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CCMTA Road Safety Research Report Series

The Alcohol and Drug Crash **Problem in Canada 2015 Report**

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Prepared by:
S.W. Brown, W.G.M. Vanlaar, and R.D. Robertson
The Traffic Injury Research Foundation of Canada
Ottawa, Ontario

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ABSTRACT

This report describes the magnitude and characteristics of the alcohol-crash and drug-crash problems in Canada during 2015, trends in these problems, and comparisons between jurisdictions.

Information contained in this report was drawn from two national databases compiled and maintained by the Traffic Injury Research Foundation (TIRF) and funded jointly by the Public Health Agency of Canada and State Farm. One database contains information on persons fatally injured in motor vehicle crashes; the other has information on persons seriously injured in motor vehicle crashes.

This report is prepared on behalf of the Canadian Council of Motor Transport Administrators (CCMTA). It examines: data on alcohol in fatally injured drivers and pedestrians; the number and percent of people who died in alcohol-related crashes; alcohol involvement in those crashes in which someone was seriously injured but not killed; and data on drugs in fatally injured drivers.

Thus, in the report, various indicators are used to estimate the magnitude and extent of the alcohol-crash problem and drug-crash problem in Canada during 2015 as well as changes in these problems over the past few years. The indicators include:

- the number and percent of people who were killed in crashes that involved alcohol;
- the number and percent of fatally injured drivers who had been drinking;
- the number and percent of fatally injured pedestrians who had been drinking;
- the number and percent of drivers in serious injury crashes that involved alcohol;
- the number and percent of fatally injured drivers who tested positive for drugs; and,
- the number and percent of fatally injured drivers who tested positive for cannabis.

As well, these indicators are presented separately for each province and territory.

Finally, this report also examines the degree to which there has been a change in: (1) fatalities and serious injuries in collisions involving a drinking driver; and (2) the presence of drugs among fatally injured drivers. Analysis is provided for Canada and each province/territory. An average of data from 2011-2015 is compared to data from the 2006-2010 baseline period.

The opinions expressed in this report are those of the authors and do not necessarily represent the views or opinions of the reviewers, jurisdictions or CCMTA, who commissioned this report.

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The maintenance and extension of the *Fatality Database* and the *Serious Injury Database* are co-funded by the Public Health Agency of Canada and State Farm. This report was prepared on behalf of the Canadian Council of Motor Transport Administrators.

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J. Atherton
Manager, Road Safety Strategic Policy and Programs
Insurance Corp. of British Columbia

W. Doyle
Executive Director
Office of Traffic Safety
Alberta Transportation

G. Eguakun
Manager, Traffic Safety Program Evaluation
Traffic Accident Information System
Saskatchewan Government Insurance

W.A. Keith
Registrar of Motor Vehicles
Manitoba Public Insurance

L. Lapointe
Chief Coroner
Office of the Chief Coroner
British Columbia

E. Brooks-Lim, M.D.
Chief Medical Examiner
Alberta Attorney General

K. Stewart
Chief Coroner
Saskatchewan Justice

J. Younes, M.D.
Chief Medical Examiner
Manitoba Justice

C. DeRose
Director
Safety Policy and Education Branch
Ontario Ministry of Transportation

D. Huyer, M.D.
Chief Coroner
Ontario Ministry of Community Safety
and Correctional Services

L. Vézina
Directrice de la recherche et du
développement en sécurité routière
Société de l'assurance automobile du
Québec

Dre L. Nolet
Le coroner en chef
Bureau du Coroner
Québec

C. O'Connell
Registrar of Motor Vehicles
New Brunswick Department
of Public Safety

G. Forestell
Chief Coroner
New Brunswick Department
of Public Safety

J. Harland
Registrar of Motor Vehicles
Service Nova Scotia & Municipal Relations
Nova Scotia

M. Bowes, M.D.
Chief Medical Examiner
Department of the Attorney General
Nova Scotia

A. Doody
Registrar of Motor Vehicles
Department of Government
Services and Lands
Newfoundland and Labrador

Dr. S. Avis
Chief Medical Examiner
Newfoundland and Labrador

S. Louttit
Director
Road Licensing and Safety Division
Department of Transportation
Northwest Territories

C. Menard
Chief Coroner
Department of Justice
Northwest Territories

V. Janz
Director, Transport Services
Yukon Department of Motor Vehicles

H. Jones
Chief Coroner
Yukon Department of Justice

G. Miner
Director, Highway Safety
Department of Transportation
and Public Works
Prince Edward Island

H. Khanam, M.D.
Director of Laboratory Medicine
Queen Elizabeth Hospital
Prince Edward Island

S. Samok
Director, Motor Vehicle Division
Nunavut

P. Suramala
Chief Coroner
Nunavut

1.0 INTRODUCTION

This report describes the magnitude and characteristics of the alcohol-crash and drug-crash problems in Canada during 2015 as well as trends in these problems. It includes data on alcohol in fatally injured drivers and pedestrians as well as data on drugs in fatally injured drivers derived from the *Fatality Database*. For the past two and a half decades, the *Fatality Database*, developed and maintained by the Traffic Injury Research Foundation (TIRF), has provided objective data on alcohol use among persons fatally injured in motor vehicle crashes. Each year, TIRF compiles information from coroners' and medical examiners' files on the results of toxicological tests for alcohol and drugs in the blood of fatally injured drivers and pedestrians. Given a high testing rate for alcohol in all jurisdictions, particularly among fatally injured drivers, the *Fatality Database* has proven a valid and reliable source of descriptive data on the magnitude and characteristics of the alcohol-fatal crash problem, a means for monitoring changes/trends in the problem as well as a valuable tool for research on alcohol-impaired driving. Previously, funding for the maintenance of the Fatality Database and the publication of a related report, The Alcohol-Crash Problem in Canada, was co-funded by Transport Canada and the Canadian Council of Motor Transport Administrators (CCMTA). Presently, the data collection component of the Fatality Database is co-funded by the Public Health Agency of Canada and State Farm. Publication of this report is sponsored by the Canadian Council of Motor Transport Administrators (CCMTA).

This report also uses supplemental data obtained from police collision reports and coroner files to examine the number and percent of people who died in alcohol-related crashes and the number and percent of drivers testing positive for drugs in Canada. Thus, it extends the focus beyond fatally injured drivers to include all persons killed in road crashes, to provide a better indication of the magnitude and nature of the alcohol-crash problem and drug-crash problem.

This report also examines alcohol involvement in those crashes in which someone was seriously injured but not killed. For this purpose, relevant information is derived from a Serious Injury Database that is constructed and maintained by TIRF. Funding for the construction of the *Serious Injury Database* was initially provided by Transport Canada and CCMTA as part of a previous project. The continued support of the *Serious Injury Database* is provided by the Public Health Agency of Canada and State Farm. Since few drivers involved in serious injury crashes are tested for alcohol, a surrogate or indirect measure is used to assess the incidence of alcohol involvement in these crashes.

The report is divided into the following fifteen sections:

Section 2.0 briefly describes the sources of the data – the *Fatality Database* and *Serious Injury Database* – and the various indicators of the alcohol-crash problem and drug-crash problem used in this report.

Section 3.0 provides descriptive data on the incidence of alcohol involvement in fatal and serious injury crashes and drug involvement in fatal crashes in Canada during 2015, trends in these problems, and comparisons of the problems between jurisdictions.

In subsequent sections (4.0 through 16.0), descriptive data on alcohol involvement in fatal and serious injury crashes and drug use by fatally injured drivers in each province and territory are summarized. Trends in the problem and comparisons between the 2011-2015 period and the 2006-2010 baseline period are also examined. Caution should be exercised in interpreting some of the numbers and percentages in Sections 4.0 through 16.0 as some of the subgroups examined are small in number.

2.0 DATA SOURCES AND INDICATORS OF THE ALCOHOL-CRASH PROBLEM

Information contained in this report was drawn from two national databases compiled and maintained by TIRF and funded jointly by the Public Health Agency of Canada and State Farm. One database contains information on persons fatally injured in motor vehicle crashes; the other has information on persons seriously injured in motor vehicle crashes. These two sources of information are described in this section of the report.

The section also describes the various indicators that are used to estimate the magnitude and extent of the alcohol-fatal, alcohol-serious injury and drug-fatal crash problems in Canada during 2015 as well as changes in the problem over the past few years. The indicators include:

- the number and percent of people who were killed in crashes that involved alcohol;
- the number and percent of fatally injured drivers who had been drinking;
- the number and percent of fatally injured pedestrians who had been drinking;
- the number and percent of drivers in serious injury crashes that involved alcohol;
- the number and percent of fatally injured drivers who tested positive for drugs; and,
- the number and percent of fatally injured drivers who tested positive for cannabis.

2.1 Sources of the data

Two national databases were used to generate the statistics for this report – the *Fatality Database* and the *Serious Injury Database*. The *Fatality Database* was initially developed in the early 1970s to provide a comprehensive source of objective data on alcohol use among persons fatally injured in motor vehicle crashes occurring on and off public highways in Canada. It is historically intact from 1973 to 2011, inclusive, for seven provinces – British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, and Prince Edward Island. Beginning with 1987, data are available from all jurisdictions in Canada.

The *Serious Injury Database* was initially constructed in the mid-1990s to examine the incidence of alcohol in crashes that involve a serious injury – i.e., a crash that resulted in a person being admitted to a hospital. It was originally used as a means to assess the extent to which the federal-provincial/territorial road safety initiatives *(RSV 2010, RSS 2015, and now RSS 2025)* achieved a reduction in alcohol-related serious injury crashes. Since 1995, relevant information on crashes that involve serious injury has been assembled from all jurisdictions in Canada.

2.1.1 The Fatality Database. The *Fatality Database* consists of case files (records) of persons fatally injured in motor vehicle crashes. Two sources of information provide data for most case files: (1) police reports on fatal motor vehicle collisions and (2) coroners and medical examiners reports. In general, both sources must be accessed to obtain complete data on victims, crashes, vehicles, and toxicology.

Police-reported data include characteristics of the victim (age and sex, position in the vehicle – driver, passenger) and details of the crash (type of vehicle(s) and collision, time, date). Objective, toxicological data on alcohol and drug use among victims are obtained from files in coroners' and medical examiners' offices. The alcohol and drug data are the results of chemical tests, performed on body fluid samples (typically blood) by recognized forensic laboratories or other facilities. Rigorous testing procedures in each jurisdiction ensure reliable and accurate data on the prior use of alcohol and drugs by victims of motor vehicle collisions. As will be discussed in a subsequent section, there is a high rate of testing for alcohol in most jurisdictions, especially among drivers fatally injured in motor vehicle collisions.

Details of the method used to access and collect relevant police-reported and coroner/medical examiner data on persons fatally injured in motor vehicle collisions as well as the approach used to create case files for the *Fatality Database* are contained in previous annual reports in this series (e.g., see Mayhew et al. 1999). The sections below provide a definition of a motor vehicle fatality, describe the number and type of victim contained in the *Fatality Database*, and discuss the testing rates for alcohol and drugs overall in Canada as well as in each jurisdiction.

Motor vehicle fatality. A motor vehicle fatality is defined in the data capture procedures, and in this report, as any person dying within 30 days as a result of injuries sustained in a collision on a public roadway involving at least one highway vehicle. Public roadways include provincial highways and municipal roads but exclude private property, Crown land, military bases, and roads administered by First Nations. Automobiles, light trucks, vans, heavy trucks, tractor-trailers, buses, emergency vehicles, and motorhomes are considered to be highway vehicles. Even if a fatal collision takes place on a public roadway, the fatality is not included in this year's report unless at least one highway vehicle is involved. Thus, if the fatality results from a single-vehicle collision on a public roadway that involves a snowmobile, all-terrain vehicle or dirtbike, it is not included in this report.

It should be noted that out of 1,948 persons who died in a collision in Canada, 1,631 (83.7%) died within 30 days of the crash in a collision that occurred on a public roadway that involved at least one highway vehicle. The fatality data for 2015 as well as the historical data reported in Sections 2 thru 16 include those persons dying within 30 days of the collision on a public roadway involving at least one highway vehicle.

Number of fatalities: Official sources compared to the Fatality Database. The *Fatality Database* contains information on 1,606 persons fatally injured in motor vehicle collisions in Canada during 2015

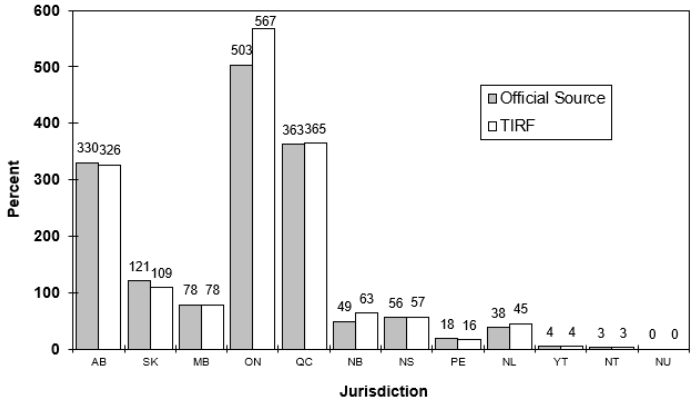
(excluding British Columbia). In previous reports, TIRF included fatality data for persons dying within 12 months (365 days) of the collision. In order to facilitate comparisons between fatality data that TIRF collects for the *Fatality Database* with those data which are reported by transportation agencies, this report analyses fatality data for those persons who died within 30 days of collisions which occur on public roadways that involve at least one principal highway vehicle.

Nonetheless, some differences may persist in the number of cases reported in the *Fatality Database* as opposed to those reported by the transportation agencies. Fatalities that may not be captured by transportation agencies yet found in the *Fatality Database* include the following:

- Victims involved in a collision in one jurisdiction that die in another jurisdiction;
- Victims involved in a collision in one year that die in the subsequent year (e.g., collide in 2014, die in 2015), provided that the date of death is within 30 days of the collision; and,
- Victims identified by the coroner/medical examiner that were coded as an injury or omitted from transportation agency databases (procedures for data collection available to coroners and medical examiners can be more robust and conducive to avoiding the underreporting of crashes).

Figure 2-1 provides a comparison of the number of traffic fatalities reported by transportation agencies with the number of motor vehicle fatalities occurring within 30 days on public roadways that are included in the *Fatality Database* for 2015. For most of the jurisdictions, the number of cases in the TIRF database closely corresponds with those officially reported by transportation agencies. *Data shown exclude British Columbia, whose 2015 fatality data were not available at the time of the publication of this report.*

Figure 2-1
Number of Fatalities Reported by Official Sources and TIRF Fatality Database: 2015



Type of victim. The Fatality Database contains information on three types of victims fatally injured in motor vehicle crashes – drivers/riders, passengers, and pedestrians who died within 30 days of a collision on public roadways. Drivers include operators of all types of highway vehicles. Similarly, passengers include occupants of highway vehicles who were not operating these vehicles. And, finally, pedestrians are those individuals travelling on foot that were struck and fatally injured by a highway vehicle.

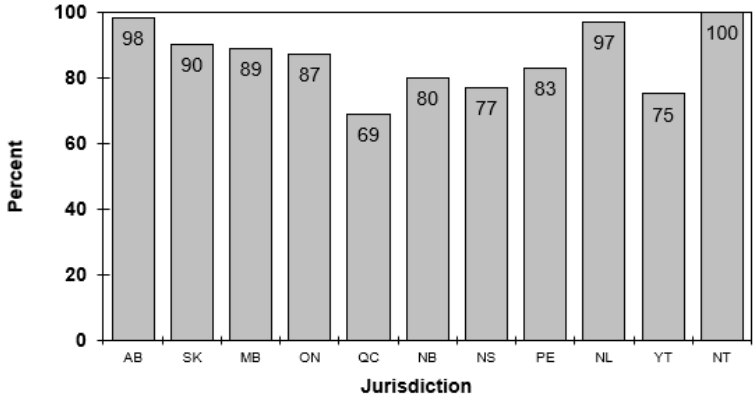
In Canada during 2015, almost 2 out of every 3 fatalities were operators of motor vehicles (66.4%); 19.4% were passengers; and 14.2% were pedestrians. From this perspective, vehicle occupants, particularly drivers, remain the major road-user group of concern.

Testing rates for alcohol. The inclusion of objective data on the presence of alcohol among traffic victims represents an important feature of the *Fatality Database*. The value of this information depends greatly on the frequency with which tests for the presence of alcohol are performed on the body fluids of victims.

Among fatally injured victims who died within 30 days of the crash on public roadways in Canada during 2015, fatally injured drivers were tested most frequently (83.6%), followed by pedestrians (69.3%) and passengers (25.0%). The testing rate among fatally injured pedestrians and passengers increases slightly if victims under the age of 16, who are less often tested, are excluded (70.4% and 27.0%, respectively).

The rate of testing for alcohol varies not only as a function of the type of victim but by jurisdiction as well. This is illustrated graphically in Figure 2-2, which shows the rate of testing for alcohol among fatally injured drivers of highway vehicles who died within 30 days of the crash in the various jurisdictions.

