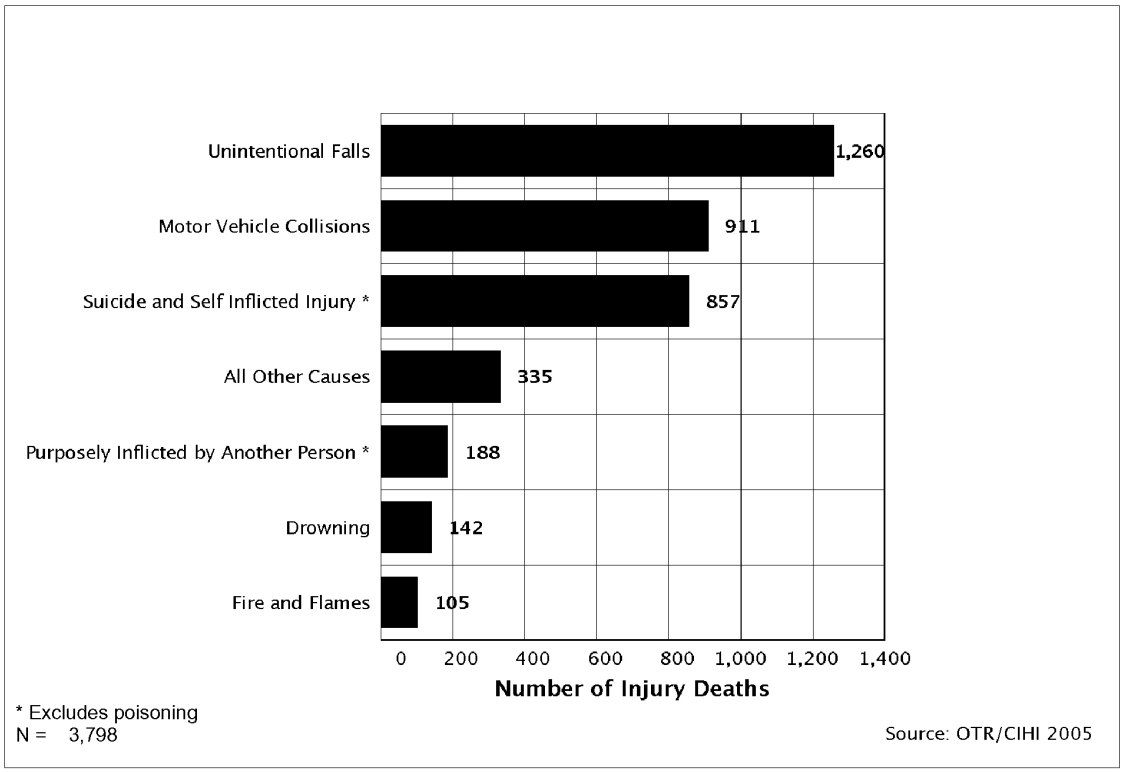

Figure 4. Causes of Injury Death, 2002–2003

ii) Causes by Age Group

Under 20 Years

In 2002–2003, 9% (n = 346) of all injury deaths occurred among children and teens under the age of 20 years. The percentage of all injury deaths among this age group is lower than its representation in the general population of Ontario estimated by Statistics Canada as of October 1, 2002, which was 26%.

Figure 5 shows that motor vehicle collisions (45%, n = 156), suicide and self-inflicted injuries (excluding poisoning) (21%, n = 72), and homicide and injury purposely inflicted (11%, n = 39) were the leading specific causes of injury-related death among persons under the age of 20.

The majority of suicides (89%, n = 64) occurred among those between the ages of 15 and 19 years. Similarly, the majority (63%, n = 99) of motor vehicle collision deaths in this age group were also between 15 and 19 years of age.

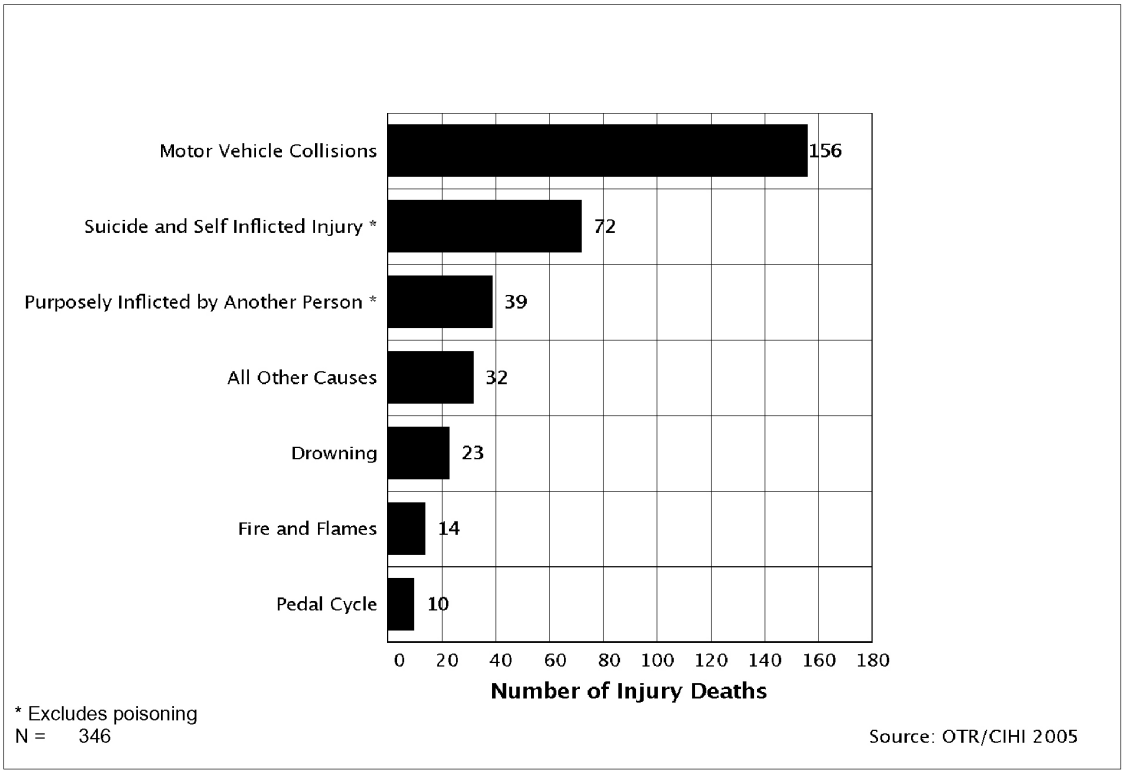

Figure 5. Causes of Injury Death Among Persons Under 20 Years, 2002–2003

20 to 34 Years

In 2002–2003, 17% (n = 639) of all injury deaths occurred among persons between the ages of 20 and 34 years. By comparison, this age group represented 21% of the general population of Ontario on October 1, 2002.

Figure 6 illustrates that motor vehicle collisions (37%, n = 235), suicide and self-inflicted injury (excluding poisoning) (32%, n = 203), and homicide and injury intentionally inflicted by another person (excluding poisoning) (11%, n = 71) were the leading causes of injury death among 20 to 34 year olds.

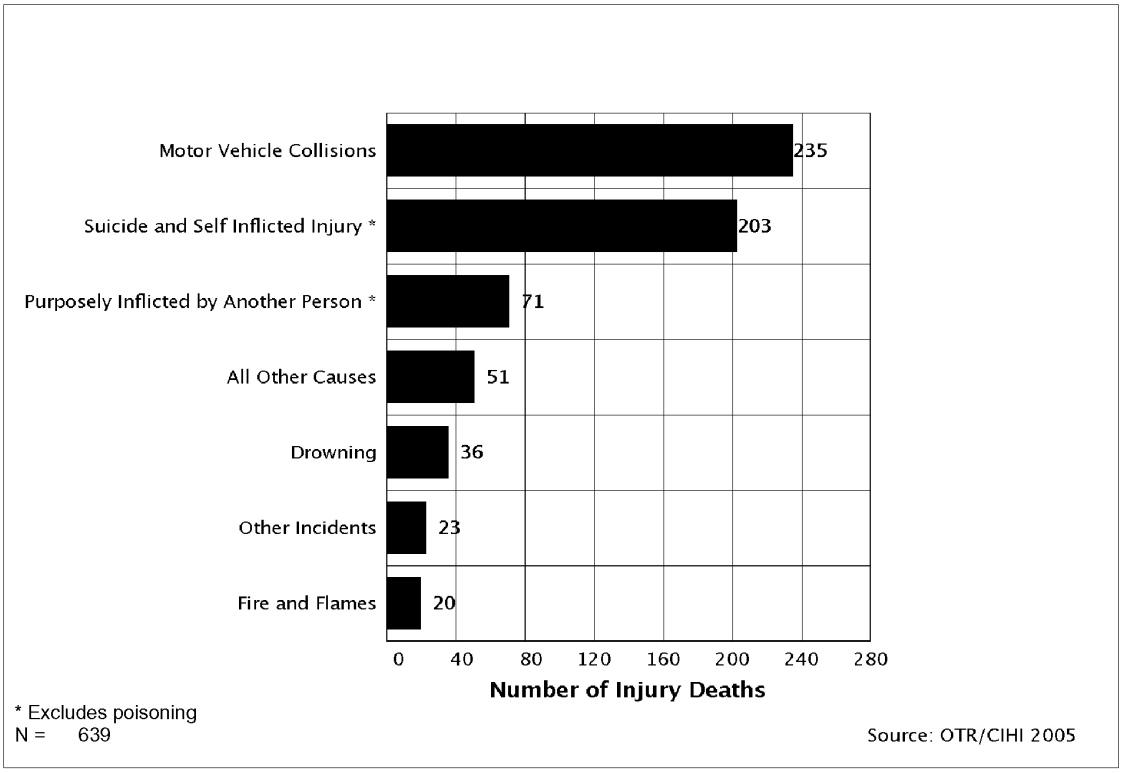

Figure 6. Causes of Injury Death Among Persons Aged 20 to 34 Years, 2002–2003

35 to 64 Years

One-third (33%, n = 1,262) of all injury-related deaths in 2002–2003 occurred among persons between the ages of 35 and 64 years. The percentage of all injury deaths experienced by this group is lower than its 41% representation in the general population of Ontario in 2002.

Figure 7 shows that over one-third (36%, n = 459) of injury deaths in this age group were attributed to suicide and self-inflicted injury (excluding poisoning), followed by motor vehicle collisions (25%, n = 320), and unintentional falls (11%, n = 144). One-half (50%, n = 72) of deaths due to unintentional falls in this age group were among persons aged 55 to 64 years.

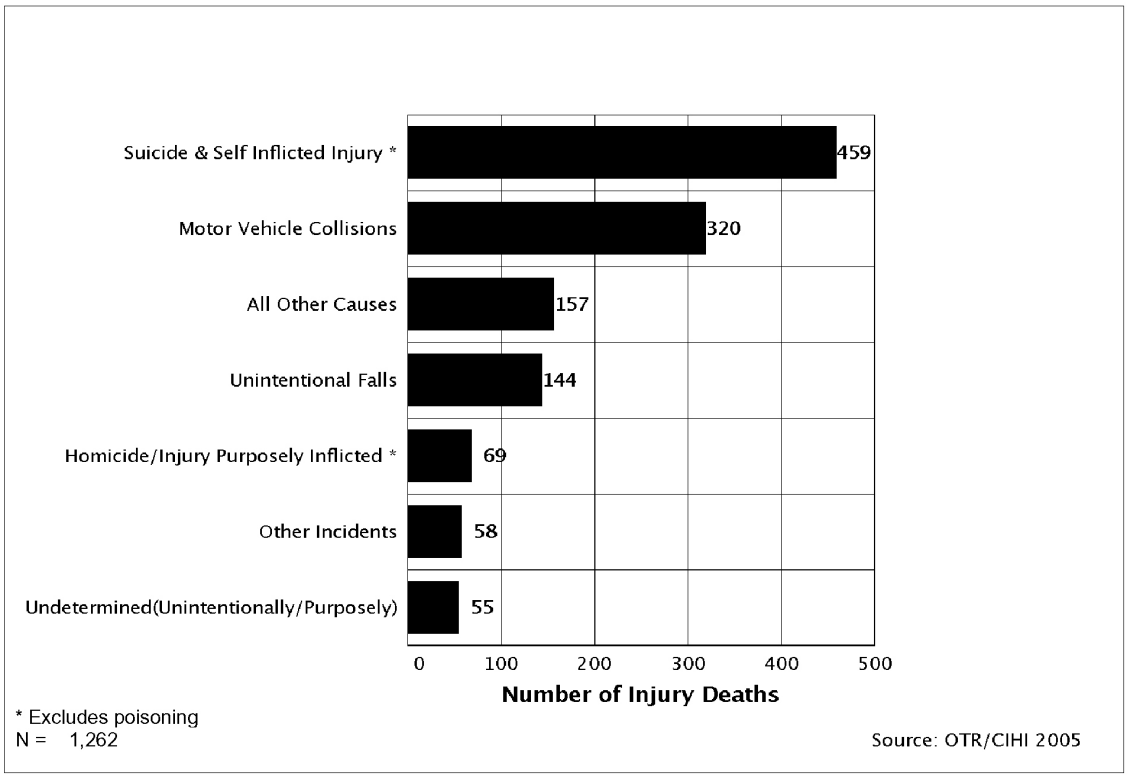

Figure 7. Causes of Injury Death Among Persons Aged 35 to 64 Years, 2002–2003

65 Years and Over

More than one-third (41%, n = 1,550) of all injury deaths in 2002–2003 occurred among persons 65 years of age and over. The proportion of all injury deaths in the province attributed to this age group is greater than its 12% representation in the Ontario general population as of October 1, 2002.

Figure 8 illustrates that unintentional falls accounted for over two-thirds (71%, n = 1,096) of the injury-related deaths among those 65 years of age and over. Motor vehicle collisions (13%, n = 200) and suicide and self-inflicted injury (excluding poisoning) (8%, n = 123) were also leading causes of injury death in this age group. Nearly one-half (48%, n = 529) of deaths due to unintentional falls in this age group were among persons 85 years of age and over.