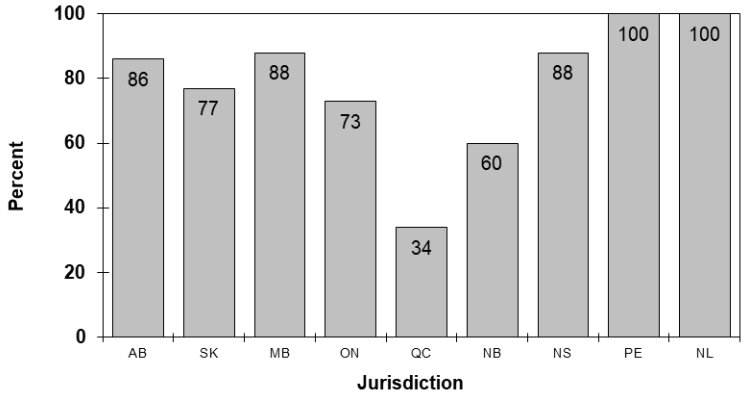
Figure 2-2
Percent of Fatally Injured Drivers
Tested for Alcohol: Canada, 2015



Most jurisdictions test over 80.0% of the driver fatalities. In some jurisdictions, there is clearly room for improvement – the testing rates need to be increased to enhance the reliability and utility of the information. In those jurisdictions with a high rate of testing for fatally injured drivers, there are various reasons why tests are not done on some drivers. This occurs, for example, when the victim survived the initial crash and died much later – the alcohol results at that time would be of little value. Or, if extensive transfusions were given to the victim prior to death, there is little point in taking a blood sample for an alcohol test. And, if the victim were incinerated in a vehicle fire, or massive injuries resulted in exsanguination (i.e., excessive loss of blood), body fluids may not be available for testing.

Figure 2-3 shows the rate of testing for alcohol among fatally injured pedestrians in the various jurisdictions. As can be seen, there is considerable variation in the rate of testing – from 34.1% in Quebec to 100.0% in Prince Edward Island and Newfoundland and Labrador.

Figure 2-3
Percent of Fatally Injured Pedestrians
Tested for Alcohol: Canada, 2015



2.1.2 The Serious Injury Database. The Serious Injury Database contains information on persons seriously injured in crashes and on all drivers involved in these crashes, whether the driver was injured or not. The data come from motor vehicle crash reports completed by investigating police officers. The information compiled for each seriously injured person and crash-involved driver includes: personal characteristics (age and sex); factors contributing to the crash, including police-reported alcohol involvement; type of vehicle driven/occupied (e.g., automobile, truck/van, motorcycle) and the details of the crash (time, date, type of collision – multiple vehicle/single vehicle).

To construct the database, annual motor vehicle collision data are obtained from each jurisdiction in Canada. These data are either provided to TIRF by the relevant agency in the jurisdiction or, in some cases, provided to TIRF by Transport Canada who received the collision data from the jurisdiction. Relevant information on collisions in which someone was seriously injured is extracted from the provincial/territorial data files and then aggregated into the national *Serious Injury Database*.

The Serious Injury Database provides data from 1996 to 2015 for most jurisdictions. Only since 1998 in the Yukon and 2005 in British Columbia have investigating officers been able to record on the police report form whether the crash involved a serious injury or, at the person level, the severity of the injury a person sustained in the crash. Accordingly, it was not possible to identify persons who sustained a serious injury or drivers involved in serious injury crashes in those jurisdictions prior to the dates indicated. For this reason, the Canadian trend data presented in Section 3.6.4 include only data from 2005 to 2015. However, for other jurisdictions, trend data are available since 1996.

In the case of British Columbia (21.4%) and Nunavut (10.8%), some injury severities are recorded as "unspecified", so the number of drivers in serious injury crashes used in this report for these two jurisdictions might be underestimated.

The sections below provide a definition of a serious injury crash, describe the number and type of cases contained in the *Serious Injury Database*, and discuss the use of a surrogate or indirect measure to assess alcohol involvement in these crashes.

Serious injury. A serious injury crash is one that resulted in at least one person being admitted to a hospital. The serious injury may have been sustained by a driver, passenger or pedestrian involved in the crash (i.e., the driver involved in a serious injury crash may not have been the person seriously injured).

Number of cases. In Canada during 2015, 10,243 persons were seriously injured in motor vehicle crashes; 12,346 drivers were involved in these crashes. These numbers for Canada exclude Nova Scotia and the Yukon because data on serious injury collisions for these jurisdictions were not available at the time this report was being prepared. Table 2-1 shows the number of drivers involved in serious injury crashes for each province and territory. Alberta accounts for the largest number of the drivers involved in serious injury crashes (3,752 drivers or 30.4% of the "national" total); Nunavut accounts for the lowest number of drivers in such crashes, 1 driver (or 0.0% of all drivers).

Table 2-1
Number and Percent of Drivers Involved in Serious Injury Crashes in Each Jurisdiction: Canada, 2015

Jurisdiction	Number of Drivers	% of Total
British Columbia	2,022	16.4
Alberta	3,752	30.4
Saskatchewan	431	3.5
Manitoba	562	4.6
Ontario	3,013	24.4
Quebec	2,099	17.0
New Brunswick	228	1.8
Nova Scotia*		0.0
Prince Edward Island	63	0.5
Newfoundland and Labrador	168	1.4
Yukon*		0.0
Northwest Territories	7	0.1
Nunavut	1	0.0
TOTAL	12,346	100.0

* Data not available at the time of publication.

Type of cases. The *Serious Injury Database* includes information on persons who sustained a serious injury in a motor vehicle crash and information on all drivers involved in these crashes. Drivers include operators of all types of highway vehicles. It should be noted that analysis of the vehicle occupied by drivers in Canada involved in serious injury crashes in 2015 excludes Quebec. Since March 2010, Quebec has regrouped automobiles and light trucks into a single category in its collision data. Of all the drivers involved in serious injury crashes: almost half were automobile drivers (48.6%); 38.3% were truck/van drivers; 9.0% were motorcycle riders; 3.0% were tractor-trailer drivers; and 1.0% were drivers of other types of highway vehicles (e.g., buses, emergency vehicles).

A surrogate measure of alcohol involvement. Drivers in serious injury crashes are seldom tested for alcohol. The investigating police officer may, however, indicate the condition of each of the drivers involved in the crash (e.g., whether or not they had been drinking), or in the case of Quebec, if alcohol was "a probable cause" in the crash. Unfortunately, a judgement by police about the drivers' use of alcohol is not always made. In addition, the investigating police officer may determine that some other factor – e.g., driver fatigue, medical or physical defect – would more accurately describe the condition of the driver. Thus, relying exclusively on police-reported alcohol involvement may underestimate the magnitude of the alcohol-related serious injury crash problem.

To overcome this data limitation, a surrogate or indirect measure of alcohol involvement is used in this report. A description of this surrogate measure is provided in the next section.

2.2 Indicators of the problem

The indicators used to describe the magnitude and nature of the alcohol-related fatal and serious injury crash problem include:

- the number and percent of people who are killed in alcohol-related crashes;
- the number and percent of fatally injured drivers who had been drinking or were legally impaired;
- the number and percent of pedestrians who had been drinking; and,
- the number and percent of drivers in serious injury crashes that involved alcohol.

In addition, the following indicators are used to describe the magnitude and nature of the drug-crash problem:

- the number and percent of fatally injured drivers who tested positive for drugs; and,
- the number and percent of fatally injured drivers who tested positive for cannabis.

Each of these indicators of the problem is described briefly below.

2.2.1 The number and percent of people killed in alcohol-related crashes. This report traditionally includes two different indicators that measure alcohol involvement among persons fatally injured in motor vehicle collisions. The first indicator (see Table 3-1) considers a motor vehicle fatality to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash. The second indicator (see Table 3-8) considers a motor vehicle fatality as alcohol involved if there was at least one drinking driver in the fatal crash. In this second indicator a fatally injured pedestrian's condition does not determine alcohol involvement; the only criteria used are the condition of the surviving driver. The first indicator has typically been used for the most recent data year whereas the second indicator has been used to compare trends on alcohol involvement.

To determine if alcohol was involved in the fatal crash, information on the BAC of fatally injured drivers and pedestrians from the *Fatality Database* was supplemented with any other evidence of alcohol in the fatal crash identified from either the coroner's report or from the police collision report – e.g., the police reported that a driver or pedestrian in the fatal crash had consumed alcohol. The review of coroner files and police reports provided information on the presence of alcohol among drivers who died but were not chemically tested for alcohol; drivers who survived (virtually all of whom are not tested), and pedestrians who were not tested.

For Canada and each of its jurisdictions, this report describes characteristics and trends in the number of deaths in crashes involving a drinking driver. This particular indicator only considers a fatality to be alcohol-related if at least one driver (either killed or surviving) had been drinking. In addition, only fatalities occurring on public roadways are included. Furthermore, at least one of the vehicles involved must be a highway vehicle (e.g., automobile, truck, van, motorcycle, tractor-trailer, etc.). Sport utility vehicles (SUVs) are included with light trucks in tables dealing with fatally or seriously injured drivers or occupants.

Among the people who died in motor vehicles crashes on public roadways within 30 days of the collision that involved at least one highway vehicle, it was possible to determine if a drinking driver had been involved in 94.7% of the cases.

2.2.2 The number and percent of fatally injured drivers who had been drinking. The magnitude of the alcohol-fatal crash problem is usually stated in terms of the number and percent of fatally injured drivers who tested positive for alcohol. As mentioned previously, this indicator of the problem is useful because of its validity and because the requisite data have been routinely compiled each year as part of the *Fatality Database* project.

The indicator is a highly valid and reliable measure of the problem because a high percentage of drivers of highway vehicles who are killed in crashes are tested for the presence of alcohol. Similar to previous years, there was a high testing rate in Canada during 2015, with 83.9% of fatally injured drivers of highway vehicles who die within 30 days of the crash being tested for alcohol.

In previous versions of this report, some trend tables and figures dealing with alcohol use among fatally injured drivers of highway vehicles included data on drivers dying within 12 months of the collision or those who died within six hours of the collision. In addition, some of the drivers included in these analyses may have been involved in collisions which did not occur on public roadways (Brown et al. 2015). However, in this report, data on alcohol use among fatally injured drivers is limited to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways. Highway vehicles include automobiles, vans, light trucks, motorcycles, heavy trucks, tractor-trailers, buses, and emergency vehicles.

2.2.3 The number and percent of fatally injured pedestrians who had been drinking. Drinking pedestrians not just drinking drivers contribute to the overall magnitude of the alcohol-fatal crash problem each year in Canada. This occurs because walking on or beside the highways after drinking is extremely risky. Accordingly, this report uses information from the *Fatality Database* to examine the number and percent of fatally injured drinking pedestrians. This is possible because testing for alcohol, especially among those over 16 years of age is reasonably high – 69.3% overall, which increases to 70.4% if victims under the age of 16 are excluded.

Descriptive data on fatally injured drinking pedestrians are provided in the Canada section (3.0) but not in the provincial/territorial sections (4.0 through 16.0) of the report. The number of fatally injured pedestrians in most jurisdictions is relatively small, so detailed results for these jurisdictions would not be reliable. Jurisdictional results are also not reported to protect privacy. However, data on the overall incidence of fatally injured drinking pedestrians in each jurisdiction are presented in the Canada section of the report (3.3).

2.2.4 The number and percent of drivers in serious injury crashes that involved alcohol. The extent to which alcohol is involved in serious injury crashes is not well documented and, consequently, poorly

understood for two primary reasons. First, drivers involved in such crashes are seldom tested for the presence of alcohol. Second, investigating police officers do not always report the presence of alcohol in these crashes – see Mayhew et al. (1997) for a discussion of the limitations of information on alcohol involvement contained in police collision reports.

For these reasons, a surrogate or indirect measure of the alcohol-related serious injury crash problem has been used. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night, from 9:00 pm to 6:00 am (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash.

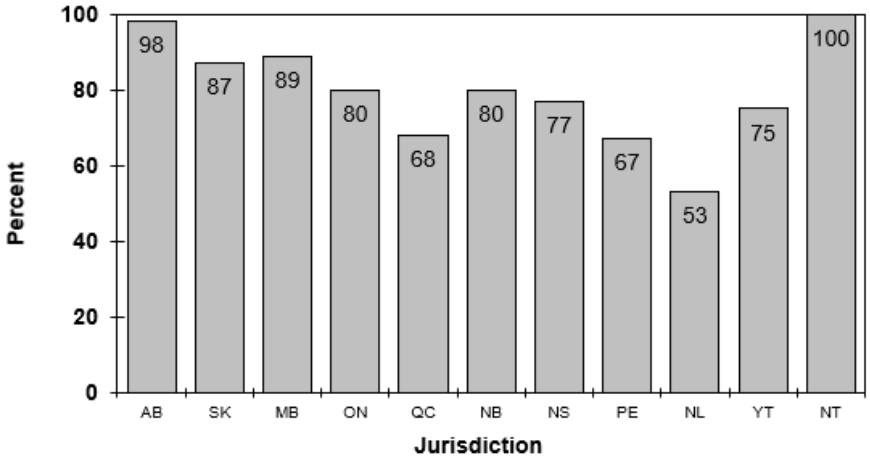
Surrogate measures have been shown to correlate strongly with more direct measures of the alcohol-crash problem – e.g., the number of drinking driver fatalities as determined by chemical tests in blood – and provide a reasonably reliable estimate of trends in alcohol-related serious injury crashes. Such measures, however, have limited validity – i.e., not all drinking drivers are identified – so this measure likely provides a "conservative" estimate of the magnitude of the problem (see Mayhew et al. 1997).

2.2.5 The number and percent of fatally injured drivers who tested positive for drugs. The magnitude of the drug-fatal crash problem is usually stated in terms of the number and percent of fatally injured drivers who tested positive for drugs. Although data from the coroners and medical examiners are the best source of data for drug impaired driving among fatally injured drivers, there is more variability in testing rates and reporting practices than there is for alcohol use. For example, these agencies have, at times, tested different proportions of fatally injured drivers and/or tested for different numbers of drugs. Caution should be exercised when comparing drug use among fatally injured drivers across different years or jurisdictions as well as interpreting national results. However, this indicator of the problem has become more valid as more historical data on drug use have been compiled in TIRF's *Fatality Database*. It should also be noted that as early as 2000, Transport Canada requested that TIRF collect data on drugs for fatally injured drivers in motor vehicle crashes.

Data on drug use among fatally injured drivers is limited to drivers of highway vehicles who died within 30 days of collisions which occurred on public roadways. The indicator is a relatively reliable measure of the problem as a growing percentage of drivers who are killed in crashes are tested for the presence of drugs – i.e., similar to previous years, there was a high testing rate in Canada during 2015, with 80.1% of fatally injured drivers of highway vehicles being tested for drugs.

The rate of testing for drugs varies by jurisdiction. Figure 2-4 shows the rate of testing for drugs among fatally injured drivers in the various jurisdictions. Testing rates vary from 53.3% in Newfoundland and Labrador to 100.0% in the Northwest Territories.

Figure 2-4
Percent of Fatally Injured Drivers of Highway Vehicles Tested for Drugs: Canada, 2015



Not only does the Fatality Database capture information on whether or not a driver tests positive for drugs, data are also collected to indicate the type of drug or drugs that are found in the blood sample of a fatally injured driver. These drugs can include illicit, prescription, and over-the-counter drugs as many different types of drugs adversely affect driving performance.

Drug Evaluation Classification (DEC) programs, used by police services throughout North America categorize drugs into the various groups on the basis of common signs and symptoms exhibited by persons using these drugs (Jonah, 2012). This report uses these categories which are:

- Cannabis;
- Central nervous system depressants (e.g., benzodiazepines and antihistamines);
- Central nervous system stimulants such as cocaine, amphetamine, methamphetamine, and ecstasy (MDMA);
- Hallucinogens (e.g., LSD, magic mushrooms);
- Dissociative anesthetics such as ketamine and phencyclidine (PCP);
- Narcotic analgesics (e.g., morphine, heroin, methadone, codeine, oxycodone); and,
- Inhalants (e.g., toluene, gasoline, cleaning solvents).

In Section 3.5 and corresponding sections for each jurisdiction, tables are provided to show how many fatally injured drivers of highway vehicles who died on public roadways within 30 days of the collision tested positive for each of the aforementioned drug categories.

3.0 CANADA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Canada. It describes data on:

- people who were killed in alcohol-related crashes (Section 3.1);
- alcohol use among fatally injured drivers (Section 3.2);
- alcohol use among fatally injured pedestrians (Section 3.3);
- drivers involved in alcohol-related serious injury crashes (Section 3.4);
- drug use among fatally injured drivers (Section 3.5); and,
- trends in the alcohol-crash and drug-crash problems (Section 3.6).

3.1 Deaths in alcohol-related crashes

Table 3-1 presents information on people who died in alcohol-related crashes in Canada during 2015 for persons dying within 30 days of the collision. *At the time this report was being prepared, 2015 coroner data from British Columbia were not available. For this reason, 2015 data reported in this section excludes this jurisdiction. This report will be updated when these data become available.* Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities where sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, it can be seen that 111 people aged 16-19 were killed in motor vehicle crashes in Canada during 2015. And, in 105 cases (94.6%) it was possible to determine if alcohol was a factor in the crash. The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 36 people aged 16-19 died in alcohol-related crashes in Canada during 2015. The next column expresses this as a percentage – i.e., 34.3% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 7.8% of all the people killed in alcohol-related crashes in Canada during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 1,631 persons died within 30 days of a motor vehicle crash in Canada during 2015. In 1,544 (94.7%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 464 (30.1%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (1,631 x .301) it can be estimated that *in Canada (excluding British Columbia) during 2015, 490 persons died in alcohol-related crashes within 30 days of the collision*.

Table 3-1
Deaths in Alcohol-Related Crashes: Canada, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	54	52	96.3	9	17.3	1.9
16-19	111	105	94.6	36	34.3	7.8
20-25	210	202	96.2	105	52.0	22.6
26-35	242	232	95.9	95	40.9	20.5
36-45	178	172	96.6	63	36.6	13.6
46-55	246	234	95.1	71	30.3	15.3
>55	590	547	92.7	85	15.5	18.3
Gender						
Male	1154	1094	94.8	378	34.6	81.5
Female	477	450	94.3	86	19.1	18.5
Victim Type						
Driver/ Operator	1083	1036	95.7	311	30.0	67.0
Passenger	316	292	92.4	90	30.8	19.4
Pedestrian	231	215	93.1	62	28.8	13.4
Unknown	1	1	100.0	1	100.0	0.2
Vehicle Occupied						
Automobiles	720	690	95.8	165	23.9	35.6
Trucks/Vans	414	391	94.4	172	44.0	37.1
Motorcycles	182	173	95.1	48	27.7	10.3
Other Hwy Vehicles	27	26	96.3	4	15.4	0.9
Off-road Vehicles	57	49	86.0	13	26.5	2.8
(Pedestrians)	231	215	93.1	62	28.8	13.4
TOTAL	1631	1544	94.7	464	30.1	100.0

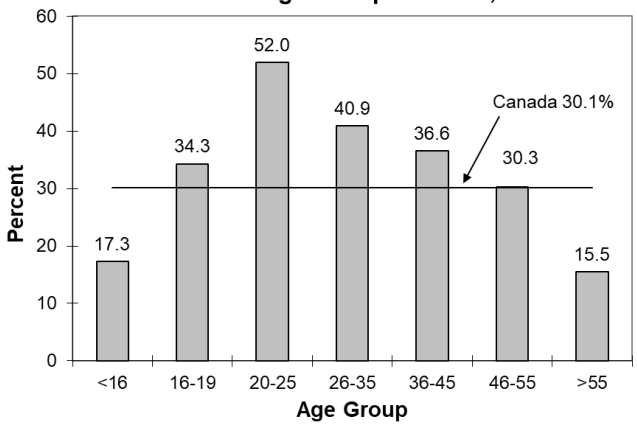
* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

3.1.1 Victim age. Of all the people who died in alcohol-related crashes (see last column), 22.6% were aged 20-25; 20.5% were aged 26-35; 18.3% were over 55; 15.3% were aged 46-55; 13.6% were aged 36-45; and 7.8% were aged 16-19. The youngest (<16) group accounted for only 1.9% of all people who died in alcohol-related crashes.

Figure 3-1 shows the percent of alcohol-related deaths within each age group. The highest incidence of alcohol involvement occurred in the crashes in which persons aged 20-25 and 26-35 died (52.0% and 40.9%, respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities as only 17.3% of persons under 16 and 15.5% of persons over 55 years of age died in crashes involving alcohol.

3.1.2 Gender. Of all the people who died in alcohol-related crashes, 81.5% were males. The incidence of alcohol in crashes in which a male died (34.6%) was greater than the incidence of alcohol in crashes in which a female died (19.1%).

Figure 3-1
Percent of Alcohol-Related Deaths
Within Each Age Group: Canada, 2015



3.1.3 Victim type. Of all the people who died in alcohol-related crashes, 67.0% were drivers/operators of a vehicle; 19.4% were passengers; and 13.4% were pedestrians. Within each of these victim types, there are some differences in alcohol involvement. Among the principal victim types, the highest incidence of alcohol involvement (30.8%) occurred in the crashes in which a passenger died. Alcohol was involved in 30.0% of the crashes in which a driver/operator died and 28.8% of those in which a pedestrian died.

3.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, almost two-fifths (37.1%) were in a truck/van; 35.6% were in an automobile; 10.3% were on a motorcycle; 2.8% were on an off-road vehicle (e.g., bicycle, snowmobile, all-terrain vehicle); and 0.9% were occupants of other highway vehicles (e.g., bus, tractor-trailer, emergency vehicle).

The incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant died (44.0% versus 23.9%). The incidence of alcohol involvement in which a motorcycle occupant died was 27.7%.

3.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Canada during 2015. *At the time this report was being prepared, 2015 coroner data from British Columbia were not available. For this reason, 2015 data reported in this section excludes this jurisdiction.* Table 3-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next two columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – this includes the percent of those tested who were positive for alcohol in each of five blood alcohol concentration (BAC) levels.

To illustrate, among 20-25 year olds there were 136 drivers killed during 2015; 122 of these fatally injured drivers (89.7%) were tested for alcohol. Of those who were tested, 50.8% showed no evidence of alcohol, 4.1% had BACs below 50 mg%, 1.6% had BACs from 50 to 80 mg%, 17.2% had BACs from 81 to 160 mg%, and 26.2% had BACs over 160 mg%.

Table 3-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Canada, 2015 (excluding British Columbia)

Category of Driver	Number of Drivers*	Drivers Tested		Percent of Tested Drivers with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
Age								
<20**	66	57	86.4	68.4	5.3	0.0	12.3	14.0
20-25	136	122	89.7	50.8	4.1	1.6	17.2	26.2
26-35	179	157	87.7	59.2	4.5	1.9	10.2	24.2
36-45	112	99	88.4	70.7	3.0	4.0	7.1	15.2
46-55	179	153	85.5	69.3	5.2	2.0	7.8	15.7
>55	355	274	77.2	82.5	3.3	1.1	4.4	8.8
Gender								
Male	818	696	85.1	65.8	4.6	2.0	8.9	18.7
Female	209	166	79.4	83.1	1.8	0.6	7.8	6.6
Vehicle Type								
Automobile	535	438	81.9	75.3	2.3	0.9	7.3	14.2
Motorcycle	166	143	86.1	69.9	7.7	2.8	8.4	11.2
Tractor Trailer	23	20	87.0	85.0	0.0	5.0	5.0	5.0
Heavy Truck[1]	11	10	90.9	80.0	10.0	0.0	10.0	0.0
Van	75	68	90.7	58.8	5.9	4.4	11.8	19.1
Light Truck[2]	212	178	84.0	54.5	4.5	1.7	11.8	27.5
Other Truck[3]	4	4	100.0	75.0	25.0	0.0	0.0	0.0
Other Hwy. Vehicle[4]	1	1	100.0	100.0	0.0	0.0	0.0	0.0
Collision Type								
Single-Vehicle	418	345	82.5	48.4	5.2	2.6	14.5	29.3
Multiple-Vehicle	609	517	84.9	83.0	3.3	1.2	4.8	7.7
TOTAL	1027	862	83.9	69.1	4.1	1.7	8.7	16.4

* Drivers dying within 30 days in crashes on public roadways.

** Drivers from two age groups have been aggregated to ensure that an individual will not be identified.

[1] Trucks over 4500 kg.

[2] e.g., pickup trucks.

[3] Motorhomes, utility vehicles, plows and trucks of unknown type.

[4] Emergency vehicles and buses.

Note: The vehicle types that appear in the shaded area correspond to the truck/van category used in the jurisdictional sections of this report.

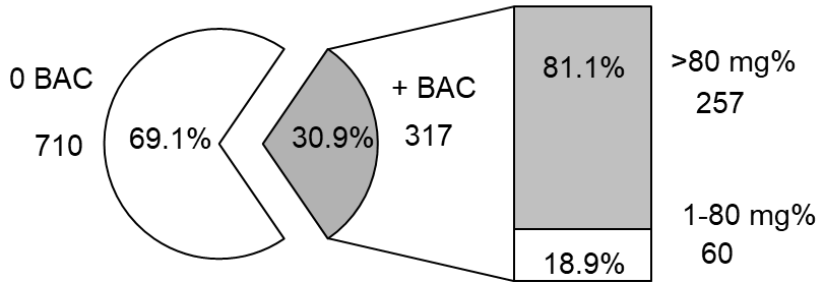
The main findings are shown by the totals at the bottom of the table. As can be seen, there were 1,027 drivers fatally injured in traffic crashes in Canada during 2015. The overall rate of testing for alcohol in drivers was 83.9%, lower than the rate in 2014 (87.7%). Among tested drivers in Canada:

- 69.1% showed no evidence of alcohol as 30.7% had been drinking;
- 4.1% had BACs from 1-49 mg%;
- 1.7% had BACs from 50-80 mg%
- 8.7% had BACs from 81 to 160 mg%; and,
- 16.4% had BACs over 160 mg%.

Thus, 30.9% of fatally injured drivers in Canada had been drinking and 81.2% of fatally injured drinking drivers had BACs over 80 mg%.

In Figure 3-2, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 317 of 1,027 drivers (30.9%) have a positive BAC. And among fatally injured drinking drivers, 257 (81.1%) have BACs over 80 mg%.

Figure 3-2
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Canada, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

3.2.1 Age differences. Figures 3-3 and 3-4 summarize the data from Table 3-2 for the various age groups. Figure 3-3 shows the percent of all drinking drivers accounted for by each age group. The bar on the left shows the percent of all fatally injured drivers with any evidence of alcohol accounted for by each age group. On the right is shown the percent of "legally impaired drivers" – BACs over 80 mg% – accounted for by each age group. Drivers under 16 are not included in these figures because very few of them had been drinking.

Of all the fatally injured drinking drivers, 24.1% were aged 26-35; 22.6% were aged 20-25; 18.0% were over 55; 17.7% were aged 46-55; and 10.9% were aged 36-45. Those aged 16-19 accounted for only 6.8% of the fatally injured drinking drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.0% were aged 26-35; 24.5% were aged 20-25; 16.7% were aged 46-55 and over 55; and 10.2% were aged 36-45. Those aged 16-19 accounted for only 6.9% of fatally injured drivers who were over the legal limit.

Figure 3-3
Percent of All Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Each Age Group: Canada, 2015

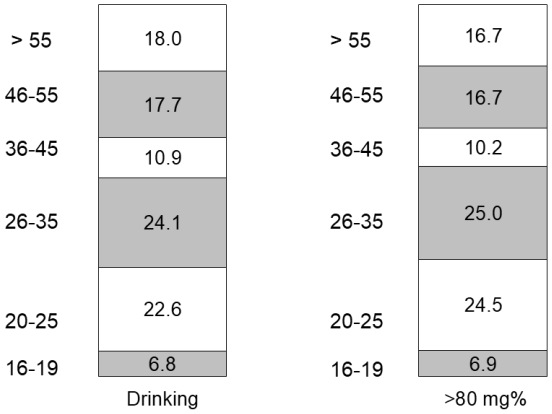
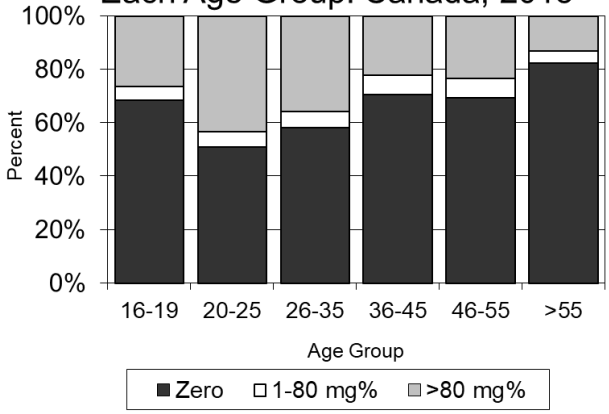


Figure 3-4 presents the information in a slightly different manner. For each age group, the percentage of drivers who were sober (zero BAC) is shown by the lower, black portion of the bar; the percent who tested positive for alcohol but whose BAC was below the legal limit (1-80 mg%) is shown by the white section in the middle, and the percent with BACs over the legal limit (>80 mg%) is shown by the upper, grey part of the bar.

Figure 3-4
Percent of Drinking Drivers Within Each Age Group: Canada, 2015



In Table 3-2, drivers aged under 16 and 16-19 have been regrouped (<20 age group) to ensure that individuals cannot be identified. Fatally injured drivers age 20-25 were the most likely to have been

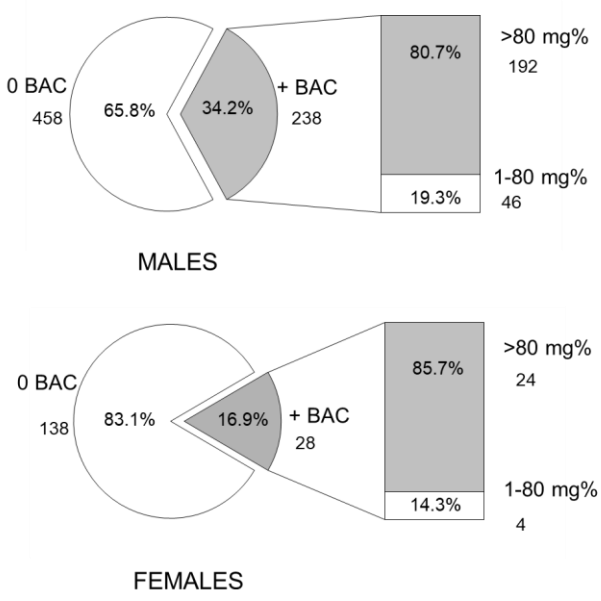
drinking – 49.2% of drivers in this age group had been drinking. By contrast, only 17.5% of tested drivers over age 55 had been drinking.

3.2.2 Gender differences. Males dominate the picture – they account for 89.4% of all the fatally injured drivers who had been drinking and 88.9% of all of the fatally injured drivers who were legally impaired. Males dominate the picture largely because they account for 79.6% of the drivers who are killed (818 of the 1,027 fatalities are males).

A comparison in the prevalence of alcohol use among male and female fatally injured drivers is shown in Figure 3-5. The pie chart shows within each gender, the percent who were sober (i.e., 0 BAC) and positive for alcohol (+ BAC). The bar to the right of the pie chart shows the distribution of alcohol levels found among those who were drinking – the percent who had alcohol levels above and below the legal limit. Percentages are given inside the figures; the absolute number of cases is shown adjacent to the figure.

Fatally injured male drivers were more likely to have been drinking than female drivers (34.2% and 16.9%, respectively). And, most of the male and female drivers who were drinking had BACs over the legal limit (80.7% and 85.7%, respectively).

Figure 3-5
Alcohol Use Among Male and Female Drivers: Canada, 2015



3.2.3 Vehicle differences. Table 3-3 shows the number and percent of drinking and legally impaired drivers accounted for by drivers of different types of highway vehicles. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 40.6% were automobile drivers; 30.5% were light truck drivers;

16.2% were motorcycle riders; 10.5% were van drivers; 1.1% were tractor-trailer drivers; drivers of heavy trucks accounted for 0.8%; and 0.4% were drivers of other trucks.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 43.5% were automobile drivers; 32.4% were light truck drivers; 13.0% were motorcycle riders; 9.7% were van drivers; 0.9% were tractor-trailer drivers; and drivers of heavy trucks accounted for 0.5%.

Table 3-3

Number and Percent of Fatally Injured Drinking and Legally Impaired Drivers Accounted for by Drivers* of Different Vehicle Types: Canada, 2015

Vehicle Type	Number of Drinking Drivers	% of All Drinking Drivers	Number of Legally Impaired Drivers	% of All Legally Impaired Drivers
Automobile	108	40.6	94	43.5
Motorcycle	43	16.2	28	13.0
Tractor-Trailer	3	1.1	2	0.9
Heavy Truck[1]	2	0.8	1	0.5
Van	28	10.5	21	9.7
Light Truck[2]	81	30.5	70	32.4
Other Truck[3]	1	0.4	0	0.0
TOTAL	266	100.0	216	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors and other non-highway vehicles.

[1] Trucks over 4500 kg.

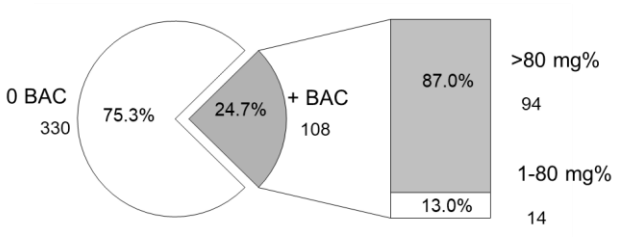
[2] e.g., pickup trucks.

[3] Motorhomes, utility vehicles, plows and trucks of unknown type.

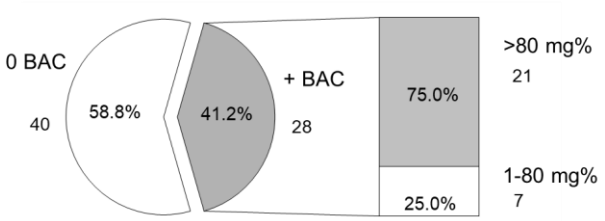
Figures 3-6a, 3-6b and 3-6c summarize the results of alcohol tests for drivers fatally injured in 2015 according to the type of vehicle being operated: automobile drivers and drivers of vans (Figure 3-6a); motorcycle riders and drivers of light trucks (Figure 3-6b); and drivers of heavy trucks and tractor-trailers (Figure 3-6c). A common format is used in all cases. The pie chart shows the number and percent of drivers who were sober as well as the number and percent of drivers who had been drinking. The bar chart displays the BAC distribution among those who tested positive for alcohol.