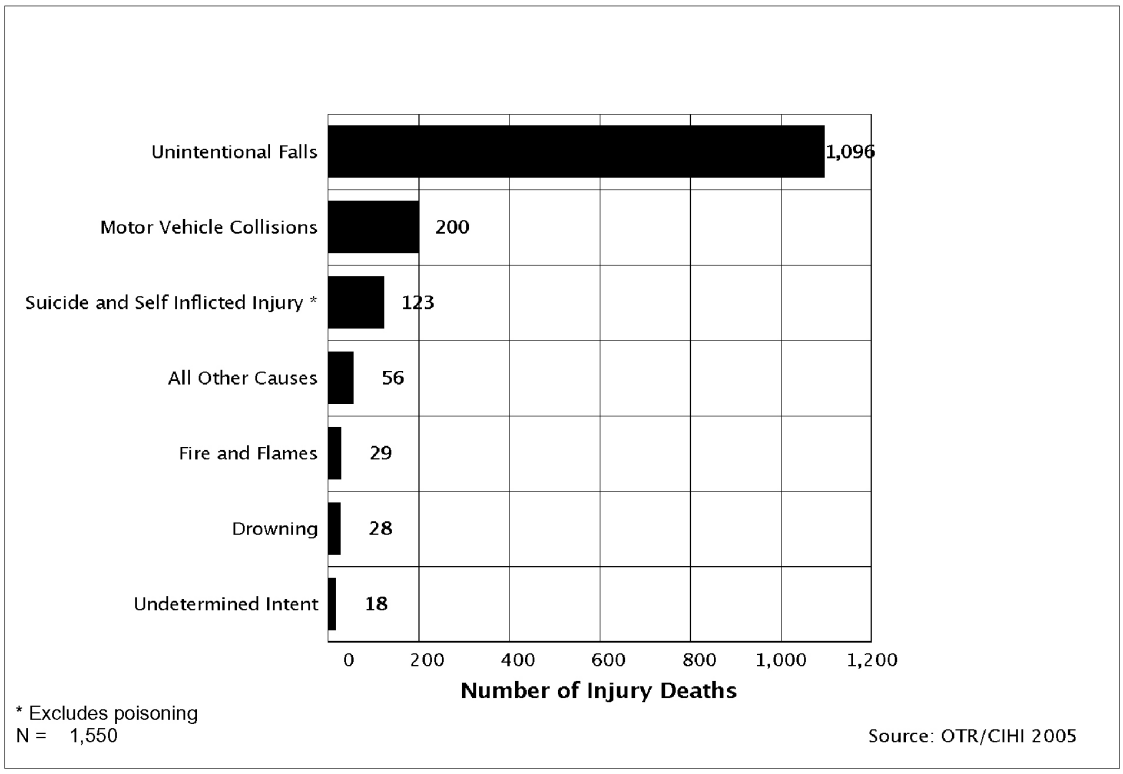

Figure 8. Causes of Injury Death Among Persons Aged 65 Years and Older, 2002–2003

iii) Falls

Unintentional falls included here are mapped to the ICD-9 External Cause of Injury Code category E880–E888. In 2002–2003, unintentional falls represented 33% (n = 1,260) of all injury-related deaths in the province. Figure 9 shows that of these deaths, the majority (87%, n = 1,096) occurred among persons aged 65 years and over. Fifty-six percent (n = 710) of all unintentional fall cases were female.

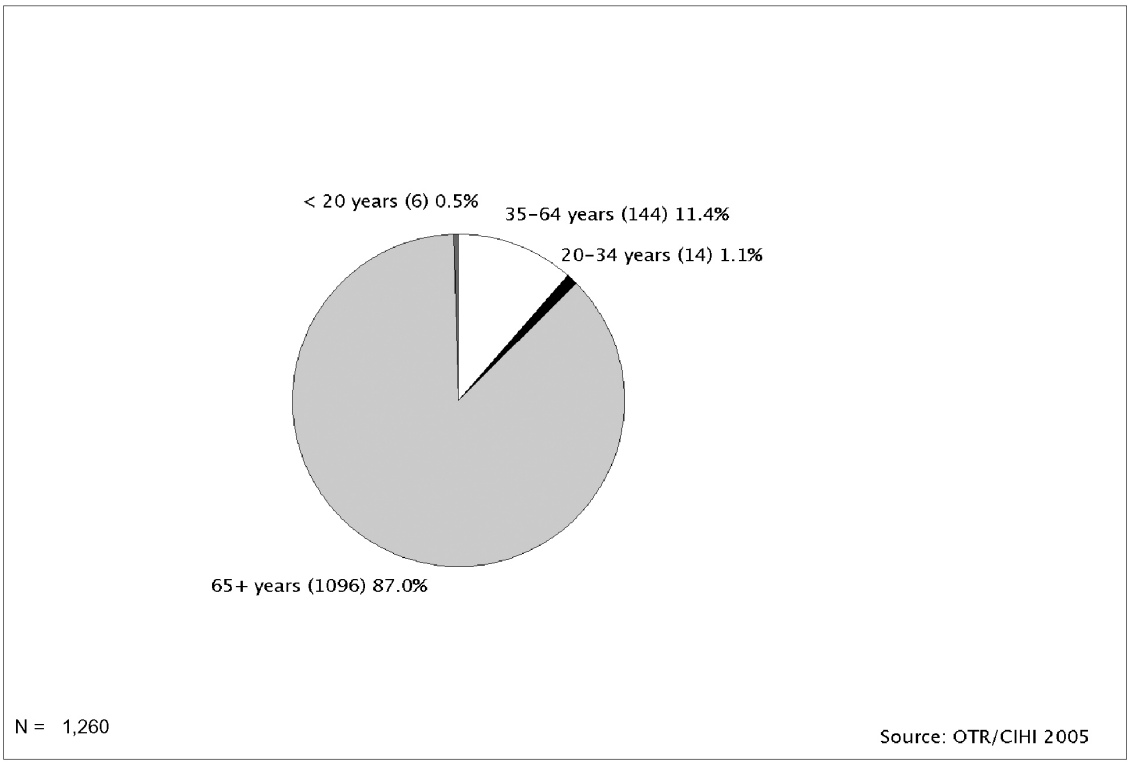

Figure 9. Deaths Due to Unintentional Falls by Age Group, 2002–2003

iv) Motor Vehicle Collisions

Motor vehicle collisions presented here are mapped to the ICD-9 External Cause of Injury Code category E810–E825 (motor vehicle traffic and non-traffic collisions). In 2002–2003, 24% (n = 911) of all injury deaths were due to motor vehicle collisions. More than one-third (35%, n = 320) of these cases were between the ages of 35 and 64 years, followed by those in the 20 to 34 year old age group (26%, n = 235). Persons 65 years of age and over accounted for 22% (n = 200) of motor vehicle collision deaths, with a further 17% (n = 156) of cases under the age of 20 years.

Males represented 65% (n=596) of these deaths. Figure 10 shows that there is a peak in the number of motor vehicle collision deaths around the age of 18 years among males.

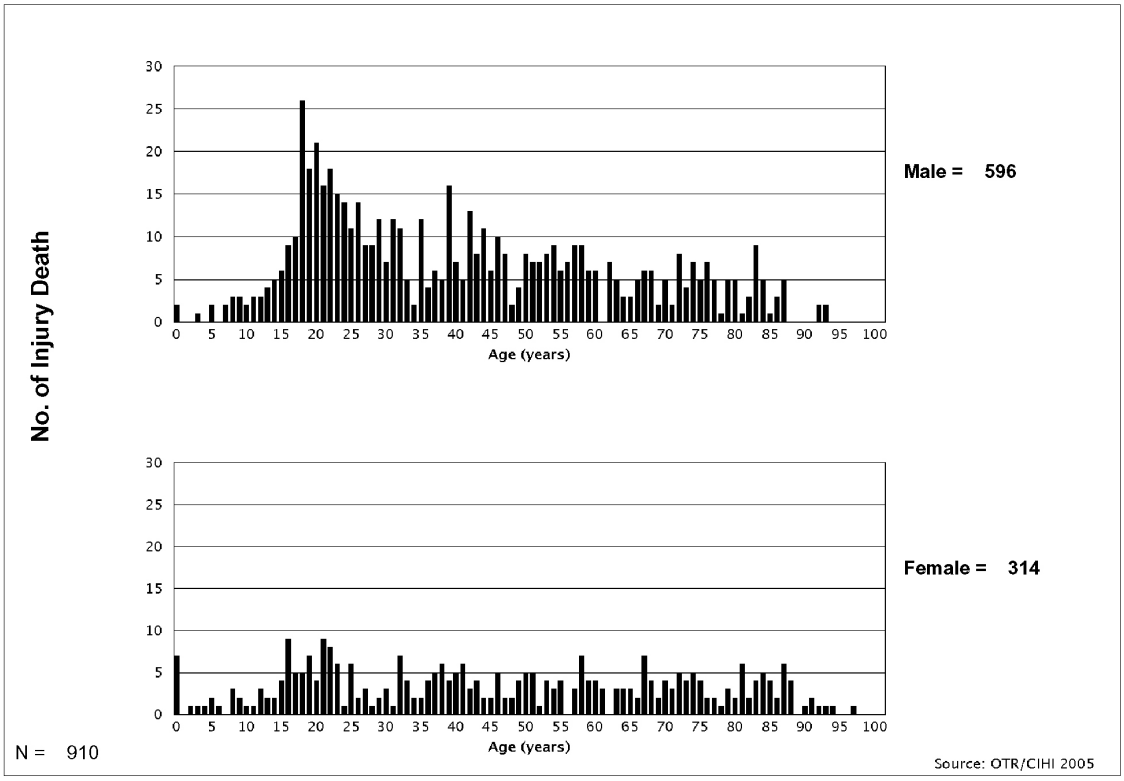

Figure 10. Motor Vehicle Collision Injury Deaths by Sex and Single Year of Age, 2002–2003

Of the 911 motor vehicle collision deaths in 2002–2003, 651 were motor vehicle occupant deaths, of which two-thirds (67%, n = 433) were drivers and one-third (33%, n = 218) were passengers. The remaining motor vehicle collision injury deaths (29%, n = 260) included motorcyclists, pedestrians, ATV and snowmobile riders.

Seatbelt use was not documented for 40% (n = 259) of motor vehicle occupant deaths. Of the 388 motor vehicle occupant deaths where seatbelt use was documented, 64% (n = 247) wore seatbelts and 36% (n = 141) did not. Seatbelts were not present for 4 cases.

Of the 433 motor vehicle driver deaths, 35% (n = 151) were wearing seatbelts and 21% (n = 92) were not. Seatbelt use was not documented for 46% (n = 189) of motor vehicle driver deaths.

Of the 218 motor vehicle passenger deaths, 44% (n = 96) were wearing seatbelts and 22% (n = 49) were not. Seatbelt use was not documented for 32% (n = 70) of motor vehicle passenger deaths, and in three cases seatbelts were not present.

Drugs and/or alcohol were involved in nearly one-quarter (22%, n = 201) of all motor vehicle collision injury deaths. The Office of the Chief Coroner codes drug and/or alcohol use through specific involvement codes. These codes are activities or circumstances that did not directly lead to death but that may have been contributing factors.

v) Drowning

Four percent (n = 142) of injury-related deaths in Ontario were due to drowning in 2002–2003. Note that only deaths due to unintentional drowning are included in this category. Figure 11 shows that the greatest proportion of deaths occurred among persons between the ages of 35 and 64 years (39%, n = 55). Males represented 81% (n = 115) of all drowning-related deaths.

One-third (35%, n = 50) of all drowning injury deaths involved alcohol and/or drugs. Of these cases, the majority (86%, n = 43) involved alcohol only.

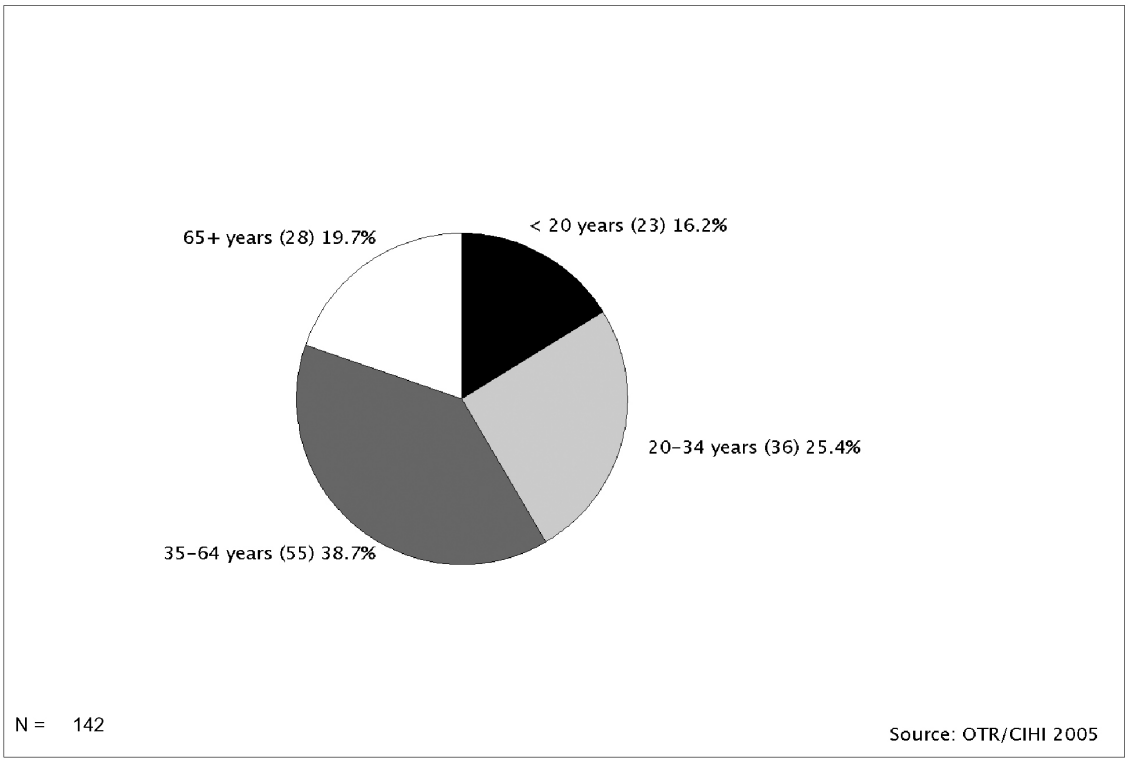

Figure 11. Deaths Due to Drowning by Age Group, 2002–2003

Drowning by Death Factor

In 2002–2003, there were 207 deaths due to drowning as defined by death factors. Of these cases:

- 14% (n = 29) were under the age of 20 years;
- 21% (n = 44) were between the ages of 20 and 34 years;
- 46% (n = 96) were between the ages of 35 and 64 years; and
- 18% (n = 38) were 65 years of age and over.

Figure 12 shows that the majority of drowning deaths occurred in open water (72%, n=150), followed by deaths in the bathtub (10%, n = 21). Pools and other types of water accounted for the remaining 17% (n = 36) of recorded drowning death factors.

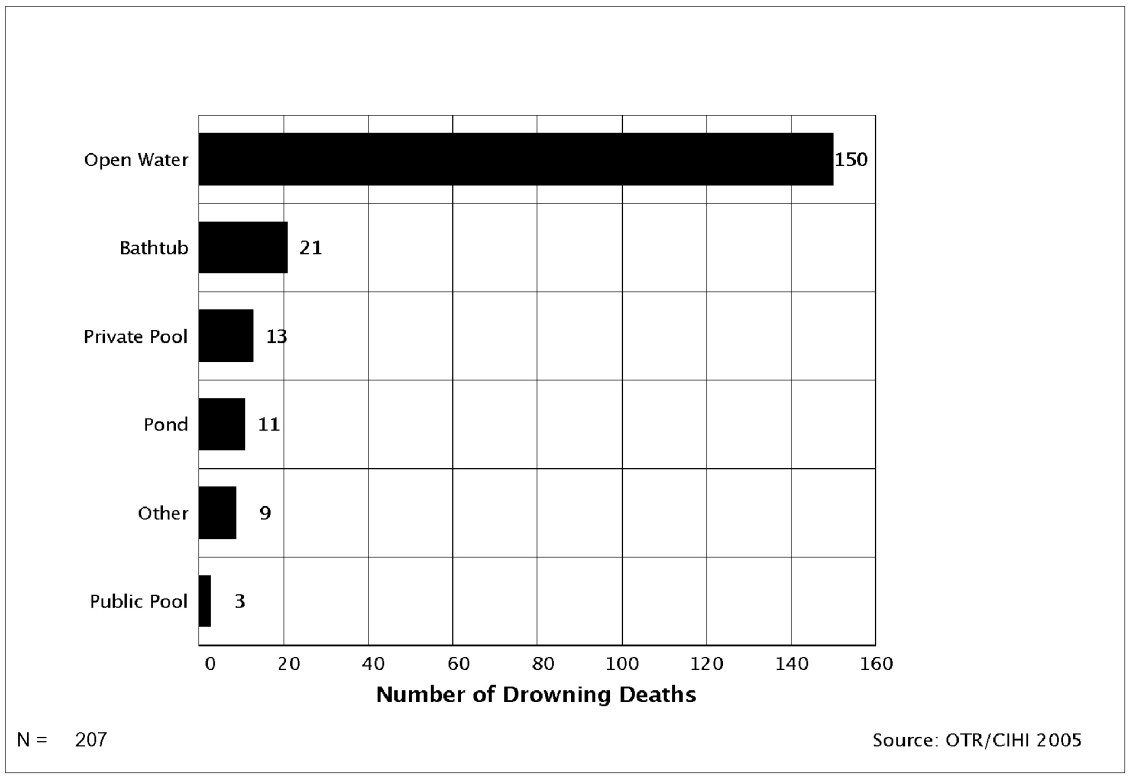

Figure 12. Death Due to Drowning by Death Factor, 2002–2003

D. Intentionality of Trauma Deaths

Of the injury deaths in Ontario in 2002–2003:

- 70% (n = 2,650) were unintentional;
- 23% (n = 857) were due to suicide and self-inflicted injury (excluding poisoning);
- 5% (n = 188) were due to homicide and injury purposely inflicted by another person; and
- 3% (n = 95) were of undetermined intent.