Among fatally injured automobile drivers, 24.7% had been drinking. Of those who were drinking, the vast majority (87.0%) had alcohol levels in excess of the legal limit. Among fatally injured van drivers, 41.2% had been drinking and most (75.0%) of these had BACs over the legal limit. Among motorcycle riders, 30.1% had been drinking and 65.1% of these had BACs over the legal limit. The highest incidence of drinking was found among drivers of light trucks – 45.5% had been drinking and 86.4% of these had illegal BACs. Heavy truck and tractor-trailer drivers have a much lower frequency of alcohol involvement. Indeed, 20.0% of heavy truck drivers and 15.0% of tractor-trailer drivers had been drinking. Among those fatally injured drivers who had been drinking, 50.0% of drivers of heavy trucks and 66.7% of tractor-trailer drivers had BACs over the legal limit. Given that the number of fatally injured drivers of heavy trucks and tractor-trailers is small, BAC results should be treated with caution.

Figure 3-6a
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2015

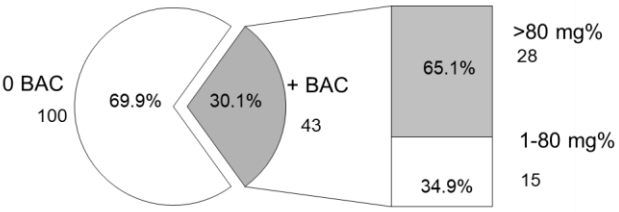


AUTOMOBILE DRIVERS

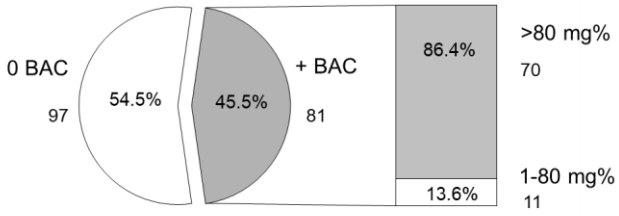


VAN DRIVERS

Figure 3-6b
Alcohol Use Among Drivers of Different
Vehicle Types: Canada, 2015

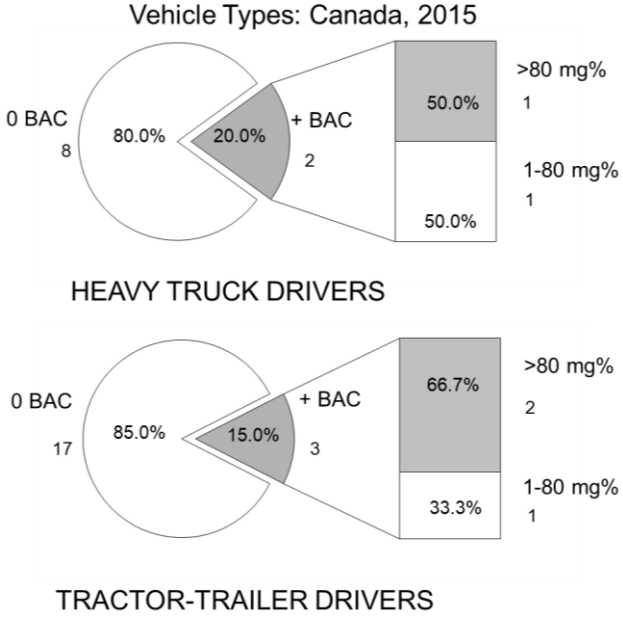


MOTORCYCLISTS



LIGHT TRUCK DRIVERS

Figure 3-6c
Alcohol Use Among Drivers of Different Vehicle Types: Canada, 2015



Figures 3-6d and 3-6e present similar information on the incidence of drinking among drivers operating recreational vehicles who died within 30 days in collisions which occurred on public roadways (results for these vehicle types are not included in Tables 3-2 or 3-3). Given that there are relatively few operators of recreational vehicles who were fatally injured in collisions on public roadways (most notably snowmobilers and off-road vehicle operators, the following figures should be treated with caution.

As can be seen, the lowest incidence of drinking was found among bicyclists as only 13.8% of fatally injured bicyclists had been drinking at the time of the collision. Among those bicyclists who had been drinking, 75.0% had BACs over the legal limit. Among snowmobile drivers, 33.3% had been drinking and 50.0% had BACs over the legal limit. Operators of off-road vehicles (ATVs, dirt bikes, etc.) were more likely than snowmobile drivers to have been drinking (62.5%) and 80.0% of these drinking drivers had BACs over the legal limit.

Figure 3-6d
Alcohol Use Among Drivers of Different Vehicle Types: Canada, 2015

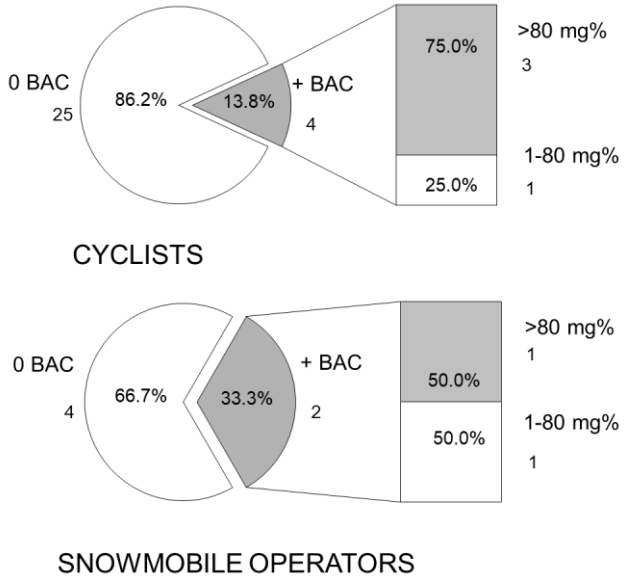
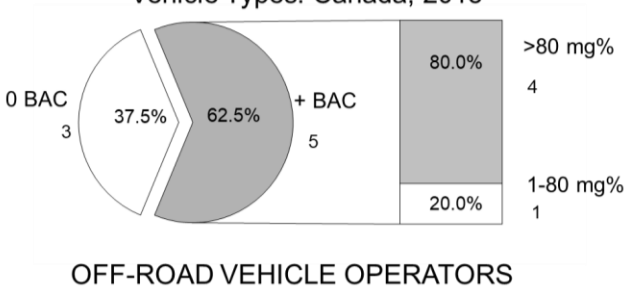


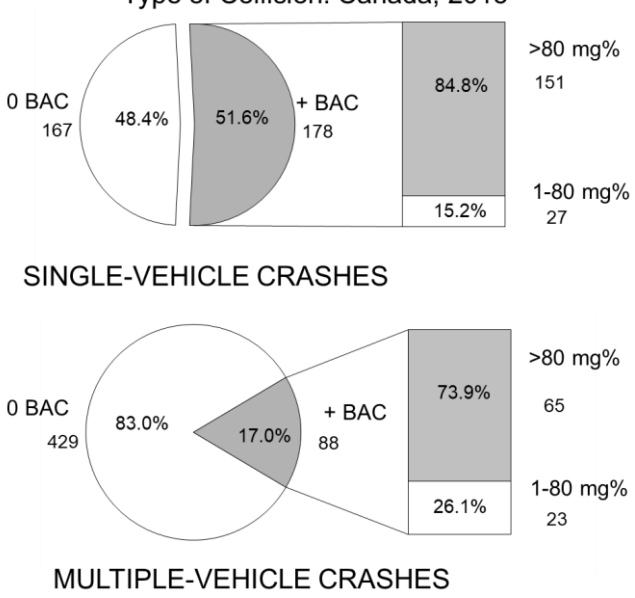
Figure 3-6e
Alcohol Use Among Drivers of Different Vehicle Types: Canada, 2015



3.2.4 Collision differences. Less than half of all drivers killed (418 out of 1,027, or 40.7%) were involved in single-vehicle collisions but these crashes accounted for approximately two-thirds of the drivers who had been drinking or were legally impaired (66.9% and 69.9%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. As shown in Figure 3-7, over half of the drivers involved in single-vehicle crashes (51.6%) tested positive for alcohol, compared to only 17.0% of those involved in multiple-vehicle collisions. Most drinking drivers in single-vehicle crashes had BACs over the legal limit (84.8%). Among drinking drivers in multiple-vehicle crashes, 73.9% had BACs over the legal limit.

Figure 3-7
Alcohol Use Among Drivers by
Type of Collision: Canada, 2015



3.3 Alcohol in fatally injured pedestrians

This section presents information on the presence of alcohol among pedestrians fatally injured as a result of being hit by a motor vehicle in Canada during 2015. *At the time this report was being prepared, 2015 coroner data from British Columbia were not available. For this reason, 2015 data reported in this section excludes this jurisdiction.* Table 3-4 shows the information by age group, gender and jurisdiction. The first column in the table shows the number of pedestrians killed. The next two columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – this includes the percent of those tested who were positive for alcohol in each of five BAC levels.

During 2015, as shown by the totals at the bottom of the table, there were 231 pedestrians fatally injured; 160 (69.3%) of these pedestrians were tested for the presence of alcohol. Among tested pedestrians:

- 67.5% showed no evidence of alcohol as 32.5% had been drinking;
- 2.5% had BACs below 50 mg%;
- 1.3% had BACs from 50 to 80 mg%;
- 5.0% had BACs from 81 to 160%; and
- 23.8% had BACs over 160 mg%.

Thus, 32.5% of fatally injured pedestrians had been drinking and most of these had BACs over 80 mg%.

3.3.1 Age difference. Of all the fatally injured pedestrians, over half (51.5%) were over 55 years of age (119 of the 231 pedestrian fatalities). The oldest pedestrians, however, accounted for a much smaller portion of the drinking pedestrians and those with BACs over 80 mg%. This is illustrated in Figure 3-8. The figure shows the percent of all drinking pedestrians accounted for by each age group. The bar on the left shows the percent of all fatally injured pedestrians with any evidence of alcohol accounted for by each age group. On the right is shown the percent of pedestrians with BACs over 80 mg% accounted for by each age group. Of all the fatally injured drinking pedestrians, 27.5% were aged 36-45; 21.6% were over 55; 17.6% were aged 20-25; 15.7% were aged 46-55; 13.7% were aged 26-35; and 3.9% were aged 16-19.

Table 3-4
Alcohol Use Among Fatally Injured Pedestrians: Canada, 2015*

Category of Pedestrian	Number of Pedestrians	Pedestrians Tested		Percent of Tested Pedestrians with BACs of:				
		Number	% of total	Zero	1-49	50-80	81-160	>160
Age								
<16	8	3	37.5	66.7	0.0	0.0	0.0	33.3
16-19	7	5	71.4	60.0	0.0	0.0	20.0	20.0
20-25	18	15	83.3	40.0	6.7	6.7	13.3	33.3
26-35	21	13	61.9	46.2	15.4	0.0	0.0	38.5
36-45	28	19	67.9	26.3	0.0	5.3	0.0	68.4
46-55	30	25	83.3	68.0	0.0	0.0	8.0	24.0
>55	119	80	67.2	86.3	1.3	0.0	3.8	8.8
Gender								
Male	148	102	68.9	62.7	2.9	2.0	5.9	26.5
Female	83	58	69.9	75.9	1.7	0.0	3.4	19.0
Jurisdiction								
Alberta	35	30	85.7	56.7	0.0	0.0	3.3	40.0
Saskatchewan	13	10	76.9	50.0	0.0	0.0	0.0	50.0
Manitoba	8	7	87.5	42.9	0.0	0.0	0.0	57.1
Ontario	117	85	72.6	75.3	3.5	2.4	4.7	14.1
Quebec	41	14	34.1	71.4	7.1	0.0	7.1	14.3
New Brunswick	5	3	60.0	66.7	0.0	0.0	33.3	0.0
Nova Scotia	8	7	87.5	71.4	0.0	0.0	0.0	28.6
Prince Edward Island	1	1	100.0	100.0	0.0	0.0	0.0	0.0
Newfoundland/Labrador	3	3	100.0	33.3	0.0	0.0	33.3	33.3
TOTAL	231	160	69.3	67.5	2.5	1.3	5.0	23.8

* Excluding British Columbia.

Of all the fatally injured pedestrians with BACs over 80 mg%, 28.9% were aged 36-45; 22.2% were over 55; 17.8% were aged 46-55; 15.6% were aged 20-25; 11.1% were aged 26-35; and 4.4% were aged 16-19.

Figure 3-8
Percent of All Fatally Injured Drinking and Legally Impaired Pedestrians Accounted for by Each Age Group: Canada, 2015

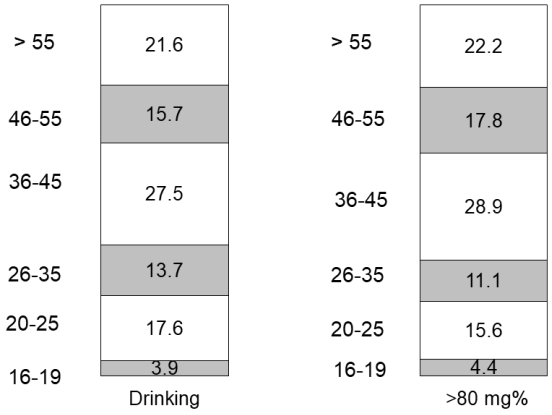
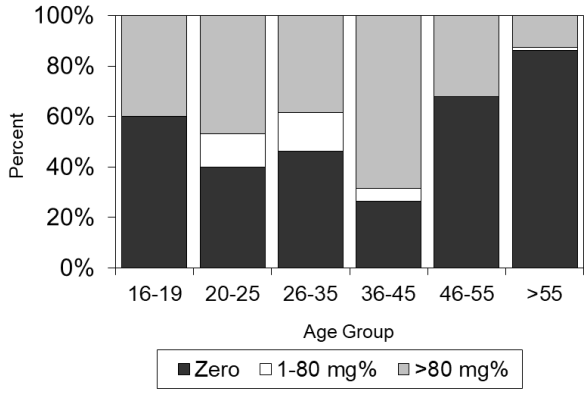


Figure 3-9 presents the information in a slightly different manner. For each age group, the percent of pedestrians who were sober (zero BAC) is shown by the lower, dark portion of the bar; the percent who tested positive for alcohol but whose BAC was less than or equal to 80 mg% is shown by the white section in the middle, and the percent with BACs over 80 mg% is shown by the upper, grey part of the bar.

Fatally injured pedestrians age 36-45 were the most likely to have been drinking – 73.7% of pedestrians in this age group had been drinking. By contrast, only 13.7% of tested pedestrians over age 55 had been drinking.

Figure 3-9
Percent of Drinking Pedestrians Within Each Age Group: Canada, 2015

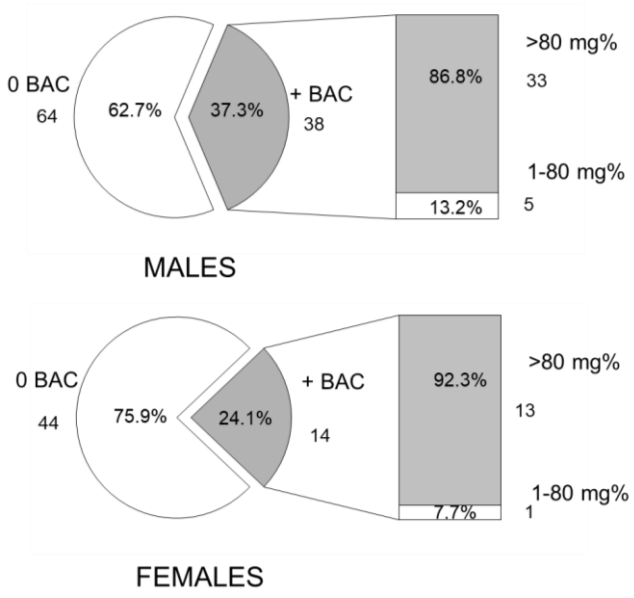


3.3.2 Gender differences. Males account for 73.1% of all the fatally injured pedestrians who had been drinking, and 71.7% of all of the fatally injured pedestrians who had BACs over 80 mg%. Males dominate the picture because they account for 64.1% of the pedestrians who are killed (148 of the 231 fatalities are male).

Figure 3-10 summarizes the findings for alcohol use among fatally injured male and female pedestrians. The pie chart shows the proportion of those pedestrians who were sober (0 BAC) and those positive for alcohol (+ BAC). The bar to the right of the pie chart shows the distribution of alcohol levels found among those who had been drinking; the percent who had BACs above and below 80 mg%. Percentages are given inside the figures; the absolute number of cases is shown adjacent to the figure.

Among fatally injured male pedestrians, 37.3% had been drinking and 86.8% of these pedestrians had BACs over 80 mg%. Among fatally injured female pedestrians, 24.1% had been drinking and 92.3% had BACs over 80 mg%.