Intentionality was determined by death type, a component of the classification system used by the Office of the Chief Coroner.

i) Suicide

Suicide (Excluding Poisoning)

Deaths due to suicide (excluding poisoning) accounted for 23% (n = 857) of all injury-related deaths in 2002–2003. As shown in Figure 13, over one-half (54%, n = 459) of suicide deaths (excluding poisonings) occurred among those between the ages of 35 and 64 years. Males accounted for the majority (85%, n = 725) of suicide deaths reported. Firearms were used in 18% (n = 154) of suicides and self-inflicted injury deaths, and 6% (n = 55) involved drugs and/or alcohol.

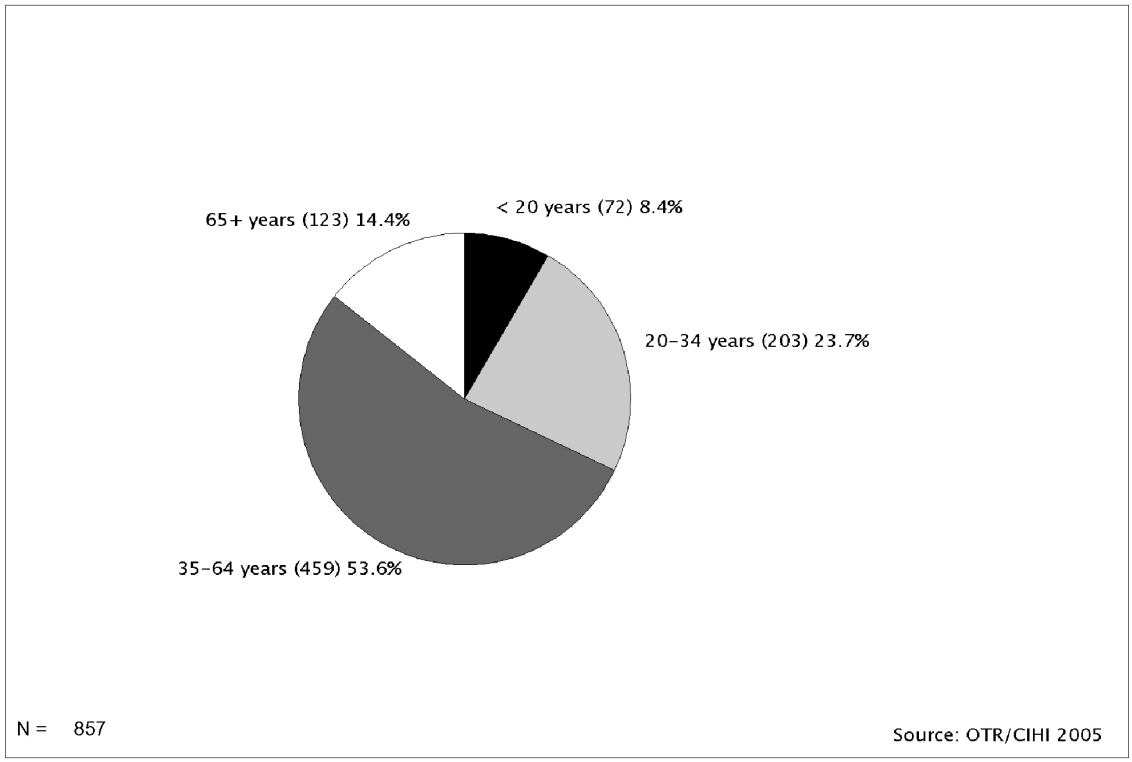

Figure 13. Deaths Due to Suicide (Excluding Poisoning) by Age Group, 2002–2003

Suicide (Including Poisoning)

A large portion of all injury is caused by mechanical energy. As a result, poisonings are often excluded in injury reports. In general, this report excludes poisonings because they do not fit the definition of trauma as *injury resulting from the transfer of energy such as mechanical, thermal or electric energy*. Appendix E—Tables 10 and 11 report all suicide deaths *including* poisoning by sex and age to provide a more complete representation of suicide deaths in Ontario. In 2002–2003, suicides *including* poisonings, accounted for 1,083 deaths. Males represented 78% (n = 842) of these deaths.

Figure 14 shows that when analyzed by age group, over half (58%, n = 620) of all suicide deaths occurred among persons in the 35 to 64 year old age group.

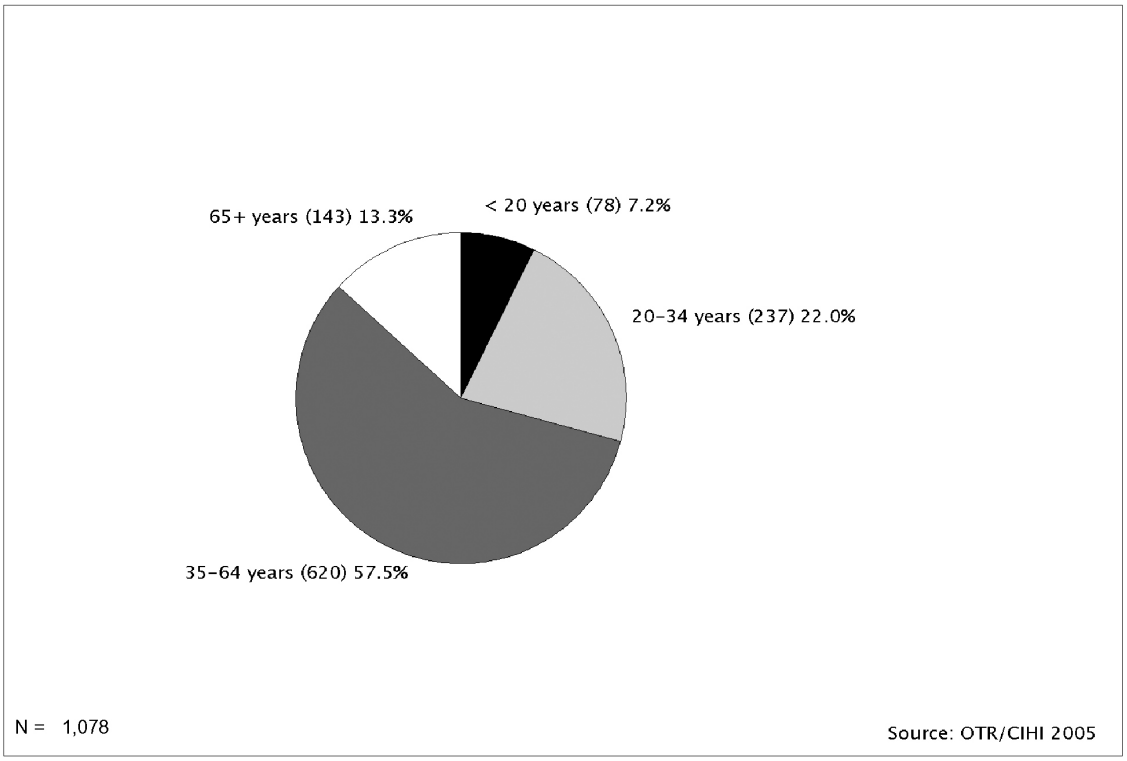

Figure 14. Deaths Due to Suicide (Including Poisoning) by Age Group, 2002–2003

In 2002–2003 males comprised 78% (n = 838) of all the suicide deaths including poisonings. Figure 15 shows that among males, hanging (38%, n = 319) was the leading specified means of suicide followed by the use of firearms (18%, n = 150). The most common methods of suicide among females were the use of drugs and alcohol (43%, n = 102) and hanging (22%, n = 52).

The "all other" category accounted for 20% (n = 217) of all suicide deaths including poisoning. This category included vehicle collision trauma, suffocation, cuts and stabs, cuts from hand tools, setting fire to oneself, other fires, electrocution, and the use of gases, fumes and other poisons.

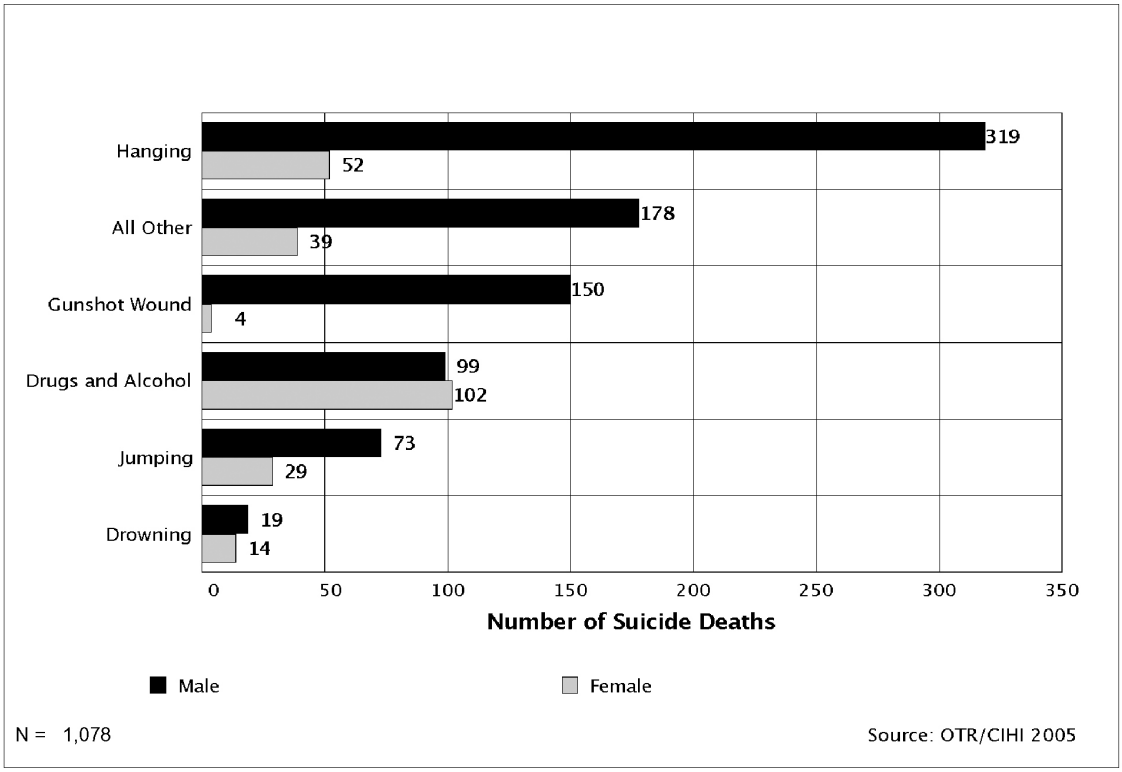

Figure 15. Deaths Due to Suicide (Including Poisoning) by Sex and Suicide Method, 2002–2003

ii) Homicide

In 2002–2003, 5% (n = 188) of all injury-related deaths were attributed to homicide and injury purposely inflicted by another person (excluding poisoning). Figure 16 shows that the greatest proportion (38%, n = 71) of these deaths was among persons between the ages of 20 and 34 years, followed by those aged 35 to 64 years (37%, n = 69).

There were 65 firearm-related homicides in 2002–2003, accounting for 35% of all homicides. Over three-quarters (83%, n = 54) of all firearm-related homicides were inflicted upon males. Drugs and/or alcohol were involved in 24% (n = 45) of injury deaths due to homicide.

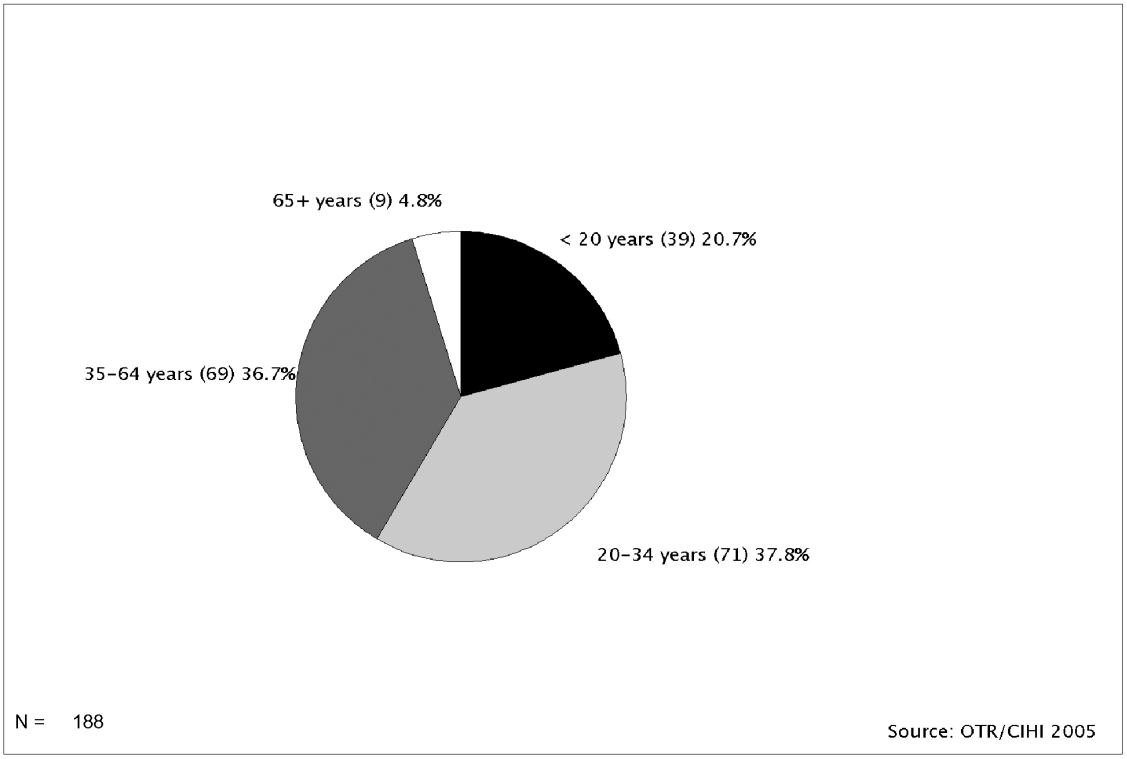

Figure 16. Deaths Due to Homicide (Excluding Poisonings) by Age Group, 2002–2003

E. Contextual Factors

i) Firearm-Related Deaths

Firearm related deaths represented 6% (n = 226) of all injury-related deaths in Ontario in 2002–2003. Of these, males accounted for 92% (n = 209).

Of the 226 firearm-related deaths in 2002–2003:

- 68% (n = 154) were related to suicide;
- 29% (n = 65) were related to homicide;
- 1% (n = 2) was unintentional; and
- 2% (n = 5) was of undetermined intent.

Figure 17 shows that persons aged 35 to 64 years accounted for the greatest proportion (50%, n = 113) of firearm-related deaths, followed by persons aged 20 to 34 years (26%, n = 59) and those over 65 years (16%, n = 37).

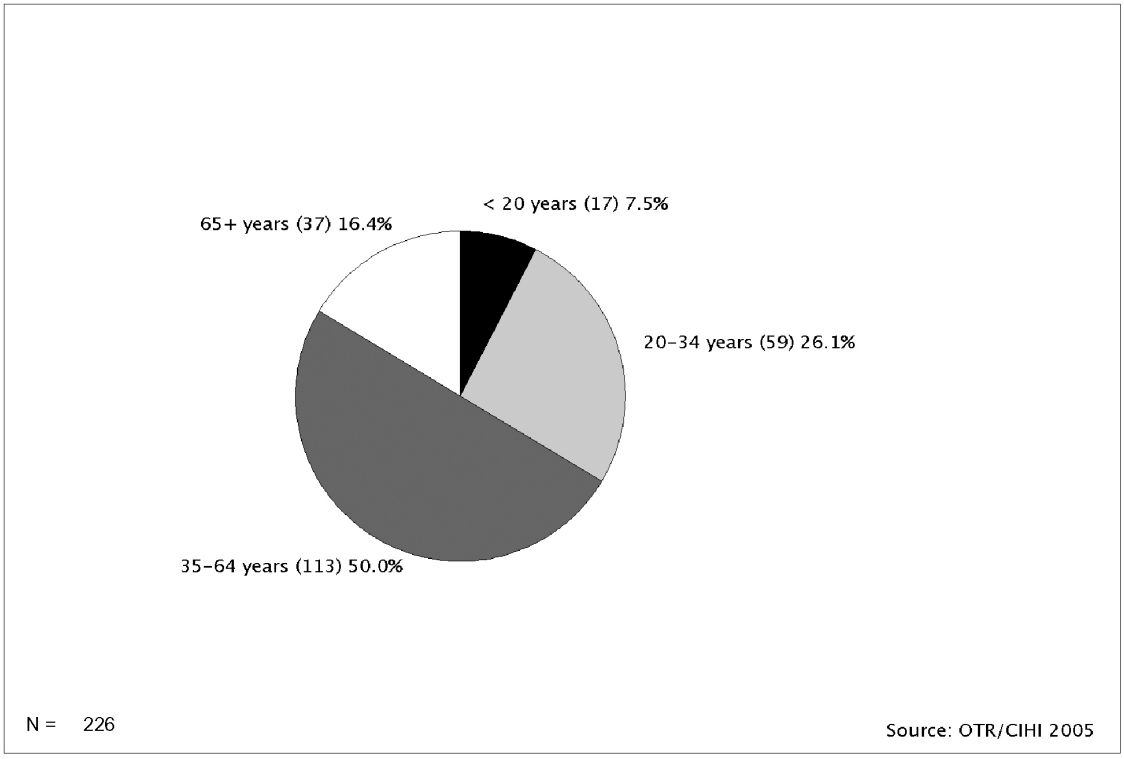

Figure 17. Firearm Related Deaths by Age Group, 2002–2003

ii) Work-Related Deaths

The environment component of the classification system used by the Office of the Chief Coroner allows the identification of occupational deaths. There are 19 occupations identified by environment codes. In 2002–2003:

- There were 106 work-related deaths;
- 99 of these deaths (93%) were among males; and
- The mean age was 46 years.

Figure 18 shows the most common environments for work-related death. The leading specified environments in which work-related deaths occurred were:

- Factory, plant or warehouse (inside work) (30%, n = 32);
- Construction (20%, n = 21); and
- Farming (11%, n = 12).

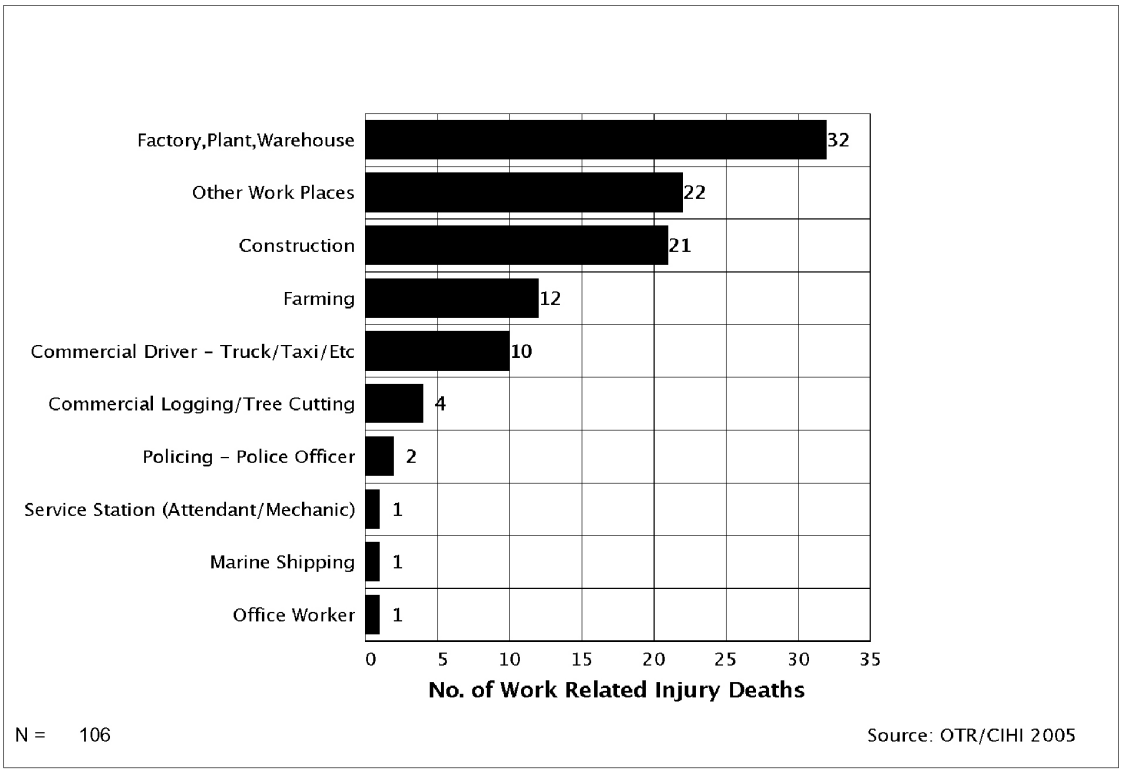

Figure 18. Work Related Deaths by Work Environment, 2002–2003

iii) Drug and Alcohol Involvement

Figure 19 summarizes the involvement of drugs and/or alcohol in external causes of injury death. Use of drugs and/or alcohol is coded through specific involvement codes defined by the Office of the Chief Coroner. Involvements are activities or circumstances that did not directly lead to death, but may have been contributing factors. The greatest number of deaths involving drugs and/or alcohol was among motor vehicle collisions (n = 201).

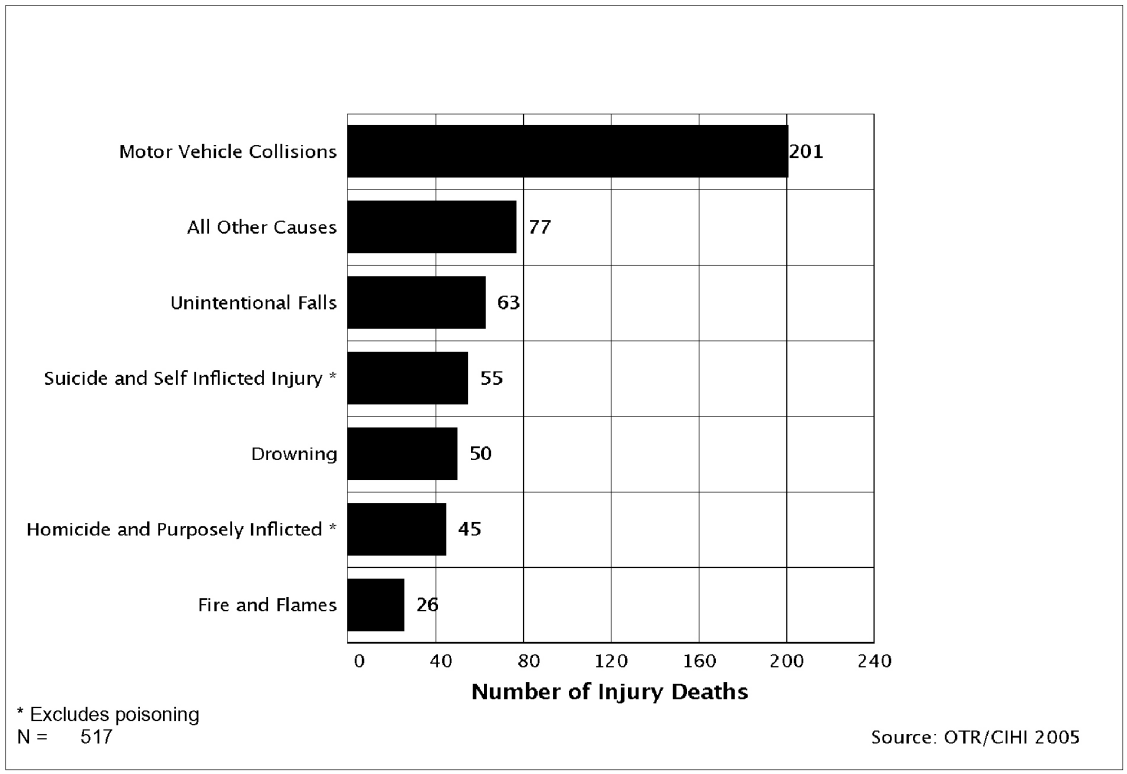

Figure 19. Injury Death With Drug/Alcohol Involvement by Cause of Injury, 2002–2003

4. Regional Analysis

A. Trend Analysis, 1998–1999 Through 2002–2003

Figure 20 shows that between 1998–1999 and 2002–2003 the age-adjusted rates of injury death in the seven health planning regions of Ontario varied. In each of the last five years the Northern region was characterized by the highest age-adjusted death rate of all regions, while the Eastern region experienced the lowest in 2002–2003. Regional analyses were based on where the injury occurred rather than the person's place of residence.

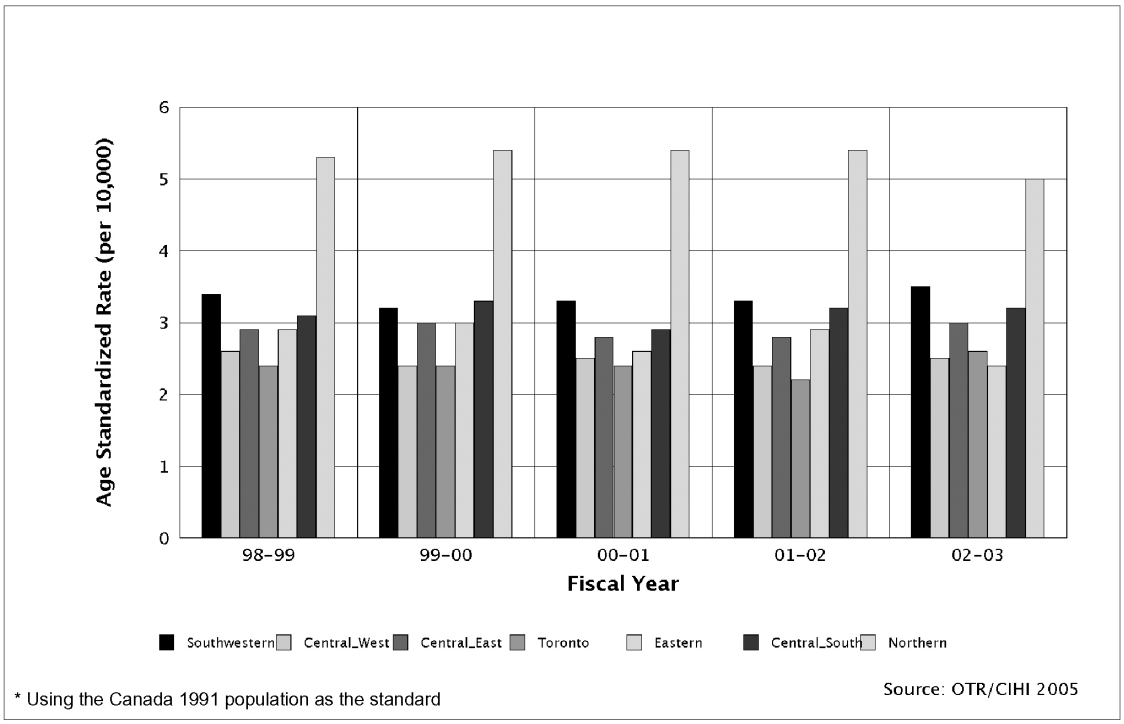

Figure 20. Age-Adjusted Injury Death Rates by Ontario Health Planning Region, 1998–1999 Through 2002–2003

B. 2002–2003

Figure 21 illustrates regional variation in the number and rates of injury death in 2002–2003. The Northern region had 12% (n = 459) of injury deaths and was characterized by an injury death rate of 5.0 per 10,000 population. In contrast, the Eastern region had 11% of injury deaths (n = 422) and had the lowest injury death rate of 2.4 per 10,000 population.

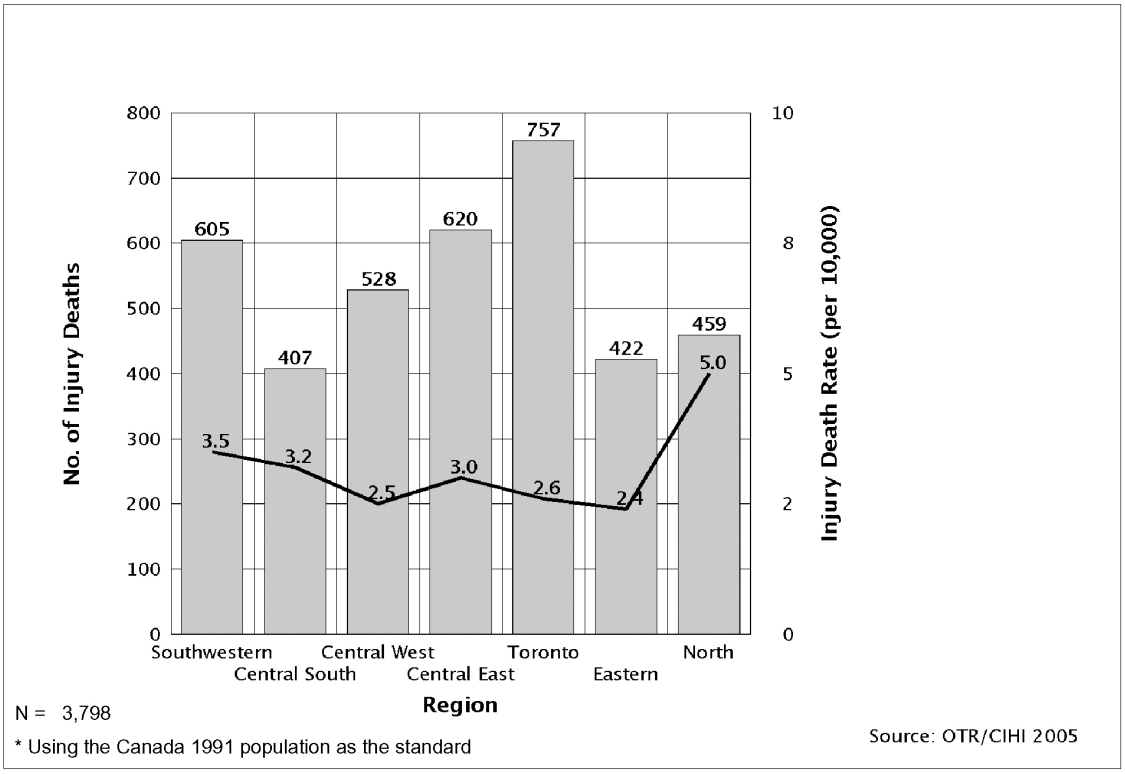

Figure 21. Age-Adjusted Injury Death Rates and Number of Injury Deaths by Ontario Health Planning Region, 2002–2003

C. Demographics

Figure 22 illustrates the distribution of injury deaths by age group in each health planning region. For cases under the age of 20 years, the range was from 7% in the Toronto region to 11% in the Eastern region. The proportion of cases between the ages of 20 and 34 years ranged from 15% in the Southwestern region to 21% in the Northern region. Among cases aged 35 to 64 years, the proportion ranged from 30% in the Toronto region to 42% in the Northern region. Finally, the proportion of cases 65 years of age and over ranged from 28% in the Northern region to 47% in the Toronto region.