Figure 3-10
Alcohol Use Among Male and Female
Fatally Injured Pedestrians: Canada, 2015



3.3.3 Jurisdictional differences. Of all the fatally injured pedestrians, 50.6% were killed in Ontario, 17.7% were killed in Quebec, and 15.2% were killed in Alberta. Ontario accounted for 40.4%, Alberta accounted for 25.0%, and Saskatchewan accounted for 9.6% of the fatally injured drinking pedestrians. Among fatally injured pedestrians with BACs over 80 mg%, 34.8% were from Ontario, 28.3% were from Alberta, and 10.9% were from Saskatchewan. It should be noted that the figures for pedestrians in Quebec who are drinking or have BACs over 80 mg% are underestimated because they are based on tested pedestrians and the rate of testing for alcohol is low in this jurisdiction – e.g., only 34.1% of pedestrians fatally injured in Quebec were tested, compared to 100.0% in Prince Edward Island and Newfoundland and Labrador, 87.5% in Manitoba and Nova Scotia, and 85.7% in Alberta.

As shown in Table 3-4, the highest incidence of alcohol in fatally injured pedestrians, however, was in Newfoundland and Labrador (66.7%) and Manitoba (57.1%). The lowest incidence of alcohol in fatally injured pedestrians was in Prince Edward Island (0.0%) and Ontario (24.7%).

3.4 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Canada, excluding Nova Scotia and the Yukon, because data from these jurisdictions were not available at the time this report was being prepared. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle, at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., they noted that at least one drinking driver was involved in the crash (see Section 2.2.4).

The results are shown in Table 3-5 for drivers grouped in terms of age, gender, type of vehicle driven, and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

Table 3-5
Drivers of Highway Vehicles in Alcohol-Related Serious Injury Crashes: Canada, 2015*

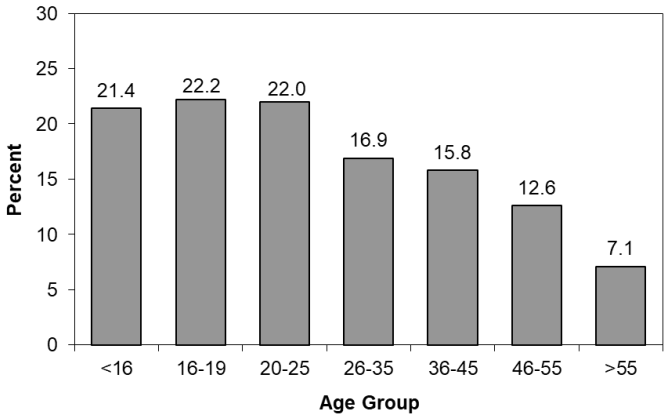
Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	28	6	21.4	0.3
16-19	841	187	22.2	10.3
20-25	1633	359	22.0	19.7
26-35	2366	399	16.9	21.9
36-45	2001	317	15.8	17.4
46-55	2016	255	12.6	14.0
>55	2861	203	7.1	11.2
unknown	600	92	15.3	5.1
Gender				
Male	8283	1371	16.6	75.4
Female	3742	392	10.5	21.6
unknown	321	55	17.1	3.0
Vehicle Type**				
Auto	4982	761	15.3	49.5
Truck/Van	3927	644	16.4	41.9
Motorcycle	925	85	9.2	5.5
Tractor Trailer	307	33	10.7	2.1
Other Hwy. Vehicle	106	13	12.3	0.8
Collision Type				
Single-Vehicle	3838	1276	33.2	70.2
Multiple-Vehicle	8528	542	6.4	29.8
TOTAL	12346	1818	14.7	100.0

* Excluding data from Nova Scotia and the Yukon.
** Vehicle type section excludes Quebec since this jurisdiction has grouped automobiles and light trucks together in its collision data since March 2010.

As shown, by the totals at the bottom of the table, 12,346 drivers were involved in crashes in which someone was seriously injured. Among these, 14.7% were alcohol-related crashes.

3.4.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 21.9% were aged 26-35; 19.7% were aged 20-25; and 17.4% were aged 36-45. Drivers under the age of 16 accounted for only 0.3% of all those involved in alcohol-related crashes. Figure 3-11 shows for each age group the percent of drivers who were in a serious injury crash that involved alcohol. The highest incidence of alcohol involvement was found for drivers aged 16-19 and 20-25 (22.2% and 22.0%, respectively). The lowest incidence of involvement in alcohol-related crashes was found for the oldest age groups of drivers as 12.6% of drivers aged 46-55 and 7.1% of drivers over 55 were in a serious injury crash that involved alcohol.

Figure 3-11
Percent of Drivers Within Each Age Group in Serious Injury Crashes that Involved Alcohol: Canada, 2015



3.4.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 75.4% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (16.6% and 10.5%, respectively).

3.4.3 Type of vehicle driven. The numbers and percentages in the vehicle type section exclude Quebec since this jurisdiction has grouped automobiles and light trucks together in its collision data since March 2010. Of all the drivers involved in alcohol-related serious injury crashes, 49.5% were automobile drivers and 41.9% were truck/van drivers.

Among serious injury crashes involving truck/van drivers, 16.4% were alcohol related. The percentage of involvement in alcohol-related serious injury crashes was 15.3% for automobile drivers, 12.3% for drivers of other highway vehicles, 10.7% for tractor-trailer drivers, and 9.2% for motorcycle riders.

3.4.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 70.2% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes (33.2%) compared to only 6.4% for drivers involved in multiple-vehicle crashes.

3.5 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Canada during 2015. *At the time this report was being prepared, 2015 coroner data from British Columbia were not available. For this reason, 2015 data reported in this section excludes this jurisdiction.* A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 3-6 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple). The data are presented for drivers of the highway vehicles (i.e., automobiles, trucks, vans, motorcycles, tractor-trailers) who died within 30 days in collisions which occurred on public roadways.

The first column in the table shows the number of drivers killed. The next two columns show the number and percent of these victims who were tested for drugs. The remaining columns provide information on the results of the drug tests – this includes the number and percent of those tested who were positive for drugs.

Table 3-6
Drug Use Among Fatally Injured Drivers of Highway Vehicles: Canada, 2015 (Excluding British Columbia)

Category of Driver	Number of Drivers*	Drivers Tested		Positive for Drugs	
		Number	% of total	Number	% of total
Age					
<20**	66	57	86.4	21	36.8
20-25	136	119	87.5	67	56.3
26-35	179	152	84.9	91	59.9
36-45	112	95	84.8	51	53.7
46-55	179	148	82.7	67	45.3
>55	355	252	71.0	108	42.9
Gender					
Male	818	667	81.5	331	49.6
Female	209	156	74.6	74	47.4
Vehicle Type					
Automobile	535	414	77.4	196	47.3
Motorcycle	166	140	84.3	72	51.4
Tractor Trailer	23	19	82.6	7	36.8
Heavy Truck[1]	11	10	90.9	5	50.0
Van	75	64	85.3	36	56.3
Light Truck[2]	212	171	80.7	89	52.0
Other Truck[3]	4	4	100.0	0	0.0
Other Hwy. Vehicle[4]	1	1	100.0	0	0.0
Collision Type					
Single-Vehicle	418	327	78.2	189	57.8
Multiple-Vehicle	609	496	81.4	216	43.5
TOTAL	1027	823	80.1	405	49.2

* Drivers dying within 30 days in crashes on public roadways.
** Drivers from two age groups have been aggregated to ensure that an individual will not be identified.

[1] Trucks over 4500 kg.
[2] e.g., pickup trucks.
[3] Motorhomes, utility vehicles, plows and trucks of unknown type.
[4] Emergency vehicles and buses.

Note: The vehicle types that appear in the shaded area correspond to the truck/van category used in the jurisdictional sections of this report.

As can be seen, in 2015, 80.1% of fatally injured drivers in Canada were tested for drug use. Among fatally injured tested drivers, 405 out of 823 (49.2%) were positive for drugs.

3.5.1 Age differences. Drivers aged under 16 and 16-19 have been regrouped (<20 age group) to ensure that individuals cannot be identified. Fatally injured drivers aged 26-35 were the most likely to have been positive for drugs – 59.9% of drivers in this age group tested positive for drugs. By contrast, 36.8% of drivers under age 20 tested positive for drugs.

3.5.2 Gender differences. Males dominate the picture as they account for 81.7% of all the fatally injured drivers who tested positive for drugs. Males dominate the picture largely because they account for 79.6% of the drivers who are killed (818 of the 1,027 fatalities are males). Fatally injured male drivers were slightly more likely to have been positive for drugs than female drivers (49.6% and 47.4%, respectively).

3.5.3 Vehicle differences. Within each of the vehicle types, 56.3% of fatally injured van drivers, 52.0% of light truck drivers, 51.4% of motorcyclists, 50.0% of heavy truck drivers, 47.3% of automobile drivers, and 36.8% of tractor trailer drivers tested positive for drugs. The lowest percentage of drivers testing positive for drugs were other truck drivers and drivers of other highway vehicles (0.0%).

3.5.4 Collision differences. Almost three-fifths of the drivers who were killed in single-vehicle collisions (57.8%) tested positive for drugs compared to 43.5% of those involved in multiple vehicle crashes.

3.5.5 Categories of drugs detected. In Table 3-7, the categories of drugs found among fatally injured drivers testing positive for drugs is shown. A brief description of the different drug categories is provided in Section 2.2.5. Among the 405 fatally injured drivers who tested positive for drugs, 42.5% tested positive for cannabis. Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (42.0%), CNS stimulants (27.2%), narcotic analgesics (21.2%), dissociative anesthetics (1.5%), and hallucinogens (1.2%).

Table 3-7
Drug Use Among Fatally Injured Drivers of Highway Vehicles: Canada, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
1027	823	(80.1)	405	(49.2)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive*
Cannabis	172	(42.5)
CNS Depressants	170	(42.0)
CNS Stimulants	110	(27.2)
Narcotic Analgesics	86	(21.2)
Dissociative Anesthetics	6	(1.5)
Hallucinogens	5	(1.2)
Inhalants	0	(0.0)

* Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

3.6 Trends in alcohol and drug-impaired driving

The previous sections examined four indicators of the alcohol-crash problem: the number and percent of people who died in crashes that involved alcohol; the number and percent of fatally injured drivers who had been drinking; the number and percent of fatally injured pedestrians who had been drinking; and the number and percent of drivers in serious injury crashes that involved alcohol. The drug use among fatally injured drivers indicator was also examined. This section examines changes in these four indicators of the alcohol-crash problem and indicators of the drug-crash problem and cannabis-crash problem. Findings for these indicators of the alcohol-crash problem and drug-crash problem in the 2011-2015 period are compared with those taken from the 2006-2010 baseline period.

3.6.1 Deaths involving drinking drivers: 1996-2015. As mentioned earlier in Section 3.1, at the time this report was being prepared, 2015 coroner data from British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction.* Table 3-8 and Figure 3-12 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 3.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally dropped from 875 in 1996 to 549 in 2011, rose slightly to 562 in 2012, dropped to a low of 421 in 2014, and rose slightly to 424 in 2015. The percentage of alcohol-related fatalities generally decreased from 34.5% in 1996 to 28.9% in 2005, eventually rose to 34.0% in 2010, and decreased to a low of 26.4% in 2015.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 664 fatalities involving a drinking driver and they accounted for 33.0% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 12.7% from 33.0% in the baseline period (2006-2010) to 28.8% in the 2011-2015 period. And in terms of the number of persons killed in crashes involving a drinking driver, there has been a 26.2% decrease from an average of 664 in the baseline period (2006-2010) for Road Safety Strategy 2015 to 490 in the 2011-2015 period.

Table 3-8

Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Canada, 1996-2015*****

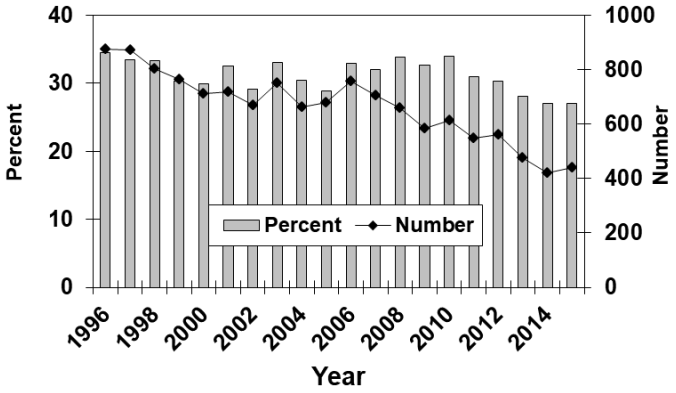
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	2539	876	34.5
1997	2602	872	33.5
1998	2413	805	33.4
1999	2522	764	30.3
2000	2386	713	29.9
2001	2211	718	32.5
2002	2297	669	29.1
2003	2270	752	33.1
2004	2178	663	30.4
2005	2353	680	28.9
2006	2304	757	32.9
2007	2205	706	32.0
2008	1955	660	33.8
2009	1790	586	32.7
2010	1804	613	34.0
2011	1771	549	31.0
2012	1856	562	30.3
2013	1690	475	28.1
2014	1558	422	27.1
2015	1631	441	27.0
2006-2010 baseline	2012	664	33.0
2011-2015 period	1701	490	28.8

* Numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** Persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

*** Excludes British Columbia.

Figure 3-12
Number and Percent of Deaths Involving a Drinking Driver: Canada, 1996-2015



3.6.2 Alcohol use among fatally injured drivers: 1996-2015. As mentioned earlier in Section 3.2, at the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction.* Data on alcohol

use among fatally injured drivers of highway vehicles over the 20-year period from 1996 to 2015 are shown in Table 3-9. Trends are illustrated in Figure 3-13 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol – represented by the white area; (2) had BACs below the legal limit – shown by the light grey area; and (3) had BACs over the legal limit – the dark grey area.

The number of fatally injured drivers with BACs over the legal limit (> 80 mg%) generally declined from 387 to 310 between 1996 and 2004, rose to 356 in 2005, and eventually fell to a low of 201 in 2015. The percent of fatally injured drivers with BACs over the legal limit generally decreased from 33.2% to 27.0% between 1996 and 2002, eventually rose to 31.9% in 2009, decreased to a low of 23.7% in 2014, and rose to 25.1% in 2015.

By contrast, the number of fatally injured drivers with zero BACs has fluctuated over this 20-year period, from 556 in 2015 to a high of 846 in 1999. In 2015, there were 556 fatally injured drivers with zero BACs. The percent of fatally injured drivers with zero BACs generally increased from 59.9% to 67.9% between 1996 and 1999, remained stable until 2007, decreased to 62.3% in 2008, eventually peaked at 71.5% in 2014, and decreased again to 69.3% in 2015.

The number of fatally injured drivers with BACs between 1-80 mg% generally declined from 80 to 66 between 1996 and 2001, rose to 82 in 2006, decreased to 41 in 2014, and rose to 45 in 2015. The percent of fatally injured drivers with BACs between 1 and 80 mg% generally decreased from 6.9% in 1996 to 5.6% in 2005, peaked in 2013 (7.4%), generally decreased to 5.6% in 2015.

When compared to the 2006-2010 baseline period shown at the bottom of Table 3-9, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 8.9% (from 62.9% to 68.5%). Among drivers with BACs from 1-80 mg%, there was a 12.5% decrease (from 6.4% to 5.7%). And among those with BACs over 80 mg%, there was a 15.6% decrease (from 30.7% to 25.8%).

Table 3-9

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Canada, 1996-2015*

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	1394	1166	83.6	699	59.9	80	6.9	387	33.2
1997	1459	1203	82.5	755	62.8	88	7.3	360	29.9
1998	1383	1163	84.1	715	61.5	71	6.1	377	32.4
1999	1475	1246	84.5	847	68.0	70	5.6	329	26.4
2000	1391	1179	84.8	769	65.2	75	6.4	335	28.4
2001	1322	1141	86.3	722	63.3	66	5.8	353	30.9
2002	1367	1183	86.5	792	66.9	71	6.0	320	27.0
2003	1366	1185	86.7	732	61.8	70	5.9	383	32.3
2004	1291	1112	86.1	732	65.8	70	6.3	310	27.9
2005	1426	1213	85.1	789	65.0	68	5.6	356	29.3
2006	1403	1194	85.1	764	64.0	82	6.9	348	29.1
2007	1346	1148	85.3	725	63.2	81	7.1	342	29.8
2008	1241	1092	88.0	680	62.3	67	6.1	345	31.6
2009	1129	950	84.1	594	62.5	53	5.6	303	31.9
2010	1104	948	85.9	592	62.4	60	6.3	296	31.2
2011	1082	906	83.7	603	66.6	53	5.8	250	27.6
2012	1134	966	85.2	648	67.1	46	4.8	272	28.2
2013	1039	906	87.2	620	68.4	67	7.4	219	24.2
2014	985	864	87.7	618	71.5	41	4.7	205	23.7
2015	1027	862	83.9	596	69.1	50	5.8	216	25.1
2006-2010 baseline	1245	1066	(85.6)	671	(62.9)	68	(6.4)	327	(30.7)
2011-2015 period	1053	901	(85.6)	617	(68.5)	51	(5.7)	233	(25.9)

* Excludes British Columbia.

Figure 3-13

Trends in Alcohol Use Among Driver Fatalities: Canada, 1996-2015

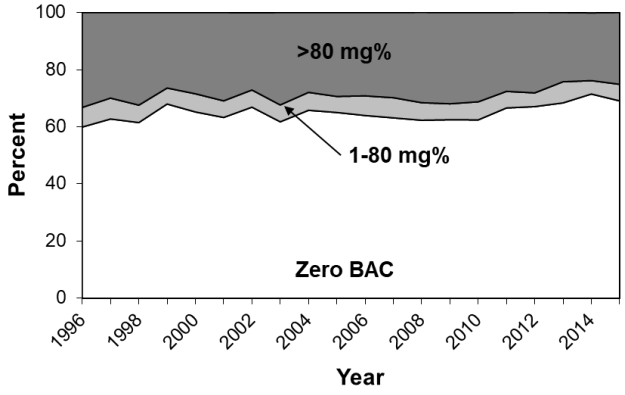


Table 3-10 and Figure 3-14 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 3-2). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 3-10, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 37.1%. In the 2011-2015 period, 31.5% of fatally injured drivers tested positive for alcohol, a 15.1% decrease from the baseline period.

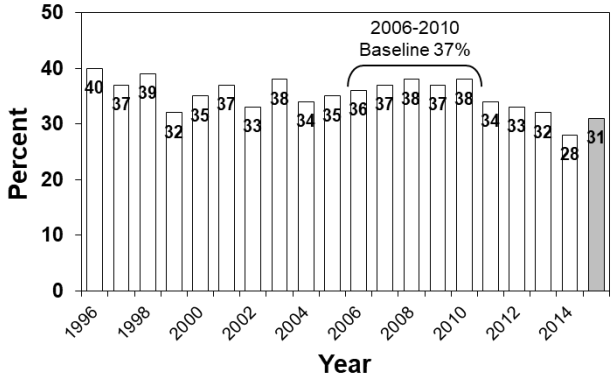
Table 3-10

Alcohol Use* Among Fatally Injured Drivers** of Highway Vehicles: Canada, 1996-2015***

Year	Number of Drivers	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	1394	836	(60.0)	558	(40.0)
1997	1459	916	(62.8)	543	(37.2)
1998	1383	850	(61.5)	533	(38.5)
1999	1475	1001	(67.9)	474	(32.1)
2000	1391	907	(65.2)	484	(34.8)
2001	1322	835	(63.2)	487	(36.8)
2002	1367	915	(66.9)	452	(33.1)
2003	1366	844	(61.8)	522	(38.2)
2004	1291	850	(65.8)	441	(34.2)
2005	1426	928	(65.1)	498	(34.9)
2006	1403	898	(64.0)	505	(36.0)
2007	1346	850	(63.2)	496	(36.8)
2008	1241	773	(62.3)	468	(37.7)
2009	1129	706	(62.5)	423	(37.5)
2010	1104	689	(62.4)	415	(37.6)
2011	1082	720	(66.5)	362	(33.5)
2012	1134	761	(67.1)	373	(32.9)
2013	1039	711	(68.4)	328	(31.6)
2014	985	705	(71.6)	280	(28.4)
2015	1027	710	(69.1)	317	(30.9)
2006-2010 baseline	1245	783	(62.9)	462	(37.1)
2011-2015 period	1053	721	(68.5)	332	(31.5)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.
** Dying within 30 days in collisions which occurred on public roadways.
*** Excludes British Columbia.

Figure 3-14
Percent of Fatally Injured Drivers
Positive for Alcohol: Canada, 1996-2015



3.6.3 Fatally injured pedestrians: 1996-2015. As mentioned earlier in Section 3.3, at the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction*. Data on alcohol use among fatally injured pedestrians over the 20-year period from 1996 to 2015 are shown in Table 3-11. Trends are illustrated in Figure 3-15 which shows changes in the percent of fatally injured pedestrians who: (1) showed no evidence of alcohol – represented by the white area; (2) had BACs below the legal limit – shown by the light grey area; and (3) had BACs over 80 mg% – the dark grey area.

The number of fatally injured pedestrians with a BAC over 80 mg% generally declined from a high of 75 in 1996 to a low of 41 in 2008, gradually rose to 62 in 2012, and eventually decreased to 46 in 2015. The percent of fatally injured pedestrians with a BAC over 80 mg% generally rose from 33.8% in 1996 to 38.3% in 2001, decreased to 28.6% in 2002, peaked at 40.0% in 2009, decreased to a low of 27.4% in 2014, and rose again to 28.8% in 2015.

The number of fatally injured pedestrians with no evidence of alcohol generally decreased from 140 to 75 between 1996 and 2009, eventually rose to 113 in 2014, and decreased again to 108 in 2015. The percent of fatally injured pedestrians with zero BACs has ranged from about 50% to 60% over this 20-year period. In 1997, 55.4% of fatally injured pedestrians showed no evidence of alcohol compared to a high of 68.9% in 2014 and 67.5% in 2015.

Table 3-11

Alcohol Use Among Fatally Injured Pedestrians*:
Canada**, 1996-2015

Year	Number of Pedestrians	Pedestrians Tested		Pedestrians Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	375	222	59.2	140	63.1	7	3.2	75	33.8
1997	342	204	59.6	113	55.4	16	7.8	75	36.8
1998	322	193	59.9	114	59.1	11	5.7	68	35.2
1999	317	183	57.7	114	62.3	8	4.4	61	33.3
2000	294	173	58.8	107	61.8	7	4.0	59	34.1
2001	264	167	63.3	97	58.1	6	3.6	64	38.3
2002	284	182	64.1	121	66.5	9	4.9	52	28.6
2003	295	180	61.0	112	62.2	9	5.0	59	32.8
2004	257	184	71.6	110	59.8	6	3.3	68	37.0
2005	262	173	66.0	103	59.5	4	2.3	66	38.2
2006	280	176	62.9	98	55.7	11	6.3	67	38.1
2007	258	166	64.3	96	57.8	12	7.2	58	34.9
2008	221	129	58.4	80	62.0	8	6.2	41	31.8
2009	235	145	61.7	75	51.7	12	8.3	58	40.0
2010	222	144	64.9	83	57.6	4	2.8	57	39.6
2011	261	158	60.5	90	57.0	13	8.2	55	34.8
2012	251	178	70.9	110	61.8	6	3.4	62	34.8
2013	241	143	59.3	92	64.3	4	2.8	47	32.9
2014	230	164	71.3	113	68.9	6	3.7	45	27.4
2015	231	160	69.3	108	67.5	6	3.8	46	28.8
2006-2010 baseline	243	152	(62.6)	86	(56.6)	10	(6.6)	56	(36.8)
2011-2015 period	243	161	(66.3)	103	(64.0)	7	(4.3)	51	(31.7)

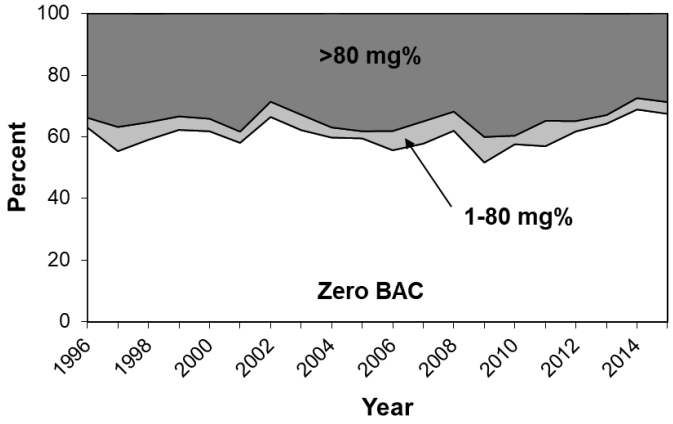
* Dying within 30 days in collisions which occurred on public roadways.

** Excludes British Columbia

The number of fatally injured pedestrians with BACs between 1-80 mg% fluctuated over this 20-year period from 16 in 1997 to four in 2010, rose to 13 in 2011, generally decreased to six in 2015. The percent of fatally injured drivers with BACs between 1-80 mg% also fluctuated between 2.3% in 2005 and 8.3% in 2009, declined to 2.8% in 2013, and rose until 2015 (3.8%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 3-11, the percentage of fatally injured pedestrians with zero BACs in the 2011-2015 period increased by 13.1% (from 56.6% to 64.0%). Among pedestrians with BACs from 1-80 mg%, there was a 34.8% decrease (from 6.6% to 4.3%). And among those with BACs over 80 mg%, there was a 13.9% decrease (from 36.8% to 31.7%).

Figure 3-15
Trends in Alcohol Use Among Pedestrian Fatalities: Canada, 1996-2015



3.6.4 Drivers in serious injury crashes: 2005-2015. Table 3-12 and Figure 3-16 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. For most jurisdictions, serious injury collision data are available as early as 1996. However, these data were not available for British Columbia until 2005 and the Yukon until 1998. Thus, in order to provide data for the greatest number of cases, the data shown in this table cover the 2005-2015 period. However, there are still some jurisdictions that did not have serious injury collision data available at the time this report was being prepared. These jurisdictions include New Brunswick (2013), Nova Scotia (2015), Newfoundland and Labrador (2009-2011), Yukon (2015), and Nunavut (2011). Thus Table 3-12 and Figure 3-16 exclude these five jurisdictions.

As can be seen, the incidence of alcohol-involvement in serious crashes has generally declined. Between 2005 and 2006 the number of drivers of highway vehicles in serious injury crashes that involved alcohol rose from 3,284 to 3,422. This number gradually decreased to 2,013 in 2011, rose to 2,033 in 2012, and decreased again to 1,737 in 2015. The percentage of drivers of highway vehicles in serious injury crashes involving alcohol rose from 19.2% in 2005 to 20.5% in 2006, generally decreased to 15.8% in 2013, rose slightly in 2014 (15.9%), and fell to its lowest level in 2015 (14.5%). In the baseline period (2006-2010), an average of 20.0% of drivers in serious injury crashes were in alcohol-involved crashes. In the 2011-2015 period, the incidence of drivers in alcohol-involved crashes was 16.2%, a 19.0% decrease.

Table 3-12

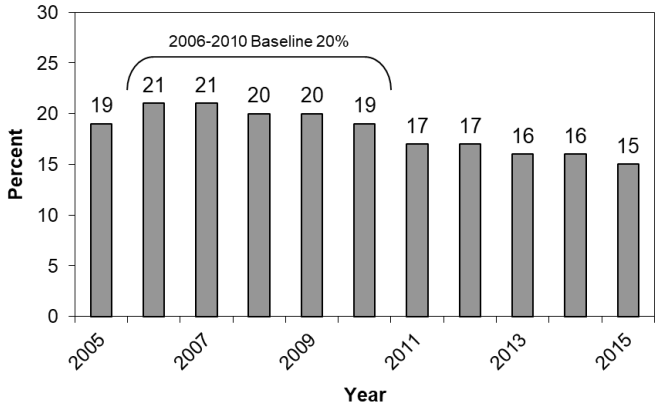
Number and Percent of All Drivers in Serious Injury Crashes* that Involved Alcohol: Canada, 2005-2015**

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
2005	17073	3284	(19.2)
2006	16721	3422	(20.5)
2007	15296	3138	(20.5)
2008	14105	2808	(19.9)
2009	12826	2579	(20.1)
2010	12734	2364	(18.6)
2011	11569	2013	(17.4)
2012	11866	2033	(17.1)
2013	11812	1869	(15.8)
2014	11427	1821	(15.9)
2015	11949	1737	(14.5)
2006-2010 baseline	14336	2862	(20.0)
2011-2015 period	11725	1895	(16.2)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

** Excludes data from New Brunswick, Nova Scotia, Newfoundland and Labrador, Yukon, and Nunavut.

Figure 3-16
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Canada, 2005-2015



3.6.5 Drug use among fatally injured drivers: 2000-2015. As mentioned earlier in Section 3.5, at the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. *For this reason, trend data reported in this section excludes this jurisdiction.* Data on drug use among fatally injured drivers of highway vehicles over the 16-year period from 2000 to 2015 are shown in Table 3-13. Trends are illustrated in Figure 3-17 which shows changes in the percent of fatally injured drivers who tested positive for drugs.

Unlike trends in the number of fatally injured drivers testing positive for alcohol, the corresponding trends in the number of drivers testing positive for drugs is more difficult to analyse since testing rates

for drugs are less consistent than those for alcohol. For example, in 2000, only 37.0% of fatally injured drivers were tested for drugs compared to 80.1% in 2015.

The percent of fatally injured drivers testing positive for drugs rose from 34.4% in 2000 to 41.4% in 2002, stabilized at 36.8% in 2010, rose in 2013 (44.7%), decreased in 2014 (42.5%), and peaked in 2015 (49.2%).

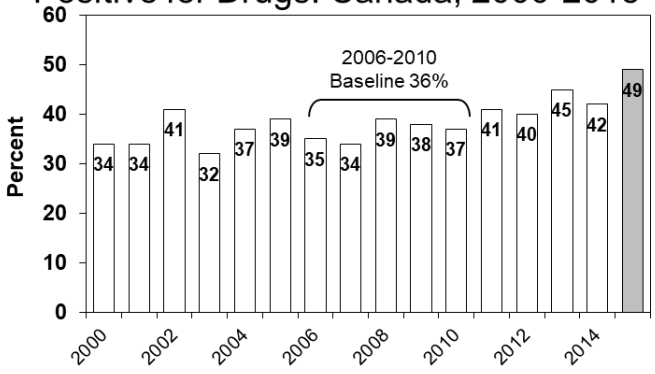
During the baseline period (2006-2010), an average of 36.3% of fatally injured drivers tested positive for drugs. In the 2011-2015 period, the incidence of fatally injured drivers testing positive for drugs rose to 43.4%, a 19.6% increase.

Table 3-13
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Canada**, 2000-2015

YEAR	Number of Drivers	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	1391	515	37.0	338	65.6	177	34.4
2001	1322	556	42.1	365	65.6	191	34.4
2002	1367	618	45.2	362	58.6	256	41.4
2003	1366	621	45.5	424	68.3	197	31.7
2004	1291	500	38.7	316	63.2	184	36.8
2005	1426	633	44.4	385	60.8	248	39.2
2006	1403	823	58.7	535	65.0	288	35.0
2007	1346	836	62.1	553	66.1	283	33.9
2008	1241	712	57.4	438	61.5	274	38.5
2009	1129	605	53.6	376	62.1	229	37.9
2010	1104	623	56.4	394	63.2	229	36.8
2011	1082	800	73.9	474	59.3	326	40.8
2012	1134	886	78.1	535	60.4	351	39.6
2013	1039	860	82.8	476	55.3	384	44.7
2014	985	806	81.8	464	57.6	342	42.4
2015	1027	823	80.1	418	50.8	405	49.2
2006-2010 baseline	1245	720	57.8	459	63.8	261	36.3
2011-2015 period	1053	835	79.3	473	56.6	362	43.4

* Dying within 30 days in collisions which occurred on public roadways.
** Excludes British Columbia.

Figure 3-17
Percent of Fatally Injured Drivers Positive for Drugs: Canada, 2000-2015



Data on cannabis use among fatally injured drivers of highway vehicles over the 16-year period from 2000 to 2015 are shown in Table 3-14. Trends are illustrated in Figure 3-18 which shows changes in the percent of fatally injured drivers who tested positive for cannabis.

Similar to trends in the number of fatally injured drivers testing positive for drugs, the trends in the number of drivers testing positive for cannabis is difficult to analyse since testing rates for cannabis are less consistent than those for alcohol. For example, in 2000, only 37.0% of fatally injured drivers were tested for cannabis compared to 80.1% in 2015.

The percent of fatally injured drivers testing positive for cannabis generally rose from 15.9% in 2000 to 18.2% in 2004, remained stable until 2012, peaked in 2013 (22.0%), decreased in 2014 (19.0%), and rose again in 2015 (20.9%).

During the baseline period (2006-2010), an average of 16.4% of fatally injured drivers tested positive for cannabis. In the 2011-2015 period, the incidence of fatally injured drivers testing positive for cannabis rose to 19.4%, an 18.3% increase.

Table 3-14

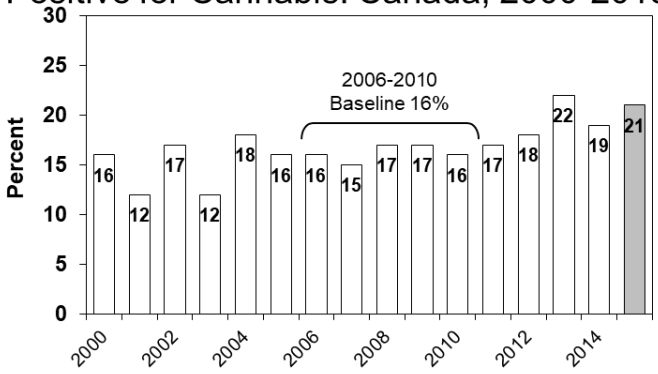
Cannabis Use Among Fatally Injured Drivers* of Highway Vehicles: Canada**, 2000-2015

YEAR	Number of Drivers	Drivers Tested	(% Total)	Drivers Tested for Cannabis			
				Negative	(% Tested)	Positive	(% Tested)
2000	1391	515	37.0	433	84.1	82	15.9
2001	1322	556	42.1	490	88.1	66	11.9
2002	1367	618	45.2	511	82.7	107	17.3
2003	1366	621	45.5	548	88.2	73	11.8
2004	1291	500	38.7	409	81.8	91	18.2
2005	1426	633	44.4	535	84.5	98	15.5
2006	1403	823	58.7	690	83.8	133	16.2
2007	1346	836	62.1	707	84.6	129	15.4
2008	1241	712	57.4	589	82.7	123	17.3
2009	1129	605	53.6	501	82.8	104	17.2
2010	1104	623	56.4	524	84.1	99	15.9
2011	1082	800	73.9	666	83.3	134	16.8
2012	1134	886	78.1	725	81.8	161	18.2
2013	1039	860	82.8	671	78.0	189	22.0
2014	985	807	81.9	654	81.0	153	19.0
2015	1027	823	80.1	651	79.1	172	20.9
2006-2010 baseline	1245	720	57.8	602	83.6	118	16.4
2011-2015 period	1053	835	79.3	673	80.6	162	19.4

* Dying within 30 days in collisions which occurred on public roadways.