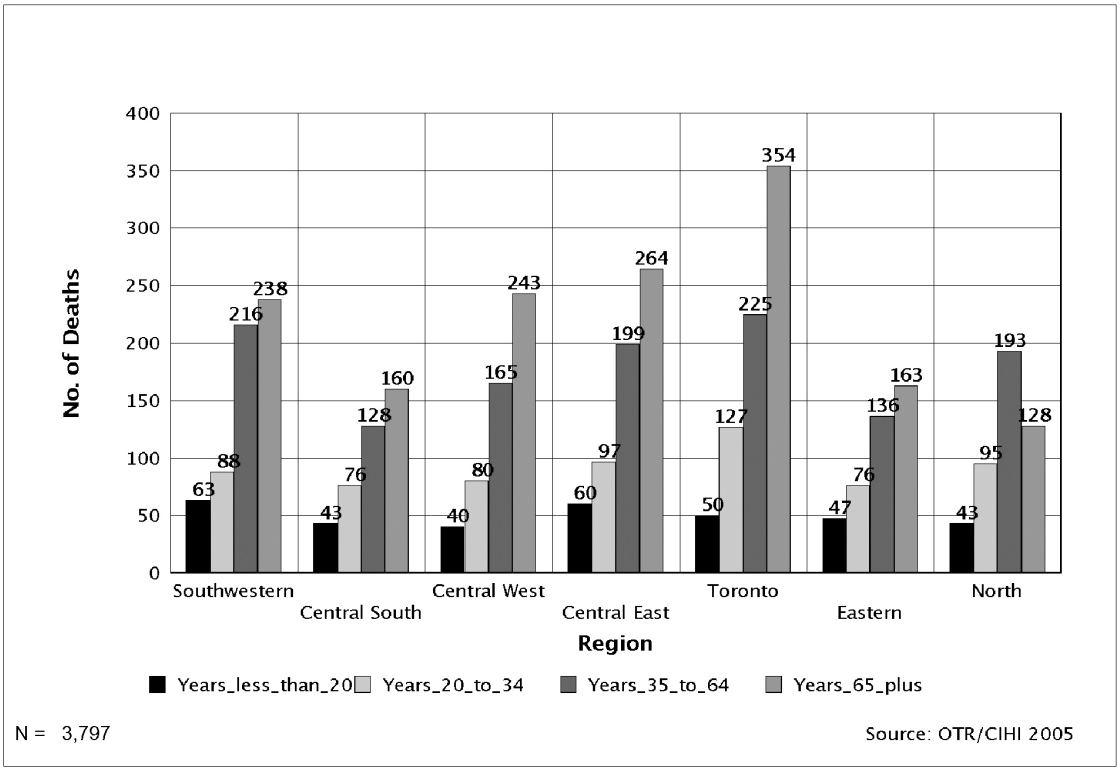

Figure 22. Trauma Deaths by Age Group and Ontario Health Planning Region, 2002–2003

***Note:** This table excludes deaths when there is no indication of "Primary Environment" or the death occurred out of province or place unknown.

D. Causes of Death

Table 1 below shows proportions of injury deaths by cause for each health planning region:

- Falls ranged from 19% in the Northern region to 42% in the Central Western region;
- Motor vehicle collisions ranged from 16% in the Toronto region to 30% in the Northern region;
- Suicide (excluding poisoning) ranged from 19% in the Southwestern region to 27% in each of Central Southern region and Eastern region;
- Drowning ranged from 1% in the Toronto region to 10% in the Northern region; and
- Homicide (excluding poisoning) ranged from 3% in Northern region to 9% in the Toronto region.

Table 1. Injury Deaths by Cause of Injury and Health Planning Region of Ontario, 2002–2003

	SW	CS	CW	CE	T	E	N	TOTAL
Falls	202 (33%)	126 (31%)	223 (42%)	204 (33%)	303 (40%)	116 (27%)	86 (19%)	1260 (33%)
MVC	168 (28%)	79 (19%)	120 (23%)	176 (28%)	118 (16%)	114 (27%)	136 (30%)	911 (24%)
Suicide*	114 (19%)	110 (27%)	108 (20%)	125 (20%)	189 (25%)	112 (27%)	99 (22%)	857 (23%)
Drowning	19 (3%)	10 (2%)	8 (2%)	28 (5%)	9 (1%)	23 (5%)	45 (10%)	142 (4%)
Homicide*	24 (4%)	23 (6%)	19 (4%)	25 (4%)	69 (9%)	16 (4%)	12 (3%)	188 (5%)
All Other	78 (13%)	59 (15%)	50 (9%)	62 (10%)	69 (9%)	41 (10%)	81 (18%)	440 (12%)
TOTAL	605 (100%)	407 (100%)	528 (100%)	620 (100%)	757 (100%)	422 (100%)	459 (100%)	3,798 (100%)

* Excluding poisoning

** **Note:** This table excludes deaths when there is no indication of "Primary Environment" or the death occurred out of province or place unknown.

Appendix A

Definitions of Terms

Note: All references to "accident" according to the International Classification of Diseases (ICD) or Office of the Chief Coroner definitions have been changed to "incident" or "collision" to reinforce injury prevention efforts; "accidental" (as in accidental death type) has been changed to "unintentional".

CIHI

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

Comprehensive Data Set

One of three data sets held by the Ontario Trauma Registry (OTR). The Comprehensive Data Set (CDS) consists of detailed information on patients hospitalized with major trauma in eleven participating hospitals in the province. These lead/trauma hospitals have been 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 is based on the Injury Severity Score (ISS), an international scoring system created to calculate the severity of injury, and an appropriate E Code.

Death Data Set

One of three data sets held by of the Ontario Trauma Registry (OTR). Data comprising the Death Data Set (DDS) come from the Office of the Chief Coroner. The OTR DDS contains information on all deaths in the province due to injury, including demographics, cause of death and factors contributing to death such as alcohol use. Reporting on all injury deaths rather than only in-hospital deaths provides a more complete representation of trauma in the province.

Death Factors*

A death factor is an action, force, instrument or disease occurring in an environment that led directly to death. At least one, and up to four, death factors may be documented for each death. The primary death factor refers to the most significant circumstances or events leading to death.

* Definitions are reproduced from the Coroners System Manual, Office of the Chief Coroner, Ministry of the Solicitor General.

Death Type*

Death type is the classification of the intent of the action, force, instrument or disease that caused death. One death type is documented for each death. The following are the 6 death types defined by the Office of the Chief Coroner.

1. Natural;
2. Unintentional (defined as accidental by the Office of the Chief Coroner);
3. Suicide;
4. Homicide;
5. Undetermined; and
6. Skeletal/archaeological/animal remains.

E Codes (External Cause of Injury Codes)

The External Cause of Injury chapter of the ICD-9 coding system allows the classification and analysis of environmental events, circumstances, and conditions as the cause of injury. Examples include Falls (E880–E888) and Motor Vehicle Traffic Incidents (E810–E819).

Environment*

An environment is a combination of the location where and the activity of the deceased when an action, force, instrument or disease was applied that led toward death. Any investigation may involve several different environments.

ICD (International Classification of Diseases)

The International Classification of Diseases is a World Health Organization (WHO) publication that classifies morbidity and mortality information for statistical purposes, and for the indexing of hospital records by disease and operations, for data storage and retrieval.

ICD-9

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

ICD-10-CA

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

Injury

Injury and trauma are used synonymously. Please see the definition of trauma.

* Definitions are reproduced from the Coroners System Manual, Office of the Chief Coroner, Ministry of the Solicitor General.

Injury Deaths

Injury deaths are defined by the Ontario Trauma Registry using components of the classification system of the Chief Coroner that meet the definition of injury as the transfer of energy.

Involvements*

An involvement is an activity or circumstance related to the deceased that did not directly lead to death but which may be of significance, or a contributing factor. Involvements are generally combinations of certain environments, institutions, overdose agents or death factors which are of particular interest to the Coroner's Office.

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 value such that half of the data points fall above it and half below it).

Minimal Data Set

One of three data sets held by of the Ontario Trauma Registry (OTR). The Minimal Data Set (MDS) contains demographic, diagnostic and procedural information on all acute care hospitalizations due to injury in Ontario. These hospitalizations are selected from the Discharge Abstract Database (DAD) at CIHI and downloaded to the OTR data processing system. Selection is based on specific External Cause of Injury Codes (E Codes) within the ICD coding system.

Motor Vehicle Collision

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 occurred on a public highway (traffic) or elsewhere (non-traffic).

Motor Vehicle Non-traffic Incident

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

Motor Vehicle Traffic Incident

Any motor vehicle incident occurring on a public highway (e.g. originating, 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.

* Definitions are reproduced from the Coroners System Manual, Office of the Chief Coroner, Ministry of the Solicitor General.

Municipalities*

The province has been divided into municipalities by the Office of the Chief Coroner each of which has a four-digit code. Major cities or towns have their own code while smaller towns may be included under the township number. A primary municipality is documented by the Office of the Chief Coroner to indicate where the injury occurred.

Other Incidents

Refers to the "Other Accidents" ICD-9 E Code category for the E Code range of E916–E928. Unintentional gunshot wounds, injury caused by machinery and explosions are included in this E Code category.

Regions

Regions are identified in this report based on the primary municipality (i.e. where the injury occurred). There are 7 health planning regions in Ontario (Southwest, Central South, Central West, Central East, Toronto, East, and North) as defined by the Ministry of Health and Long-Term Care.

Single Year of Age

Individual values for ages less than one year through one hundred years. This provides more detail than age groups.

Suicide

For the purposes of this report, suicide is defined as intentionally self-inflicted injuries (excluding poisoning) that result in death. Poisonings are excluded from the definition of trauma, and are therefore excluded from trauma reports. Information is provided in this report on all suicide deaths to provide a more complete representation of suicide in the province.

Trauma

Trauma is defined as injury resulting from the transfer of energy (i.e. kinetic, thermal). The OTR Death Data Set defines trauma by forty death factors for unintentional, suicide, homicide or undetermined deaths types. Trauma deaths that are coded with a natural death type that have an involvement code indicating a fall in an institution such as a nursing home are also included in the definition of trauma.

Trauma Registry Advisory Committee (TRAC)

The multidisciplinary group responsible for guiding the implementation and operation of the OTR.

Appendix B

Trauma Definition:
External Cause of Injury Code
Inclusions and Exclusions

Trauma Definition: External Cause Code Inclusions

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

The following table lists the External Cause of Injury Code categories used for reporting purposes based on the trauma definition. "Incident" and "unintentional" have been substituted for the terms "accident" and "accidental" used in the ICD definitions.

A. OTR ICD-10-CA Inclusions

External Cause Code Category	Definition
V01–V99	Transport incidents
V01–V06, V09–V90	Land transport incidents
V91–V94	Water transport incidents
V95–V97	Air and space transport incidents
V98–V99	Other and unspecified transport incidents
W00–W19	Unintentional falls
W20–W45, W49	Exposure to inanimate mechanical forces
W50–W60, W64	Exposure to animate mechanical forces
W65–W70, W73, W74	Unintentional drowning and submersion
W75, W76, W77, W81, W83, W84	Other unintentional threats to breathing except due to inhalation of gastric contents, food, or other objects
W85–W94, W99	Exposure to electric current, radiation and extreme ambient air temperature and pressure
X00–X06, X08, X09	Exposure to smoke, fire and flames
X10–X19	Contact with heat and hot substances
X30–X39	Exposure to forces of nature
X50	Overexertion and strenuous or repetitive movements
X52	Prolonged stay in weightless environment
X58–X59	Unintentional exposure to other and unspecified factors
X70–X84	Intentional self-harm, excluding poisoning
X86, X91–X99, Y00–Y05, Y07–Y09	Assault, excluding poisoning
Y20–Y34	Event of undetermined intent, excluding poisonings
Y35–Y36	Legal intervention and operations of war

B. OTR ICD-9 Inclusions

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

The following lists the ICD-9 and ICD-10-CA External Cause Code categories that are *excluded* from the National Trauma Registry definition of trauma.

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

Appendix C

Trauma Definition: Mapping Methodology

Mapping Methodology

The mapping methodology developed by OTR is divided into the following five sections:

i. Unintentional deaths (other than air or vehicle crash);
ii. Unintentional deaths for motor vehicle and air crashes;
iii. Natural deaths;
iv. Intentional and undetermined intentionality deaths; and
v. Other E Code categories.

i. Unintentional Deaths (Other Than Air or Vehicle Crashes)

A death type indicating an unintentional death and a primary death factor other than a vehicle crash (620) or air crash (636) were mapped to the ICD-9 E Code categories based on primary death factors as shown in Table C–1.

Table C–1. Mapping Unintentional Deaths (Other Than Air or Vehicle Crashes)

ICD-9 E Code Category	Primary Death Factor
Unintentional Falls (E880–E888)	Fall or jump, different level or height (660) Fall or jump, same level (665)
Fire and Flames (E890–E899)	Fire, smoke inhalation (654) Fire, thermal injury (655)
Natural and Environmental Factors (E900–E902, E906–E909)	Animal bites, kicks (615) Hyperthermia (657) Hypothermia (658) Lightning (645)
Suffocation (E913)	Asphyxia, airway obstruction (680) Asphyxia, chest compression (681) Asphyxia, environmental, other anoxic environment, suffocation (683) Asphyxia, hanging (678) Asphyxia, neck compression (679) Asphyxia, positional/restraint (669) Asphyxia, sexual (672) Asphyxia, strangulation (ligature, manual) (643)
Drowning (E910)	Drowning, bathtub (601) Drowning, open water (600) Drowning, other (605) Drowning, pond/quarry/casual water (604) Drowning, private pool (603) Drowning, public pool (602)

Table C–1. Mapping Unintentional Deaths (Other Than Air or Vehicle Crashes) (cont'd)

ICD-9 E Code Category	Primary Death Factor
Other Incidents (E916–E928)	Burns, chemical (656) Caught in machinery (622) Crushed and/or buried (621) Electrocution (640) Explosion (624) Shooting, air rifle/air pistol (633) Shooting, handgun (632) Shooting, rifle (630) Shooting, shotgun (631) Shooting, weapon not specified (634) Trauma, beating/assault (623) Trauma, blunt force (625) Trauma, cuts or stabs (610)

ii. Unintentional Deaths for Motor Vehicle and Air Crashes

A death type indicating an unintentional death and a primary death factor of a vehicle crash (620) or air crash (636) were mapped to ICD-9 E Code categories based on environments as shown in Table C–2.