** Excludes British Columbia.

Figure 3-18
Percent of Fatally Injured Drivers
Positive for Cannabis: Canada, 2000-2015



3.7 Comparisons of Alcohol and Drug Indicators Between Jurisdictions

This section provides a comparison between jurisdictions of the prevalence of alcohol and drug use among fatally injured drivers and alcohol involvement among drivers in serious injury collisions. Analyses in this section differ from that earlier in Section 3 in that they not only present data for Canada as a whole, but data for each of the jurisdictions. This enables one to compare data between jurisdictions or to compare an individual jurisdiction's data with the national average. This section includes analysis of:

- Alcohol and drug use among fatally injured drivers in 2015; and,
- Trends in alcohol and drug use.

Please note that, similar to the rest of Section 3, fatality data for Canada do not include British Columbia since 2011 to 2015 coroner data were not available at the time of publication. Thus, Canadian fatality data excludes British Columbia.

3.7.1 Alcohol and drug use among fatally injured drivers in 2015. Alcohol and drug use among fatally injured drivers is shown separately, and together, for Canada and each of its jurisdictions for 2015 in Table 3-15 and Figure 3-19. The table presents data on the number and percent of fatally injured drivers of highway vehicles that tested positive for alcohol and drugs. In addition, Table 3-15 shows the number and percentage of drivers who tested positive for both alcohol and drugs. These data are similar to those used to create Table 3-2 and 3-7. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers is substantially smaller than those for other jurisdictions.

In Canada in 2015, 83.9% of fatally injured drivers were tested for alcohol. Among these drivers, 30.9% had positive BACs. The testing rate for drug use among fatally injured drivers was somewhat lower (80.1%). And among these drivers, 49.2% tested positive for drugs. In Canada in 2015, 814 fatally

injured drivers were tested for both alcohol and drugs. Among these drivers, 158 (19.4%) tested positive for both alcohol and drugs. The highest percentage of fatally injured drivers who tested positive for both alcohol and drugs was in the Yukon (33.3%) and New Brunswick (25.7%).

Table 3-15

Alcohol and Drug Use Among Fatally Injured Drivers of Highway Vehicles: Canada, 2015

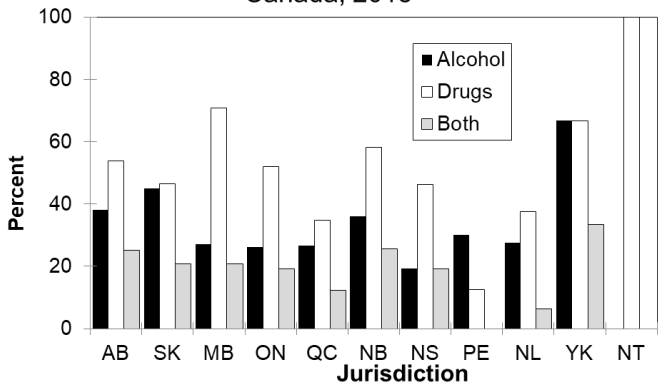
Juris	Drivers Killed*	Tested for Alcohol			Tested for Drugs			Tested for Both	
		Drivers Tested**	Zero BAC	Positive BAC	Drivers Tested**	Negative	Positive	Drivers Tested	Positive for Both
AB	209	204 (97.6)	126 (61.8)	78 (38.2)	204 (97.6)	94 (46.1)	110 (53.9)	203	51 (25.1)
SK	66	60 (90.9)	33 (55.0)	27 (45.0)	58 (87.9)	31 (53.4)	27 (46.6)	58	12 (20.7)
MB	54	48 (88.9)	35 (72.9)	13 (27.1)	48 (88.9)	14 (29.2)	34 (70.8)	48	10 (20.8)
ON	326	280 (85.9)	207 (73.9)	73 (26.1)	256 (78.5)	123 (48.0)	133 (52.0)	256	49 (19.1)
QC	246	165 (67.1)	121 (73.3)	44 (26.7)	167 (67.9)	109 (65.3)	58 (34.7)	161	20 (12.4)
NB	45	36 (80.0)	23 (63.9)	13 (36.1)	36 (80.0)	15 (41.7)	21 (58.3)	35	9 (25.7)
NS	34	26 (76.5)	21 (80.8)	5 (19.2)	26 (76.5)	14 (53.8)	12 (46.2)	26	5 (19.2)
PE	12	10 (83.3)	7 (70.0)	3 (30.0)	8 (66.7)	7 (87.5)	1 (12.5)	7	0 (0.0)
NL	30	29 (96.7)	21 (72.4)	8 (27.6)	16 (53.3)	10 (62.5)	6 (37.5)	16	1 (6.3)
YK	4	3 (75.0)	1 (33.3)	2 (66.7)	3 (75.0)	1 (33.3)	2 (66.7)	3	1 (33.3)
NT	1	1 (100.0)	1 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)	1	0 (0.0)
NU	0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0	0 (0.0)
CAN	1027	862 (83.9)	596 (69.1)	266 (30.9)	823 (80.1)	418 (50.8)	405 (49.2)	814	158 (19.4)

* Drivers dying within 30 days in crashes on public roadways.

** Represents number and percent tested of all drivers killed.

Figure 3-19

Percentage of Fatally Injured Drivers Testing Positive for Alcohol, Drugs, and Both Substances by Jurisdiction: Canada, 2015



3.7.2 Trends in alcohol and drug use. Comparisons for different indicators between the 2006-2010 baseline period and the most recent years of data collection (2011-2015) were made for Canada and each of its jurisdictions. Similar to fatality data in Section 3.7.1, fatality data for British Columbia are not available for 2011 to 2015. Thus, nationwide data exclude this jurisdiction for both the baseline period and the most recent years of data collection. The following indicators are reviewed:

- Alcohol-related fatalities;
- Alcohol use among fatally injured drivers;
- Drivers in alcohol-related serious injury collisions; and,
- Drug use among fatally injured drivers.

Table 3-16 shows the percentage of persons that died in alcohol-related collisions. Data for less populous jurisdictions should be treated with caution since the number of drivers involved in serious injury collisions is substantially smaller than those for other jurisdictions. More detailed data can be found in Section 3.6.1.

During the 2006-2010 baseline period, an average of 33.0% of fatalities in Canada were alcohol-related, ranging from 0.0% in Nunavut to 50.0% in Prince Edward Island and the Northwest Territories. During the 2011-2015 period, an average of 28.8% of fatalities in Canada were alcohol-related. Nunavut did not report any alcohol-related fatalities during this five-year period. On the other hand, 50.0% of fatalities in the Yukon and the Northwest Territories and 46.2% of fatalities in Prince Edward Island were alcohol-related from 2011 to 2015.

Table 3-16

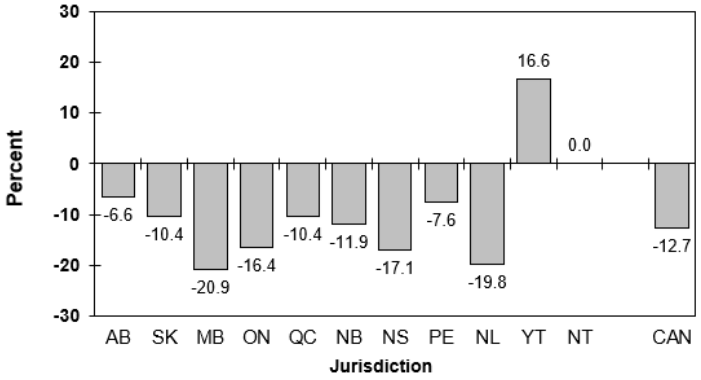
Percent of Alcohol-Related Fatalities
Trends (2011/2015) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2014	2015	2011 to 2015 Average	Percent Differences		
								2015 vs. 2014	2015 vs. 2006-2010 Baseline	2011-2015 Avg. vs. 2006-2010 Baseline
BC	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AB	39.6	35.5	37.0	38.2	33.0	41.1	37.0	24.5	3.8	-6.6
SK	43.3	42.8	34.9	40.2	42.2	33.0	38.8	-21.8	-23.8	-10.4
MB	41.7	38.2	40.2	26.4	28.8	30.8	33.0	6.9	-26.1	-20.9
ON	28.7	24.9	26.3	23.5	23.2	21.9	24.0	-5.6	-23.7	-16.4
QC	26.8	28.6	25.0	22.4	23.0	20.0	24.0	-13.0	-25.4	-10.4
NB	36.0	34.8	35.9	29.6	17.6	34.9	31.7	98.3	-3.1	-11.9
NS	31.6	28.8	29.1	23.6	26.9	17.5	26.2	-34.9	-44.6	-17.1
PE	50.0	55.6	72.7	28.6	20.0	31.3	46.2	56.5	-37.4	-7.6
NL	39.4	37.2	25.8	38.9	30.3	24.4	31.6	-19.5	-38.1	-19.8
YT	42.9	33.3	50.0	25.0	50.0	66.7	50.0	33.4	55.5	16.6
NT	50.0	-	50.0	0.0	25.0	66.7	50.0	166.8	33.4	0.0
NU	0.0	0.0	0.0	-	-	-	0.0	-	-	0.0
CAN*	33.0	31.1	30.3	28.2	27.2	27.1	28.8	-0.4	-17.9	-12.7

* Canada totals exclude BC.

Figure 3-20 shows the changes in the percentage of fatalities that were alcohol-related in the 2011-2015 period compared to the 2006-2010 baseline period. In Canada, there was a 12.7% decrease in the percentage of fatalities that were alcohol-related between the 2011-2015 period (28.8%) and the 2006-2010 baseline period (33.0%). In nine of the jurisdictions that were reviewed, there was a decrease in the percentage of persons who died in alcohol-related collisions. The most pronounced decrease in the 2011-2015 period compared to the 2006-2010 baseline period occurred in Manitoba (20.9%). The only jurisdiction where there was an increase in the percentage of fatalities that were alcohol-related was the Yukon (16.6%).

Figure 3-20
Change in the Percentage of Alcohol-Related Fatalities Between 2011-2015 and 2006-2010



The percentage of fatally injured drivers who tested positive for alcohol for Canada and its jurisdictions is shown in Table 3-17. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers of highway vehicles is quite small when compared to corresponding numbers from other jurisdictions. And in Nunavut, there were no fatally injured drivers of highway vehicles during neither the 2006-2010 baseline period nor the 2011-2015 period. More detailed data on alcohol use among fatally injured drivers can be found in Section 3.6.2.

An average of 37.1% of fatally injured drivers tested positive for alcohol during the 2006-2010 baseline period, ranging from 30.7% in Ontario to 77.2% in the Northwest Territories. During the 2011-2015 period, 31.5% of fatally injured drivers in Canada tested positive for alcohol, ranging from 0.0% in the Northwest Territories to 50.0% in Prince Edward Island and the Yukon.

There was a 15.1% decrease in the percentage of fatally injured drivers who tested positive for alcohol in the 2011-2015 period (31.5%) when compared to the 2006-2010 baseline period (37.1%). Figure 3-21 shows that Prince Edward Island was the only jurisdiction where there was an increase (12.6%) in the percentage of fatally injured drivers who tested positive for alcohol in the 2011-2015 period (50.0%) compared to the 2006-2010 baseline period (44.4%). In the Yukon, there was no change in the

percentage of fatally injured drivers testing positive in the 2011-2015 period (50.0%) from the 2006-2010 baseline period. In the remaining eight jurisdictions, there were decreases in the percentage of fatally injured drivers testing positive for alcohol in 2011-2015 compared to the 2006-2010 baseline period.

Table 3-17
Percent of Fatally Injured Drivers Positive for Alcohol
Trends (2011/2015) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2014	2015	2011 to 2015 Average	Percent Differences		
								2015 vs. 2014	2015 vs. 2006-2010 Baseline	2011-2015 Avg. vs. 2006-2010 Baseline
BC	39.4	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-
AB	39.9	31.8	33.0	36.7	31.4	38.2	34.5	21.7	-4.3	-13.5
SK	42.2	44.3	31.5	33.8	43.5	45.0	39.7	3.4	6.6	-5.9
MB	45.3	28.1	49.0	28.3	34.4	27.1	32.6	-21.2	-40.2	-28.0
ON	30.7	28.4	30.8	28.3	22.1	26.1	27.1	18.1	-15.0	-11.7
QC	38.4	38.3	33.7	32.5	30.1	25.9	32.4	-14.0	-32.6	-15.6
NB	42.9	32.5	32.4	29.0	22.2	36.1	32.4	62.6	-15.9	-24.5
NS	34.1	38.2	25.9	20.9	26.7	19.2	26.3	-28.1	-43.7	-22.9
PE	44.4	63.6	83.3	33.3	33.3	30.0	50.0	-9.9	-32.4	12.6
NL	47.4	20.0	30.4	40.9	36.8	27.6	30.4	-25.0	-41.8	-35.9
YT	50.0	40.0	0.0	0.0	0.0	66.7	50.0	-	33.4	0.0
NT	77.2	-	-	0.0	-	0.0	0.0	-	-	-
NU	-	-	-	-	-	-	-	-	-	-
CAN*	37.1	33.4	32.9	31.5	28.5	30.9	31.5	8.4	-16.7	-15.1

* Canada totals exclude BC.

Figure 3-21
Change in the Percentage of Fatally Injured Drivers Testing Positive for Alcohol Between 2011-2015 and 2006-2010

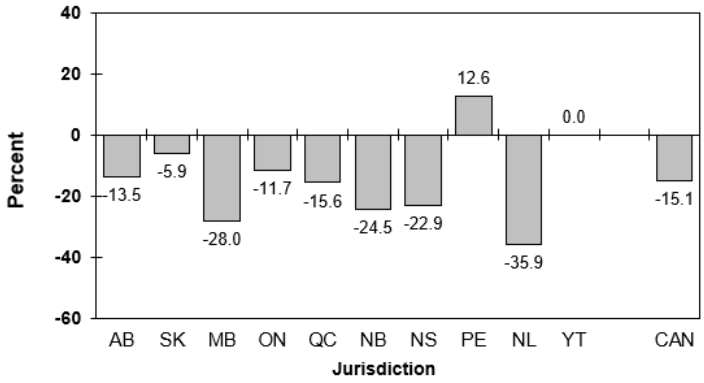


Table 3-18 shows the percentage of drivers that were involved in alcohol-related serious injury collisions. Totals for Canada exclude New Brunswick, Nova Scotia, Newfoundland and Labrador, the Yukon, and Nunavut since serious injury collision data for all five years between 2011 and 2015 were

not available at the time of publication for these jurisdictions. Data for less populous jurisdictions should be treated with caution since the number of drivers involved in serious injury collisions is substantially smaller than those for other jurisdictions. Section 3.6.4 provides more detailed data on these drivers.

During the 2006-2010 baseline period, an average of 20.0% of drivers in Canada were involved in alcohol-related serious injury collisions, ranging from 17.8% in Quebec to 33.3% in the Northwest Territories and the Yukon. During the 2011-2015 period, an average of 16.2% of drivers in Canada were involved in alcohol-related serious injury collisions. In Manitoba, 11.8% of the drivers involved in serious injury collisions were in a crash that involved alcohol during this five-year period. On the other hand, 27.6% of drivers in Saskatchewan were involved in this type of crash from 2011 to 2015.