Table C–2. Mapping Unintentional Deaths for Motor Vehicle and Air Crashes

ICD-9 E Code Category	Environment
Railway Incidents (E800–E807)	Railway worker, employee of railroad (155) Railway, not on board, trespasser (535)
Motor Vehicle Traffic Incidents (E810–E819)	Ambulance (570) Motor vehicle driver (520) Motor vehicle passenger (521) Motorcycle driver (522) Motorcycle passenger (523) Pedestrian (525) Snowmobiling on road (244)
Motor Vehicle Non-traffic Incidents (E820–E825)	Go Kart racing (242) Off road vehicles (excluding snowmobiles) (246) Snowmobiling off road (243)
Pedal Cyclist (E826)	Bicycle (528)
Other Road Vehicle Incidents (E827–E829)	Horse back riding (220) Public transit (bus, streetcar, GO system) (526)

Table C–2. Mapping Unintentional Deaths for Motor Vehicle and Air Crashes (cont'd)

ICD-9 E Code Category	Environment
Water Transport Incidents (E830–E838)	Boating, non-power (canoe, kayak, etc.) (214) Boating, power/motorized (212) Boating, sailboat/sailboard (213) Swimming, snorkelling (210) Water Skiing (211)
Air and Space Transport Incidents (E840–E845)	Hand glider, Parasailing (226) Ski diving, parachuting (225) Ultra light aircraft (227)
Vehicle Incidents Not Elsewhere Classifiable (E846–E848)	Travelling (999)

iii. Natural Deaths

There are a number of deaths resulting from falls in institutions that are documented with a natural death type. The Trauma Registry Advisory Committee has decided that these deaths should be included in the Injury Deaths in Ontario. Natural deaths with one of the involvements listed below were mapped to the ICD-9 E Code category E880–E888 (unintentional falls).

Involvements:

- Fall in LTC Facility (982)
- Fall, Other (984)

iv. Intentional and Undetermined Intentionality Deaths

The ICD-9 E Code categories in Tables 1 and 2 correspond to deaths that are documented with an unintentional death type. The following points outline the mapping methodology for deaths with death types indicating suicide, homicide and undetermined.

a) All deaths with a death type of suicide, excluding those deaths due to poisoning as defined by death factors, were mapped to the E Code category of E953–E958 (suicide and self-inflicted injury, excluding poisoning) for trauma reports. Figures 14 and 15 and Tables 10 and 11 in this report include all suicide deaths to show the complete picture of suicide in Ontario.

b) All deaths with a death type of homicide were mapped to the ICD-9 E Code category of E960–E961, E963–E968 (homicide and injury purposely inflicted by others). Cases with death factors of child abuse (730) and blunt trauma—beating (623) were also mapped to this E Code category. A small number of cases with a death factor indicating blunt trauma—beating who are documented with an unintentional death type were mapped to E916–E928 (other incidents).

c) All deaths with a death type of undetermined were mapped to the E Code category of E983–E988 (injury undetermined whether accidentally or purposely inflicted).

v. Other E Code Categories

No injury deaths were mapped to the ICD-9 E Code categories listed below because there are no corresponding primary death factors, environments or involvements.

- E914–E915—Foreign bodies;
- E970–E978—Legal intervention; and
- E990–E998—Injury resulting from operations of war.

These reporting categories were therefore excluded from all tables in Appendix E of this report.

Appendix D

Trauma Definition: Death Factors

Trauma Definition: Death Factors

The following are the thirty-nine Coroner's Death Factors used by the Ontario Trauma Registry to define trauma in the Death Data Set. The death factors are listed alphabetically and include the numeric code (in brackets) assigned by the Office of the Chief Coroner.

Death Factors	
Abuse, child (730)	Electrocution (640)
Animal bites, kicks (615)	Explosion (624)
Asphyxia, airway obstruction (680)	Fall or jump, different level or height (660)
Asphyxia, chest compression (681)	Fall or jump, same level (665)
Asphyxia, environmental, other anoxic environment, suffocation (683)	Fire, smoke inhalation (654)
Asphyxia, hanging (678)	Fire, thermal injury (655)
Asphyxia, neck compression (679)	Hyperthermia (657)
Asphyxia, positional/restraint (669)	Hypothermia (658)
Asphyxia, sexual (672)	Lightning (645)
Asphyxia, strangulation (ligature, manual) (643)	Shooting, air rifle/air pistol (633)
Burns, chemical (656)	Shooting, handgun (632)
Caught in machinery (622)	Shooting, rifle (630)
Crushed and/or buried (621)	Shooting, shotgun (631)
Drowning, bathtub (601)	Shooting, weapon not specified (634)
Drowning, open water (600)	Trauma, airplane crash (636)
Drowning, other (605)	Trauma, beating/assault (623)
Drowning, pond/quarry/casual water (604)	Trauma, blunt force (625)
Drowning, private pool (603)	Trauma, cuts or stabs (610)
Drowning, public pool (602)	Trauma, motor vehicle collision (620)
	Trauma, train/vehicle, train/pedestrian (626)

Appendix E

List of Tables

Appendix E—List of Tables

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TRAUMA INJURY DEATH HIGHTLIGHTS—ONTARIO, 1998–1999 Through 2002–2003

	1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
No. of Trauma Deaths	3,504		3,605		3,587		3,660		3,798	
Mean Age (Years)	51.9		52.8		53.4		53.7		55.1	
Median Age (Years)	49		51		51		52		55	
Death Rate per 10,000*	3.0		3.0		2.9		2.9		2.9	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Males	2,370	67.6	2,391	66.3	2,355	65.7	2,403	65.7	2,447	64.4
D.O.A**	508	14.5	565	15.7	475	13.2	266	7.3	182	4.8
MVC Deaths	892	25.5	931	25.8	838	23.4	893	24.4	911	24.0
Seatbelt Worn***	241	27.0	259	27.8	221	26.4	266	29.8	247	27.1
Firearm Injuries	255	7.3	241	6.7	193	5.4	214	5.8	226	6.0
Unintentional Falls	905	25.8	1,017	28.2	1,105	30.8	1,120	30.6	1,260	33.2
Farming Deaths	12	0.3	12	0.3	23	0.6	13	0.4	12	0.3
Pediatric Deaths	167	4.8	144	4.0	164	4.6	147	4.0	140	3.7
Cycling Deaths	41	1.2	16	0.4	17	0.5	21	0.6	24	0.6

*** Death rates are per 10,000 population and are age standardized using Canada 1991 population estimates from Statistics Canada.**

**** The number of injury deaths reported as dead on arrival (DOA) at hospital emergency departments in 2001 and 2002 was much lower than previous years. Discussions with the Office of the Chief Coroner revealed that this could be the result of several factors including an increased number of attempts being made to resuscitate patients who present without vital signs and changes in coding practices.**

***** Count includes all motor vehicle occupants, regardless of whether they were drivers or passengers. Denominator for percentage is the total number of MVC deaths.**

EXTERNAL CAUSES OF INJURY (E CODES)
FOR TRAUMA DEATHS—ONTARIO, 1998–1999 Through 2002–2003

E CODE		1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
		No.	%	No.	%	No.	%	No.	%	No.	%
		3,504	100.0	3,605	100.0	3,587	100.0	3,660	100.0	3,798	100.0
E800–807	RAILWAY	13	0.4	13	0.4	11	0.3	8	0.2	14	0.4
E810–819	MOTOR VEHICLE TRAFFIC	877	25.0	919	25.5	817	22.8	876	23.9	875	23.0
E820–825	MOTOR VEHICLE NON TRAFFIC	15	0.4	12	0.3	21	0.6	17	0.5	36	0.9
E826	PEDAL CYCLE	41	1.2	16	0.4	17	0.5	21	0.6	24	0.6
E827–829	OTHER ROAD VEHICLE	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
E830–838	WATER TRANSPORT	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0
E840–845	AIR AND SPACE TRANSPORT	11	0.3	23	0.6	6	0.2	11	0.3	8	0.2
E846–848	VEHICLE INCIDENTS NOT ELSEWHERE CLASSIFIED	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
E880–888	UNINTENTIONAL FALLS	905	25.8	1,017	28.2	1,105	30.8	1,120	30.6	1,260	33.2
E890–899	FIRE AND FLAMES	104	3.0	100	2.8	108	3.0	100	2.7	105	2.8
E900–902 & E906–909	NATURAL AND ENVIRONMENTAL FACTORS	46	1.3	32	0.9	52	1.4	36	1.0	39	1.0
E910	DROWNING	157	4.5	170	4.7	151	4.2	164	4.5	142	3.7

EXTERNAL CAUSES OF INJURY (E CODES)
FOR TRAUMA DEATHS—ONTARIO, 1998–1999 Through 2002–2003

E CODE		1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
		No.	%	No.	%	No.	%	No.	%	No.	%
		3,504	100.0	3,605	100.0	3,587	100.0	3,660	100.0	3,798	100.0
E913	SUFFOCATION	48	1.4	43	1.2	52	1.4	46	1.3	49	1.3
E916–928	OTHER INCIDENTS	125	3.6	100	2.8	139	3.9	134	3.7	105	2.8
E953–958	SUICIDE & SELF INFLICTED INJURY (EXCL.POISONINGS)	917	26.2	891	24.7	866	24.1	882	24.1	857	22.6
E960–961 & E963–968	HOMICIDE AND INJURY PURPOSELY INFLICTED (EXCL.POISONINGS)	142	4.1	156	4.3	151	4.2	163	4.5	188	4.9
E983–988	UNDETERMINED WHETHER UNINTENTIONALLY OR PURPOSELY INFLICTED	103	2.9	113	3.1	91	2.5	81	2.2	95	2.5

NOTE: Trauma deaths are mapped to ICD E-Codes using components of the Office of the Chief Coroner's classification system.

DEATH FACTORS FOR
TRAUMA DEATHS—ONTARIO, 1998–1999 Through 2002–2003

DEATH FACTOR	1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
	No.	%	No.	%	No.	%	No.	%	No.	%
	3,386	**100.0**	**3,502**	**100.0**	**3,488**	**100.0**	**3,578**	**100.0**	**3,716**	**100.0**
Abuse Child, (730)	2	0.1	7	0.2	5	0.1	3	0.1	5	0.1
Animal Bites, Kicks (615)	3	0.1	1	0.0	3	0.1	1	0.0	2	0.1
Asphyxia, Airway Obstruction (680)	20	0.6	14	0.4	35	1.0	18	0.5	15	0.4
Asphyxia, Chest Compression (681)	0	0.0	0	0.0	0	0.0	1	0.0	4	0.1
Asphyxia, Environ. Other Anoxic Enviro., Suffocation (683)	48	1.4	40	1.1	41	1.2	29	0.8	40	1.1
Asphyxia, Hanging (678)	365	10.8	388	11.1	375	10.8	385	10.8	378	10.2
Asphyxia, Neck Compression (679)	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
Asphyxia, Positional/Restraint (669)	0	0.0	2	0.1	8	0.2	13	0.4	20	0.5
Asphyxia, Sexual (672)	7	0.2	7	0.2	5	0.1	9	0.3	2	0.1
Asphyxia, Strangulation (Ligature, Manual) (643)	7	0.2	14	0.4	13	0.4	7	0.2	6	0.2
Burns, Chemical (656)	1	0.0	1	0.0	2	0.1	2	0.1	1	0.0
Caught in Machinery (622)	8	0.2	11	0.3	6	0.2	5	0.1	7	0.2
Crushed and/or Buried (621)	27	0.8	24	0.7	34	1.0	46	1.3	30	0.8
Drowning, Bathtub (601)	20	0.6	26	0.7	27	0.8	23	0.6	21	0.6
Drowning, Open Water (600)	145	4.3	172	4.9	138	4.0	158	4.4	150	4.0

DEATH FACTORS FOR
TRAUMA DEATHS—ONTARIO, 1998–1999 Through 2002–2003

DEATH FACTOR	1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
	No.	%	No.	%	No.	%	No.	%	No.	%
	3,386	**100.0**	**3,502**	**100.0**	**3,488**	**100.0**	**3,578**	**100.0**	**3,716**	**100.0**
Drowning, Other (605)	15	0.4	6	0.2	2	0.1	12	0.3	9	0.2
Drowning, Pond/Quarry/Casual Water (604)	15	0.4	15	0.4	23	0.7	14	0.4	11	0.3
Drowning, Private Pool (603)	19	0.6	14	0.4	16	0.5	13	0.4	13	0.3
Drowning, Public Pool (602)	1	0.0	3	0.1	2	0.1	4	0.1	3	0.1
Electrocution (640)	18	0.5	13	0.4	16	0.5	12	0.3	7	0.2
Explosion (624)	7	0.2	4	0.1	4	0.1	5	0.1	3	0.1
Fall or Jump, Different Level or Height (660)	299	8.8	317	9.1	337	9.7	358	10.0	332	8.9
Fall or Jump, Same Level (665)	725	21.4	811	23.2	887	25.4	880	24.6	1,048	28.2
Fire, Smoke Inhalation (654)	99	2.9	86	2.5	97	2.8	88	2.5	86	2.3
Fire, Thermal Injury (655)	34	1.0	34	1.0	37	1.1	33	0.9	26	0.7
Hyperthermia (657)	2	0.1	2	0.1	0	0.0	5	0.1	9	0.2
Hypothermia (658)	47	1.4	29	0.8	52	1.5	34	1.0	38	1.0
Lightning (645)	4	0.1	4	0.1	1	0.0	4	0.1	0	0.0
Shooting, Air Rifle, Air Pistol (633)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
Shooting, Handgun (632)	63	1.9	61	1.7	63	1.8	75	2.1	77	2.1

DEATH FACTORS FOR
TRAUMA DEATHS—ONTARIO, 1998–1999 Through 2002–2003

DEATH FACTOR	1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
	No.	%	No.	%	No.	%	No.	%	No.	%
	3,386	**100.0**	**3,502**	**100.0**	**3,488**	**100.0**	**3,578**	**100.0**	**3,716**	**100.0**
Shooting, Rifle (630)	101	3.0	88	2.5	73	2.1	72	2.0	75	2.0
Shooting, Shotgun (631)	88	2.6	86	2.5	56	1.6	67	1.9	70	1.9
Shooting, Weapon Not Specified (634)	3	0.1	6	0.2	1	0.0	0	0.0	3	0.1
Trauma, Airplane Crash (636)	11	0.3	25	0.7	6	0.2	11	0.3	8	0.2
Trauma, Beating/Assault (623)	32	0.9	31	0.9	36	1.0	33	0.9	37	1.0
Trauma, Blunt Force (625)	62	1.8	58	1.7	83	2.4	76	2.1	73	2.0
Trauma, Cuts or Stabs (610)	85	2.5	70	2.0	77	2.2	100	2.8	100	2.7
Trauma, Motor Vehicle Collision (620)	1,003	29.6	1,032	29.5	927	26.6	979	27.4	996	26.8
Trauma, Train/Vehicle, Train/Pedestrian (626)	0	0.0	0	0.0	0	0.0	2	0.1	10	0.3

NOTE: This table excludes deaths where there is no indication of a Primary Death Factor or the Primary Death Factor is not included in the above categories.

TRAUMA DEATH RATE PER 10,000* POPULATION
BY COUNTY/REGIONAL MUNICIPALITY/DISTRICT OF INJURY, 1998–1999 Through 2002–2003

		1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
Region - County/R.M./District Name**		No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate
Southwestern	- Bruce	32	5.4	24	3.6	44	6.2	36	5.3	31	4.5
	- Elgin	32	3.8	28	3.5	34	3.9	22	2.5	29	3.0
	- Essex	114	2.9	132	3.3	117	2.9	123	2.9	151	3.5
	- Grey	34	3.6	33	3.2	44	4.5	42	4.5	50	4.9
	- Huron	24	3.6	29	4.5	31	4.6	42	6.3	26	3.6
	- Kent	52	4.5	45	4.1	37	3.0	41	3.4	34	3.2
	- Lambton	60	4.3	33	2.3	58	4.5	49	3.5	48	3.2
	- Middlesex	92	2.2	106	2.4	133	2.9	121	2.7	156	3.4
	- Oxford	44	3.9	49	4.2	21	2.1	39	3.2	41	3.4
	- Perth	46	5.5	33	3.7	30	3.3	47	5.1	39	3.9
	Southwestern Total	**530**	**3.4**	**512**	**3.2**	**549**	**3.3**	**562**	**3.3**	**605**	**3.5**
Central South	- Brant	45	3.6	49	3.7	47	3.5	39	2.9	43	3.2
	- Haldimand-Norfolk R.M.	38	3.4	44	3.9	37	3.1	49	4.2	41	3.9
	- Hamilton-Wentworth R.M.	157	2.9	171	3.1	156	2.8	163	3.0	172	3.0
	- Niagara R.M.	141	3.1	158	3.4	136	3.0	152	3.2	151	3.3
	Central South Total	**381**	**3.1**	**422**	**3.3**	**376**	**2.9**	**403**	**3.2**	**407**	**3.2**

TRAUMA DEATH RATE PER 10,000* POPULATION
BY COUNTY/REGIONAL MUNICIPALITY/DISTRICT OF INJURY, 1998–1999 Through 2002–2003

		1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
Region - County/R.M./District Name**		No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate
Central West	- Dufferin	24	5.1	23	5.1	17	3.6	22	4.5	21	4.6
	- Halton R.M.	109	3.1	97	2.6	102	2.7	101	2.4	92	2.1
	- Peel R.M	198	2.5	196	2.5	203	2.5	200	2.3	231	2.4
	- Waterloo R.M.	95	2.2	73	1.6	114	2.5	110	2.3	120	2.5
	- Wellington	46	2.4	72	3.8	55	2.9	60	2.9	64	3.1
	Central West Total	**472**	**2.6**	**461**	**2.4**	**491**	**2.5**	**493**	**2.4**	**528**	**2.5**
Central East	- Durham R.M.	139	3.3	145	3.2	159	3.4	177	3.6	184	3.7
	- Haliburton	11	7.1	17	8.8	10	4.3	19	13.3	13	8.0
	- Northumberland	34	3.7	40	4.0	36	3.8	33	3.5	38	3.9
	- Peterborough	58	3.5	60	4.0	54	3.4	54	3.2	58	3.9
	- Simcoe	142	3.9	125	3.3	126	3.2	133	3.2	130	3.2
	- Victoria	25	2.9	27	3.6	33	4.6	27	3.8	39	4.0
	- York R.M.	100	1.7	134	2.1	125	1.9	129	1.8	158	2.1
	Central East Total	**509**	**2.9**	**548**	**3.0**	**543**	**2.8**	**572**	**2.8**	**620**	**3.0**

TRAUMA DEATH RATE PER 10,000* POPULATION
BY COUNTY/REGIONAL MUNICIPALITY/DISTRICT OF INJURY, 1998–1999 Through 2002–2003

		1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
Region - County/R.M./District Name**		No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate
Toronto		**661**	**2.4**	**667**	**2.4**	**691**	**2.4**	**641**	**2.2**	**757**	**2.6**
Eastern	- Frontenac	54	3.7	58	4.1	59	3.8	60	3.9	51	3.1
	- Hastings	49	3.8	52	4.3	44	3.3	51	4.0	47	3.1
	- Lanark	26	4.0	31	4.6	21	3.3	22	3.2	21	3.4
	- Leeds & Grenville	40	3.8	36	3.3	41	3.7	47	4.7	27	2.2
	- Lennox & Addington	6	1.4	6	1.5	4	0.9	5	1.4	4	1.1
	- Ottawa-Carleton R.M.	160	2.0	184	2.3	157	1.9	169	2.0	152	1.8
	- Prescott & Russell	22	2.8	24	3.0	29	3.6	25	3.1	26	3.5
	- Prince Edward	12	4.7	14	5.7	5	1.4	8	2.9	10	3.8
	- Renfrew	37	3.4	47	4.6	43	4.1	48	4.7	37	3.4
	- Stormont, Dundas & Glen.	60	4.8	45	3.9	42	3.3	53	4.4	47	3.8
	Eastern Total	**466**	**2.9**	**497**	**3.0**	**445**	**2.6**	**488**	**2.9**	**422**	**2.4**

TRAUMA DEATH RATE PER 10,000* POPULATION
BY COUNTY/REGIONAL MUNICIPALITY/DISTRICT OF INJURY, 1998–1999 Through 2002–2003

		1998–1999		1999–2000		2000–2001		2001–2002		2002–2003	
Region - County/R.M./District Name**		No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate	No. Deaths	Rate
North	- Algoma District	51	3.7	46	3.3	59	4.2	51	3.7	37	2.6
	- Cochrane District	45	4.8	59	6.5	38	4.1	30	3.2	41	4.8
	- Manitoulin District	13	10.2	15	11.3	3	2.2	17	12.1	10	7.3
	- Muskoka District	37	6.8	35	5.9	49	9.0	45	8.1	32	4.6
	- Nipissing District	50	5.7	45	5.3	47	5.1	47	5.0	43	4.7
	- Parry Sound District	32	9.0	28	6.3	43	9.9	27	6.5	38	7.0
	- Sudbury R.M.	65	3.9	64	3.8	52	3.1	70	4.1	61	3.7
	- Sudbury District	24	9.1	27	10.3	21	8.7	22	8.6	26	11.1
	- Timiskaming District	22	5.8	13	2.8	24	6.7	21	6.3	19	5.0
	- Kenora District	54	8.3	61	9.1	78	11.8	83	12.3	82	12.7
	- Rainy River District	16	6.2	18	8.3	13	5.0	8	3.0	12	5.4
	- Thunder Bay District	76	4.5	86	5.2	65	3.8	79	4.8	58	3.5
	North Total	**485**	**5.3**	**497**	**5.4**	**492**	**5.4**	**500**	**5.4**	**459**	**5.0**
Ontario		**3,504**	**3.0**	**3,604**	**3.0**	**3,587**	**2.9**	**3,659**	**2.9**	**3,798**	**2.9**

*** Death rates are per 10,000 population and are age standardized using Canada 1991 population estimates from Statistics Canada.**

**** Based on "Primary Municipality", which indicates where an injury occurred.**

NOTE: This table excludes deaths where there is no indication of "Primary Environment" or the death occurred out of province.

EXTERNAL CAUSES OF INJURY (E CODES) BY AGE GROUP FOR TRAUMA DEATHS—ONTARIO, 2002–2003

		<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Unk	Total	%
E CODE		**28**	**21**	**37**	**46**	**214**	**257**	**382**	**455**	**442**	**365**	**376**	**570**	**604**	**1**	**3,798**	**100.0**
% of DEATHS		**0.7**	**0.6**	**1.0**	**1.2**	**5.6**	**6.8**	**10.1**	**12.0**	**11.6**	**9.6**	**9.9**	**15.0**	**15.9**	**0.0**	**100.0**	
E800–807	**RAILWAY**	0	0	0	0	3	0	1	3	1	1	0	2	3	0	**14**	**0.4**
E810–819	**MOTOR VEHICLE TRAFFIC**	9	4	16	22	97	106	117	119	99	89	85	77	35	0	**875**	**23.0**
E820–825	**MOTOR VEHICLE NON TRAFFIC**	0	0	2	4	2	6	6	10	3	0	2	0	1	0	**36**	**0.9**
E826	**PEDAL CYCLE**	0	1	1	2	6	2	1	3	2	2	1	2	1	0	**24**	**0.6**
E827–829	**OTHER ROAD VEHICLE**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0.0**
E830–838	**WATER TRANSPORT**	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	**0.0**
E840–845	**AIR AND SPACE TRANSPORT**	0	0	0	0	0	0	0	2	1	5	0	0	0	0	**8**	**0.2**
E846–848	**VEHICLE INCIDENTS NOT ELSEWHERE CLASSIFIED**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0.0**
E880–888	**UNINTENTIONAL FALLS**	0	1	1	1	3	4	10	30	42	72	164	403	529	0	**1,260**	**33.2**
E890–899	**FIRE AND FLAMES**	1	3	6	2	2	5	15	16	12	14	11	15	3	0	**105**	**2.8**
E900–902 & E906–909	**NATURAL AND ENVIRONMENTAL FACTORS**	1	0	1	0	1	1	3	5	6	5	4	9	3	0	**39**	**1.0**
E910	**DROWNING**	4	5	3	4	7	17	19	24	23	8	16	9	3	0	**142**	**3.7**
E913	**SUFFOCATION**	3	1	0	0	4	3	9	7	8	9	2	2	1	0	**49**	**1.3**

EXTERNAL CAUSES OF INJURY (E CODES) BY AGE GROUP FOR TRAUMA DEATHS—ONTARIO, 2002–2003

		<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	Unk	Total	%
E CODE		**28**	**21**	**37**	**46**	**214**	**257**	**382**	**455**	**442**	**365**	**376**	**570**	**604**	**1**	**3,798**	**100.0**
% of DEATHS		**0.7**	**0.6**	**1.0**	**1.2**	**5.6**	**6.8**	**10.1**	**12.0**	**11.6**	**9.6**	**9.9**	**15.0**	**15.9**	**0.0**	**100.0**	
E916–928	**OTHER INCIDENTS**	0	0	1	2	4	8	15	13	23	22	10	5	2	0	**105**	**2.8**
E953-–958	**SUICIDE & SELF INFLICTED INJURY (EXCL.POISONINGS)**	1	0	0	7	64	62	141	172	179	108	67	38	18	0	**857**	**22.6**
E960–961 & E963–968	**HOMICIDE AND INJURY PURPOSELY INFLICTED (EXCL.POISONINGS)**	8	5	4	2	20	34	37	30	21	18	4	4	1	0	**188**	**4.9**
E983–988	**UNDETERMINED WHETHER UNINTENTIONALLY OR PURPOSELY INFLICTED**	1	1	2	0	1	8	8	21	22	12	10	4	4	1	**95**	**2.5**

INTENTIONALITY (DEATH TYPE) BY AGE GROUP AND SEX FOR TRAUMA DEATHS—ONTARIO, 2002–2003

	<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	UNK	Total	%
TOTAL																
- FEMALES	16	10	17	17	57	47	72	113	94	96	130	278	398	1	1,346	**35.5**
- MALES	12	11	20	29	157	210	310	341	347	267	246	289	205	0	2,444	**64.5**
No. of DEATHS	**28**	**21**	**37**	**46**	**214**	**257**	**382**	**454**	**441**	**363**	**376**	**567**	**603**	**1**	**3,790**	**100.0**
% of DEATHS	**0.7**	**0.6**	**1.0**	**1.2**	**5.6**	**6.8**	**10.1**	**12.0**	**11.6**	**9.6**	**9.9**	**15.0**	**15.9**	**0.0**	**100.0**	
UNINTENTIONAL																
- FEMALES	11	7	14	14	37	36	43	62	58	68	115	270	393	0	1,128	**29.8**
- MALES	7	8	17	23	92	117	153	169	161	157	180	251	187	0	1,522	**40.2**
No. of DEATHS	**18**	**15**	**31**	**37**	**129**	**153**	**196**	**231**	**219**	**225**	**295**	**521**	**580**	**0**	**2,650**	**70.0**
% of DEATHS IN AGE GRP	**64.3**	**71.4**	**83.8**	**80.4**	**60.3**	**59.5**	**51.3**	**50.9**	**49.7**	**62.0**	**78.5**	**91.9**	**96.2**	**0.0**		
SUICIDE*																
- FEMALES	0	0	0	2	12	7	20	34	23	19	8	4	3	0	132	**3.5**
- MALES	1	0	0	5	52	55	121	138	156	89	59	34	15	0	725	**19.1**
No. of DEATHS	**1**	**0**	**0**	**7**	**64**	**62**	**141**	**172**	**179**	**108**	**67**	**38**	**18**	**0**	**857**	**22.6**
% of DEATHS IN AGE GRP	**3.6**	**0.0**	**0.0**	**15.2**	**29.9**	**24.1**	**36.9**	**37.9**	**40.6**	**29.8**	**17.8**	**6.7**	**3.0**	**0.0**		
HOMICIDE*																
- FEMALES	5	2	2	1	7	2	8	12	9	6	2	2	0	0	58	**1.5**
- MALES	3	3	2	1	13	32	29	18	12	12	2	2	1	0	130	**3.4**
No. of DEATHS	**8**	**5**	**4**	**2**	**20**	**34**	**37**	**30**	**21**	**18**	**4**	**4**	**1**	**0**	**188**	**4.9**
% of DEATHS IN AGE GRP	**28.6**	**23.8**	**10.8**	**4.3**	**9.3**	**13.2**	**9.7**	**6.6**	**4.8**	**5.0**	**1.1**	**0.7**	**0.2**	**0.0**		
UNDETERMINED																
- FEMALES	0	1	1	0	1	2	1	5	4	3	5	2	2	1	28	**0.7**
- MALES	1	0	1	0	0	6	7	16	18	9	5	2	2	0	67	**1.8**
No. of DEATHS	**1**	**1**	**2**	**0**	**1**	**8**	**8**	**21**	**22**	**12**	**10**	**4**	**4**	**1**	**95**	**2.5**
% of DEATHS IN AGE GRP	**3.6**	**4.8**	**5.4**	**0.0**	**0.5**	**3.1**	**2.1**	**4.6**	**5.0**	**3.3**	**2.7**	**0.7**	**0.7**	**100.0**		

*** Excluding poisoning.**

This table excludes deaths where the Death Type is not included in the above categories.

Note: 2 cases have an unknown sex.

DRUG AND ALCOHOL INVOLVEMENTS BY EXTERNAL CAUSES OF INJURY (E CODES)

FOR TRAUMA DEATHS—ONTARIO, 2002–2003

E CODE		INVOLVEMENT			TOTAL No. of DEATHS W/INVOL.	TOTAL No. of DEATHS	% of DEATHS*
		DRUGS ONLY	ALCOHOL ONLY	DRUGS & ALCOHOL			
		61	**427**	**29**	**517**	**3,798**	**13.6**
E800–807	**RAILWAY**	0	3	3	6	14	**42.9**
E810–819	**MOTOR VEHICLE TRAFFIC**	7	170	9	186	875	**21.3**
E820–825	**MOTOR VEHICLE NON TRAFFIC**	0	15	0	15	36	**41.7**
E826	**PEDAL CYCLE**	0	4	0	4	24	**16.7**
E827–829	**OTHER ROAD VEHICLE**	0	0	0	0	0	**0.0**
E830–838	**WATER TRANSPORT**	0	1	0	1	1	**100.0**
E840–845	**AIR AND SPACE TRANSPORT**	0	0	0	0	8	**0.0**
E846–848	**VEHICLE INCIDENTS NOT ELSEWHERE CLASSIFIED**	0	0	0	0	0	**0.0**
E880–888	**UNINTENTIONAL FALLS**	2	60	1	63	1,260	**5.0**
E890–899	**FIRE AND FLAMES**	2	21	3	26	105	**24.8**
E900–902 & E906–909	**NATURAL AND ENVIRONMENTAL FACTORS**	2	13	2	17	39	**43.6**
E910	**DROWNING**	3	43	4	50	142	**35.2**

DRUG AND ALCOHOL INVOLVEMENTS BY EXTERNAL CAUSES OF INJURY (E CODES)

FOR TRAUMA DEATHS—ONTARIO, 2002–2003

E CODE		INVOLVEMENT			TOTAL No. of DEATHS W/INVOL.	TOTAL No. of DEATHS	% of DEATHS*
		DRUGS ONLY	ALCOHOL ONLY	DRUGS & ALCOHOL			
		61	**427**	**29**	**517**	**3,798**	**13.6**
E913	**SUFFOCATION**	2	14	0	16	49	**32.7**
E916–928	**OTHER INCIDENTS**	2	12	0	14	105	**13.3**
E953–958	**SUICIDE & SELF INFLICTED INJURY (EXCL.POISONINGS)**	18	33	4	55	857	**6.4**
E960–961 & E963–968	**HOMICIDE AND INJURY PURPOSELY INFLICTED**	15	27	3	45	188	**23.9**
E983–988	**UNDETERMINED WHETHER UNINTENTIONALLY OR PURPOSELY INFLICTED**	8	11	0	19	95	**20.0**

Involvements for alcohol use are:

- Alcohol Involvement, Driver (815)

- Alcohol Involvement, Passenger (820)

- Alcohol Involvement, Pedestrian (825)

- Alcohol Involvement, Other Driver (830)

- Alcohol Involvement, Accidents not M.V.C (835)

- Alcohol Involvement (980)

Involvements for drug use are:

- Cocaine Detected in System (811)

- Methadone detected in system (814)

- Heroin detected in system (858)

- Ecstacy detected in system (871)

- GHB detected in system (872)

- Drug Involvement (970)

*** Involving drugs and/or alcohol.**

REPORTED SEATBELT USE FOR MOTOR VEHICLE OCCUPANT DEATHS—ONTARIO, 2002–2003

	SEATBELTS PRESENT				SEATBELTS NOT PRESENT		SEATBELT USE NOT DOCUMENTED		TOTAL No. of CASES	
	WORN		NOT WORN							
	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%	TOTAL	%
TOTAL	**247**	**37.9**	**141**	**21.7**	**4**	**0.6**	**259**	**39.8**	**651**	**100**
MOTOR VEHICLE DRIVER	151	34.9	92	21.2	1	0.2	189	43.6	433	**100**
MOTOR VEHICLE PASSENGER	96	44.0	49	22.5	3	1.4	70	32.1	218	**100**

Note: Of the 911 MVC Deaths in 2002-2003, 260 of these deaths are not documented as motor vehicle occupants (i.e. drivers or passengers). These 260 Deaths include motorcyclists, pedestrians, ATV riders and snowmobilers.

Primary Environments reported in this table are:

- Motor Vehicle, Driver (520)

- Motor Vehicle, Passenger (521)

- Commercial Driver, Truck/taxi/Etc. (163)

Seatbelt use is documented as involvements:

- Seatbelt, Present But Not Worn (906)

- Seatbelt, Present Worn By Deceased (907)

- Seatbelt, Not Present (908)

FIREARM RELATED DEATHS
BY DEATH TYPE AND SEX—ONTARIO, 2002–2003

	UNINTENTIONAL	SUICIDE	HOMICIDE	UNDETERMINED	TOTAL	%
TOTAL						
No. OF DEATHS	2	154	65	5	**226**	**100.0**
% OF DEATHS*	0.9	68.1	28.8	2.2	**100.0**	
Males						
NO. OF DEATHS	1	150	54	4	**209**	**92.5**
% OF DEATHS*	0.5	71.8	25.8	1.9	**100.0**	
Females						
NO. OF DEATHS	1	4	11	1	**17**	**7.5**
% OF DEATHS*	5.9	23.5	64.7	5.9	**100.0**	

*** Percentage calculation based on row totals.**

Note: 0 cases have an unknown sex and were therefore excluded from this table.

SUICIDE* (INCLUDING POISONING) BY SEX— ONTARIO, 1998–1999 Through 2002–2003

		1998–1999	1999–2000	2000–2001	2001–2002	2002–2003
Males	**# of Deaths**	858	834	816	806	842
	Mean Age	44	45	43	44	45
	Median Age	41	43	41	43	44
Females	**# of Deaths**	232	243	251	291	241
	Mean Age	45	45	44	45	45
	Median Age	44	43	44	45	43
Total	**# of Deaths**	**1,090**	**1,077**	**1,067**	**1,097**	**1,083**
	Mean Age	**44**	**45**	**43**	**45**	**45**
	Median Age	**41**	**43**	**42**	**44**	**44**

*** Suicide deaths due to poisoning are excluded from the OTR definition of trauma. However, all suicide deaths are reported in this Table to provide a complete picture of suicide in the province.**
Note: This table excludes cases where sex is not documented.

MECHANISM OF SUICIDE* (INCLUDING POISONING) BY SEX AND AGE GROUP, 2002–2003

	<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	UNK	Total	%**
Hanging																
Males	0	0	0	3	34	34	59	61	63	26	24	8	7	0	**319**	**29.6**
Females	0	0	0	2	11	4	7	12	7	5	2	2	0	0	**52**	**4.8**
Total	0	0	0	5	45	38	66	73	70	31	26	10	7	0	**371**	**34.4**
Firearm Injury																
Males	0	0	0	0	6	6	14	20	35	33	18	16	2	0	**150**	**13.9**
Females	0	0	0	0	0	0	0	1	1	2	0	0	0	0	**4**	**0.4**
Total	0	0	0	0	6	6	14	21	36	35	18	16	2	0	**154**	**14.3**
Drugs & Alcohol																
Males	0	0	0	0	1	2	10	32	35	13	3	3	0	0	**99**	**9.2**
Females	0	0	0	1	2	3	13	27	34	10	5	6	1	0	**102**	**9.5**
Total	0	0	0	1	3	5	23	59	69	23	8	9	1	0	**201**	**18.7**
CO, Vehicle Exhaust, Furnace Fumes																
Males	0	0	0	0	3	1	11	15	15	12	7	3	1	0	**68**	**6.3**
Females	0	0	0	0	0	0	2	4	2	1	0	0	1	0	**10**	**0.9**
Total	0	0	0	0	3	1	13	19	17	13	7	3	2	0	**78**	**7.2**
Jumping																
Males	0	0	0	1	7	10	13	15	11	9	3	1	3	0	**73**	**6.8**
Females	0	0	0	0	0	1	7	11	5	2	2	0	1	0	**29**	**2.7**
Total	0	0	0	1	7	11	20	26	16	11	5	1	4	0	**102**	**9.5**

MECHANISM OF SUICIDE* (INCLUDING POISONING) BY SEX AND AGE GROUP, 2002–2003

	<1	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	UNK	Total	%**
Drowning																
Males	1	0	0	0	0	1	3	5	4	3	1	1	0	0	**19**	**1.8**
Females	0	0	0	0	0	0	0	2	4	4	2	2	0	0	**14**	**1.3**
Total	1	0	0	0	0	1	3	7	8	7	3	3	0	0	**33**	**3.1**
All Other																
Males	0	0	0	1	4	5	23	23	30	9	7	6	2	0	**110**	**10.2**
Females	0	0	0	0	1	3	5	6	6	5	2	0	1	0	**29**	**2.7**
Total	0	0	0	1	5	8	28	29	36	14	9	6	3	0	**139**	**12.9**
Total																
Males	1	0	0	5	55	59	133	171	193	105	63	38	15	0	**838**	**77.7**
Females	0	0	0	3	14	11	34	63	59	29	13	10	4	0	**240**	**22.3**
Total	1	0	0	8	69	70	167	234	252	134	76	48	19	0	**1,078**	**100.0**

*** Mechanism of suicide is defined using Death Factors.**

**** Percents are of the total number of suicides for the year.**

Note: 5 cases are excluded because their "Environment Primary Indicator" are null.

Note: 0 cases have an unknown sex and were therefore excluded from this table.

TRAUMA DEATHS BY AGE GROUP AND SEX—
BY REGION, 2002–2003

Age (Years)	Southwestern			Central South			Central West			Central East			Toronto			Eastern			North			Ontario		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
<1	4	2	**6**	1	2	**3**	3	3	**6**	1	3	**4**	2	4	**6**	1	0	**1**	0	2	**2**	12	16	**28**
1–4	2	2	**4**	5	2	**7**	0	0	**0**	1	1	**2**	2	4	**6**	0	1	**1**	1	0	**1**	11	10	**21**
5–9	4	5	**9**	1	3	**4**	5	1	**6**	3	2	**5**	4	4	**8**	3	2	**5**	0	0	**0**	20	17	**37**
10–14	6	5	**11**	0	2	**2**	4	0	**4**	5	4	**9**	2	2	**4**	2	2	**4**	10	2	**12**	29	17	**46**
15–19	24	9	**33**	23	4	**27**	18	6	**24**	27	13	**40**	23	3	**26**	22	14	**36**	20	8	**28**	157	57	**214**
20–24	33	7	**40**	20	4	**24**	27	7	**34**	39	5	**44**	40	9	**49**	27	6	**33**	24	9	**33**	210	47	**257**
25–34	35	13	**48**	42	10	**52**	41	5	**46**	44	9	**53**	63	15	**78**	34	9	**43**	51	11	**62**	310	72	**382**
35–44	72	14	**86**	33	10	**43**	51	12	**63**	51	23	**74**	54	24	**78**	24	16	**40**	56	14	**70**	341	113	**454**
45–54	47	20	**67**	31	14	**45**	40	12	**52**	61	8	**69**	67	20	**87**	44	12	**56**	57	8	**65**	347	94	**441**
55–64	40	23	**63**	31	9	**40**	37	13	**50**	39	17	**56**	46	14	**60**	29	11	**40**	46	10	**56**	268	97	**365**
65–74	27	20	**47**	27	8	**35**	28	20	**48**	54	25	**79**	54	23	**77**	30	20	**50**	26	14	**40**	246	130	**376**
75–84	52	41	**93**	26	26	**52**	50	40	**90**	44	52	**96**	69	69	**138**	26	32	**58**	24	19	**43**	291	279	**570**
85+	29	69	**98**	25	48	**73**	35	70	**105**	37	52	**89**	47	92	**139**	18	37	**55**	14	31	**45**	205	399	**604**
Unknown	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
Total	**375**	**230**	**605**	**265**	**142**	**407**	**339**	**189**	**528**	**406**	**214**	**620**	**473**	**283**	**756**	**260**	**162**	**422**	**329**	**128**	**457**	**2,447**	**1,348**	**3,795**

Note: There are 2 cases with no documented age or sex. The sum of the regional totals does not equal the Ontario total due to missing data on the region of incident.

0 cases are excluded because the Environment Primary Indicator Is Not Equal To "Y".

MOTOR VEHICLE TRAUMA DEATHS BY AGE GROUP AND SEX— BY REGION, 2002–2003

Age (Years)	Southwestern			Central South			Central West			Central East			Toronto			Eastern			North			Ontario		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
<1	1	0	**1**	0	2	**2**	0	1	**1**	0	1	**1**	1	1	**2**	0	0	**0**	0	2	**2**	2	7	**9**
1–4	0	2	**2**	0	0	**0**	0	0	**0**	0	0	**0**	1	1	**2**	0	0	**0**	0	0	**0**	1	3	**4**
5–9	3	4	**7**	0	1	**1**	3	1	**4**	3	1	**4**	1	0	**1**	0	1	**1**	0	0	**0**	10	8	**18**
10–14	3	3	**6**	0	0	**0**	2	0	**2**	2	3	**5**	1	1	**2**	1	0	**1**	8	2	**10**	17	9	**26**
15–19	14	7	**21**	10	3	**13**	12	3	**15**	14	7	**21**	6	2	**8**	8	6	**14**	5	2	**7**	69	30	**99**
20–24	15	3	**18**	9	2	**11**	11	5	**16**	16	4	**20**	5	5	**10**	19	4	**23**	9	5	**14**	84	28	**112**
25–34	16	6	**22**	7	2	**9**	17	3	**20**	16	7	**23**	13	4	**17**	6	3	**9**	17	6	**23**	92	31	**123**
35–44	24	4	**28**	7	5	**12**	11	5	**16**	11	13	**24**	8	1	**9**	6	7	**13**	20	6	**26**	87	41	**128**
45–54	6	12	**18**	7	1	**8**	8	6	**14**	18	3	**21**	7	6	**13**	11	3	**14**	12	2	**14**	69	33	**102**
55–64	9	7	**16**	7	3	**10**	8	4	**12**	11	6	**17**	8	3	**11**	3	3	**6**	12	5	**17**	58	31	**89**
65–74	6	5	**11**	2	4	**6**	1	7	**8**	15	8	**23**	10	4	**14**	8	5	**13**	6	6	**12**	48	39	**87**
75–84	2	7	**9**	5	1	**6**	9	2	**11**	7	3	**10**	12	6	**18**	8	7	**15**	3	5	**8**	46	31	**77**
85+	2	7	**9**	0	1	**1**	0	1	**1**	4	3	**7**	3	8	**11**	3	2	**5**	1	1	**2**	13	23	**36**
Unknown	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**
Total	**101**	**67**	**168**	**54**	**25**	**79**	**82**	**38**	**120**	**117**	**59**	**176**	**76**	**42**	**118**	**73**	**41**	**114**	**93**	**42**	**135**	**596**	**314**	**910**

Note: There is 1 case with no documented age or sex. The sum of the regional totals does not equal the Ontario total due to missing data on the region of incident.

EXTERNAL CAUSES OF INJURY
BY SEX, 2002–2003

		FEMALES			MALES			TOTAL		
		No.	%*	MEAN AGE	No.	%*	MEAN AGE	No.	%*	MEAN AGE
E CODE		1,349	100	64.5	2,447	100	49.9	3,796	100	55.1
E800–807	RAILWAY	3	0.2	59.7	11	0.4	50.2	14	0.4	52.2
E810–819	MOTOR VEHICLE TRAFFIC	312	23.1	46.4	563	23.0	41.5	875	23.1	43.2
E820–825	MOTOR VEHICLE NON TRAFFIC	2	0.1	27.5	33	1.3	33.1	35	0.9	32.9
E826	PEDAL CYCLE	5	0.4	25.0	19	0.8	38.2	24	0.6	35.5
E827–829	OTHER ROAD VEHICLE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
E830–838	WATER TRANSPORT	1	0.1	20.0	0	0.0	0.0	1	0.0	20.0
E840–845	AIR AND SPACE TRANSPORT	1	0.1	55.0	7	0.3	53.6	8	0.2	53.8
E846–848	VEHICLE INCIDENTS NOT ELSEWHERE CLASSIFIED	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
E880–888	UNINTENTIONAL FALLS	710	52.6	82.3	550	22.5	74.9	1,260	33.2	79.1
E890–899	FIRE AND FLAMES	42	3.1	47.7	63	2.6	46.9	105	2.8	47.2
E900–902 & E906–909	NATURAL AND ENVIRONMENTAL FACTORS	8	0.6	61.1	31	1.3	54.7	39	1.0	56.0
E910	DROWNING	26	1.9	43.1	115	4.7	39.5	141	3.7	40.3

EXTERNAL CAUSES OF INJURY
BY SEX, 2002–2003

		FEMALES			MALES			TOTAL		
		No.	%*	MEAN AGE	No.	%*	MEAN AGE	No.	%*	MEAN AGE
E CODE		1,349	100	64.5	2,447	100	49.9	3,796	100	55.1
E913	SUFFOCATION	14	1.0	39.1	35	1.4	41.0	49	1.3	40.5
E916–928	OTHER INCIDENTS	7	0.5	49.9	98	4.0	46.7	105	2.8	46.9
E953–958	SUICIDE & SELF INFLICTED INJURY (EXCL.POISONINGS)	132	9.8	43.3	725	29.6	44.5	857	22.6	44.4
E960–961 & E963–968	HOMICIDE AND INJURY PURPOSELY INFLICTED	58	4.3	34.8	130	5.3	32.7	188	5.0	33.4
E983–988	UNDETERMINED WHETHER UNINTENTIONALLY OR PURPOSELY INFLICTED	28	2.1	49.4	67	2.7	45.9	95	2.5	46.9

Note: There are 2 cases with no documented sex.

*** Denominator for percentage is column total.**