Table 3-18

Percent of Drivers in Alcohol-Related Serious Injury Collisions
Trends (2011/2015) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2014	2015	2011 to 2015 Average	Percent Differences		
								2015 vs. 2014	2015 vs. 2006-2010 Baseline	2011-2015 Avg. vs. 2006-2010 Baseline
BC	26.5	19.8	20.4	19.6	19.6	18.7	19.6	-4.6	-29.4	-26.0
AB	19.7	16.7	15.7	14.3	16.7	13.2	15.2	-21.0	-33.0	-22.8
SK	29.5	27.8	28.6	28.4	22.8	29.5	27.6	29.4	0.0	-6.4
MB	18.4	15.6	10.7	13.1	11.8	9.4	11.8	-20.3	-48.9	-35.9
ON	16.8	15.3	15.0	13.6	13.3	12.9	14.1	-3.0	-23.2	-16.1
QC	17.8	17.4	17.9	15.6	14.4	13.4	15.9	-6.9	-24.7	-10.7
NB	25.6	27.4	24.8	N/A	23.9	24.6	-	2.9	-3.9	-
NS	23.7	17.1	18..6	15.8	16.6	14.7	16.5	-11.4	-38.0	-30.4
PE	23.0	24.2	25.8	24.5	25.0	11.1	22.4	-55.6	-51.7	-2.6
NL	-	N/A	18.6	17.9	7.4	14.3	-	93.2	-	-
YT	29.6	34.6	15.8	26.1	25.9	N/A	-	-	-	-
NT	33.3	0.0	0.0	37.5	0.0	42.9	25.0	-	28.8	-24.9
NU	25.0	N/A	0.0	0.0	-	100.0	-	-	300.0	-
CAN*	20.1	17.4	17.2	15.8	16.0	14.5	16.2	-9.4	-27.9	-19.4

* Canada totals exclude New Brunswick, Newfoundland and Labrador, the Yukon, and Nunavut.

There was a 19.0% decrease in the percentage of drivers who were involved in alcohol-related serious injury collisions in the 2011-2015 period (16.2%) when compared to the 2006-2010 baseline period (20.0%). Figure 3-22 shows that in all seven of jurisdictions that were reviewed, there was a decrease in the percentage of drivers who were involved in alcohol-related serious injury collisions. The most pronounced decreases in the 2011-2015 period compared to the 2006-2010 baseline period occurred in Manitoba (35.9%), British Columbia (26.0%), and the Northwest Territories (24.9%).

Figure 3-22
Change in the Percentage of Drivers in Alcohol-Related Serious Injury Collisions Between 2011-2015 and 2006-2010

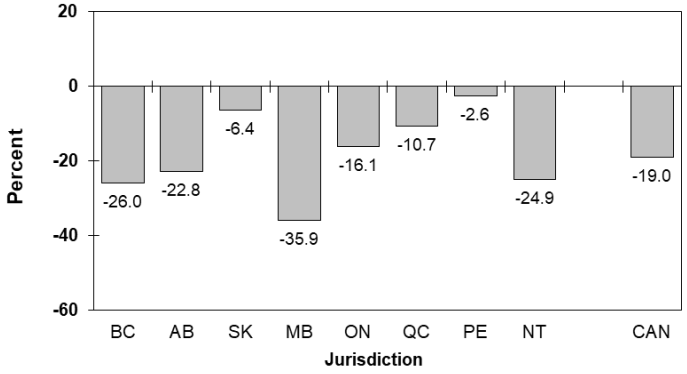


Table 3-19 shows the percentage of fatally injured drivers who tested positive for drugs, for Canada as a whole, and by jurisdiction. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers of highway vehicles is quite small when compared to corresponding numbers from other jurisdictions. Drivers from the Yukon, Northwest Territories, and Nunavut have been regrouped (Territories) to ensure that an individual driver will not be identified. Similar to Table 3-17, data for fatally injured drivers in British Columbia are not available from 2011 to 2015. In Section 3.6.5, more detailed data are available on drug use among fatally injured drivers.

As can be seen, during the 2006-2010 baseline period, an average of 36.3% of fatally injured tested drivers had positive results for drugs. This percentage was 28.6% in both Prince Edward Island and Newfoundland and Labrador. On the other hand, 40.9% of fatally injured drivers in Ontario tested positive for drugs during the 2006-2010 baseline period. During the 2011-2015 period, 43.4% of fatally injured drivers in Canada tested positive for drugs, ranging from 36.4% in Quebec to 54.5% in the Territories.

There was a 19.6% increase in the percentage of fatally injured drivers who tested positive for drugs in the 2011-2015 period (43.4%) when compared to the 2006-2010 baseline period (36.3%). In Figure 3-23, it can be seen that in ten of the jurisdictions, there was an increase in the percentage of fatally injured drivers who tested positive for drugs. The most pronounced increase in drivers who tested positive for drugs in 2011-2015 compared to the 2006-2010 baseline period was in the Territories (63.7%).

Table 3-19
Percent of Fatally Injured Drivers Positive for Drugs
Trends (2011/2015) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2014	2015	2011 to 2015 Average	Percent Differences		
								2015 vs. 2014	2015 vs. 2006-2010 Baseline	2011-2015 Avg. vs. 2006-2010 Baseline
BC	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AB	39.3	35.3	40.6	55.2	44.0	53.9	46.0	22.5	37.2	17.0
SK	36.7	42.5	37.3	41.7	36.8	46.6	40.6	26.6	27.0	10.6
MB	37.3	32.1	44.9	39.1	50.0	70.8	47.8	41.6	89.8	28.2
ON	40.9	41.6	47.3	48.5	43.6	52.0	46.7	19.3	27.1	14.2
QC	30.2	44.6	30.5	35.5	34.9	34.7	36.4	-0.6	14.9	20.5
NB	37.0	38.2	27.3	35.5	68.0	58.3	43.8	-14.3	57.6	18.4
NS	39.0	45.5	37.7	37.2	36.7	46.2	40.5	25.9	18.5	3.8
PE	28.6	72.7	16.7	20.0	33.3	12.5	42.9	-62.5	-56.3	50.0
NL	28.6	37.5	50.0	12.5	42.9	37.5	40.0	-12.6	31.1	39.9
TER**	33.3	33.3	0.0	50.0	50.0	75.0	54.5	50.0	125.2	63.7
CAN*	36.3	40.8	39.6	44.7	42.4	49.2	43.4	16.0	35.5	19.6

* Canada totals exclude BC.
** Results for the Yukon, Northwest Territories and Nunavut have been aggregated to ensure that an individual will not be identified.

Figure 3-23
Change in the Percentage of Fatally Injured Drivers Testing Positive for Drugs Between 2011-2015 and 2006-2010

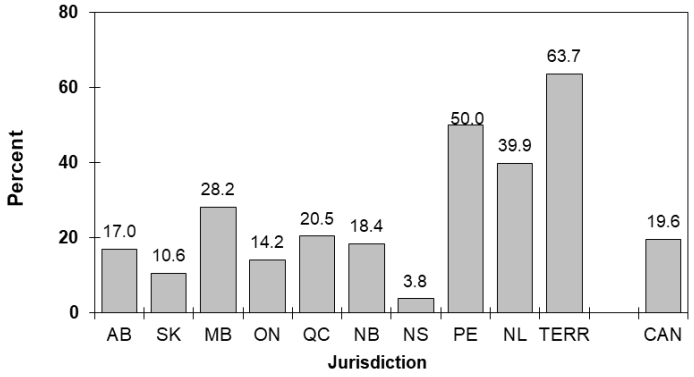


Table 3-20 shows the percentage of fatally injured drivers who tested positive for cannabis, for Canada as a whole, and by jurisdiction. Data for less populous jurisdictions should be treated with caution since the number of fatally injured drivers of highway vehicles is quite small when compared to corresponding numbers from other jurisdictions. Drivers from the Yukon, Northwest Territories, and Nunavut have been regrouped (Territories) to ensure that an individual driver will not be identified. Similar to Table 3-17, data for fatally injured drivers in British Columbia are not available from 2011 to 2015.

As can be seen, during the 2006-2010 baseline period, an average of 16.3% of fatally injured tested drivers had positive results for cannabis. This percentage was 11.3% in Manitoba and 11.8% in the Territories. However, 19.1% of fatally injured tested drivers in Alberta and Nova Scotia tested positive for cannabis during the 2006-2010 baseline period. During the 2011-2015 period, 19.4% of fatally injured drivers in Canada tested positive for cannabis, ranging from 1.3% in Manitoba to 31.4% in Newfoundland and Labrador.

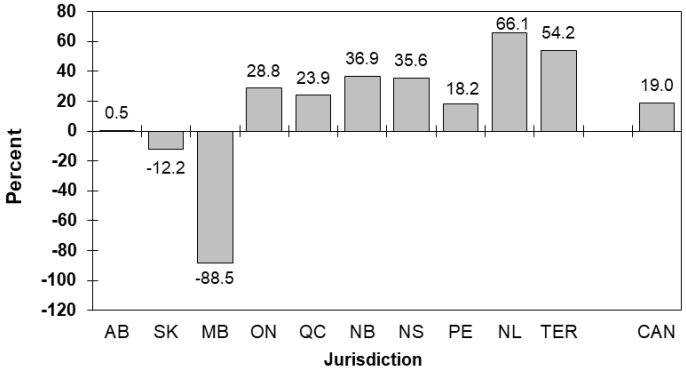
There was a 19.0% increase in the percentage of fatally injured drivers who tested positive for cannabis in the 2011-2015 period (19.4%) when compared to the 2006-2010 baseline period (16.3%). In Figure 3-24, it can be seen that in most jurisdictions, there was an increase in the percentage of fatally injured drivers who tested positive for cannabis. The most pronounced increase was in Newfoundland and Labrador, where there was a 66.1% increase from those drivers who tested positive for cannabis in 2011-2015 (31.4%) compared to the 2006-2010 baseline period (18.9%). Conversely, there was an 88.5% decrease in the percentage of fatally injured tested drivers in Manitoba who were positive for cannabis in 2011-2015 (1.3%) compared to the 2006-2010 baseline period (11.3%).

Table 3-20
Percent of Fatally Injured Drivers Positive for Cannabis
Trends (2011/2015) vs. Baseline (2006-2010)

Juris	2006-2010 Baseline Average	2011	2012	2013	2014	2015	2011 to 2015 Average	Percent Differences		
								2015 vs. 2014	2015 vs. 2006-2010 Baseline	2011-2015 Avg. vs. 2006-2010 Baseline
BC	14.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AB	19.1	12.4	18.3	25.1	19.6	19.6	19.2	0.0	2.6	0.5
SK	13.9	15.1	12.0	9.7	10.5	13.8	12.2	31.4	-0.7	-12.2
MB	11.3	3.6	0.0	0.0	0.0	2.1	1.3	-	-81.4	-88.5
ON	19.1	20.8	27.1	28.8	20.4	25.4	24.6	24.5	33.0	28.8
QC	13.4	14.5	13.7	17.7	19.7	18.0	16.6	-8.6	34.3	23.9
NB	17.9	26.5	12.1	22.6	28.0	33.3	24.5	18.9	86.0	36.9
NS	19.1	27.3	20.8	30.2	23.3	30.8	25.9	32.2	61.3	35.6
PE	15.4	36.4	0.0	20.0	0.0	12.5	18.2	-	-18.8	18.2
NL	18.9	37.5	25.0	12.5	42.9	37.5	31.4	-12.6	98.4	66.1
TER**	11.8	33.3	0.0	0.0	0.0	25.0	18.2	-	111.9	54.2
CAN*	16.3	16.8	18.2	22.0	19.0	20.9	19.4	10.0	28.2	19.0

* Canada totals exclude BC.
** Results for the Yukon, Northwest Territories and Nunavut have been aggregated to ensure that an individual will not be identified.

Figure 3-24
Change in the Percentage of Fatally Injured Drivers Testing Positive for Cannabis Between 2011-2015 and 2006-2010



4.0 BRITISH COLUMBIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in British Columbia. It describes data on:

- people who were killed in alcohol-related crashes (Section 4.1);
- alcohol use among fatally injured drivers (Section 4.2);
- drivers involved in alcohol-related serious injury crashes (Section 4.3);
- drug use among fatally injured drivers (Section 4.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 4.5).

4.1 Deaths in alcohol-related crashes

Table 4-1 presents information on people who died in alcohol-related crashes in British Columbia during 2010 for persons dying within 30 days of the collision. *At the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. For this reason, 2010 data will be reported in this section.* This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, 24 people aged 16-19 were killed in motor vehicle crashes in British Columbia during 2010. And, in 23 cases (95.8%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 14 people aged 16-19 died in alcohol-related crashes in British Columbia during 2010. The next column expresses this as a percentage – i.e., 60.9% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 10.9% of all the people killed in alcohol-related crashes in British Columbia during 2010.

The totals at the bottom of the table provide a summary. As can be seen, 356 persons died within 30 days of a motor vehicle crash in British Columbia during 2010. In 336 (94.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 129 (38.4%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (356 x .384) it can be estimated that *in British Columbia during 2010, 137 persons died in alcohol-related crashes within 30 days of the collision*.

Table 4-1
Deaths in Alcohol-Related Crashes: British Columbia, 2010

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	16	14	87.5	1	7.1	0.8
16-19	24	23	95.8	14	60.9	10.9
20-25	35	34	97.1	19	55.9	14.7
26-35	51	50	98.0	31	62.0	24.0
36-45	48	48	100.0	22	45.8	17.1
46-55	71	69	97.2	28	40.6	21.7
>55	111	98	88.3	14	14.3	10.9
Gender						
Male	232	221	95.3	91	41.2	70.5
Female	124	115	92.7	38	33.0	29.5
Victim Type						
Driver/ Operator	209	198	94.7	70	35.4	54.3
Passenger	92	86	93.5	37	43.0	28.7
Pedestrian	55	52	94.5	22	42.3	17.1
Vehicle Occupied						
Automobiles	152	142	93.4	59	41.5	45.7
Trucks/Vans	96	92	95.8	35	38.0	27.1
Motorcycles	36	35	97.2	11	31.4	8.5
Other Hwy Vehicles	10	10	100.0	1	10.0	0.8
Off-road Vehicles	7	5	71.4	1	20.0	0.8
(Pedestrians)	55	52	94.5	22	42.3	17.1
TOTAL	356	336	94.4	129	38.4	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

4.1.1 Victim age. Of all the people who died in alcohol-related crashes, 24.0% (see last column) were aged 26-35; 21.7% were aged 46-55; 17.1% were aged 36-45; 14.7% were aged 20-25; 10.9% were aged 16-19 and over age 55; and 0.8% were under age 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 26-35 and 16-19 died (62.0% and 60.9%, respectively). The lowest incidence of alcohol involvement was found among the oldest and youngest fatalities – 7.1% of persons under 16 and 14.3% of the fatalities over 55 years of age died in crashes involving alcohol.

4.1.2 Gender. Of all the people who died in alcohol-related crashes, 70.5% were males. The incidence of alcohol in crashes in which a male died (41.2%) was greater than the incidence of alcohol in crashes in which a female died (33.0%).

4.1.3 Victim type. Of all the people who died in alcohol-related crashes, 54.3% were drivers/operators of a vehicle; 28.7% were passengers; and 17.1% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (43.0%) occurred in the crashes in which a passenger died. Alcohol was involved in 42.3% of the crashes in which a pedestrian died and 35.4% of those in which a driver/operator died.

4.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 45.7% were in an automobile; 27.1% were in a truck/van; 8.5% were motorcyclists; and 0.8% were occupants of other highway vehicles and off-road vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which an automobile occupant died was greater than the incidence of alcohol in crashes in which a truck/van occupant or motorcyclist died (41.5% versus 38.0% and 31.4%). Among off-road vehicle occupants, 20.0% were in an alcohol-related crash.

4.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in British Columbia during 2010. *At the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. For this reason, 2010 data will be reported in this section.* Table 4-2 shows the information by age group, gender, vehicle type (see Section 2.2.1 for types of vehicles that are included), and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 16-19 year olds there were 12 drivers killed during 2010; 11 of these fatally injured drivers (91.7%) were tested for alcohol. Of those who were tested, three (27.3%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 4.9% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that three of the 11 (27.3%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that all three of the drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 6.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. British Columbia had a high testing rate in 2010, with 86.7% of fatally injured drivers being tested for alcohol use.

In British Columbia, 34.7% had been drinking and 50 of 61 (82.0%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 65.3% had BACs of zero mg%;
- 2.3% had BACs from 1-49 mg%;
- 4.0% had BACs from 50-80 mg%
- 6.8% had BACs from 81 to 160 mg%; and,
- 21.6% had BACs over 160 mg%.

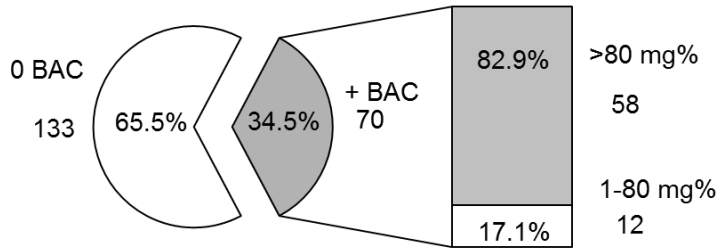
Table 4-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: British Columbia, 2010

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
<16	1	1	100.0	0	0.0	0.0	0	0.0	0.0
16-19	12	11	91.7	3	27.3	4.9	3	27.3	6.0
20-25	18	15	83.3	8	53.3	13.1	8	53.3	16.0
26-35	32	30	93.8	17	56.7	27.9	14	46.7	28.0
36-45	31	27	87.1	13	48.1	21.3	11	40.7	22.0
46-55	48	42	87.5	13	31.0	21.3	12	28.6	24.0
>55	61	50	82.0	7	14.0	11.5	2	4.0	4.0
Gender									
Male	155	132	85.2	47	35.6	77.0	38	28.8	76.0
Female	48	44	91.7	14	31.8	23.0	12	27.3	24.0
Vehicle Type									
Automobiles	98	89	90.8	31	34.8	50.8	25	28.1	50.0
Truck/Van	65	54	83.1	21	38.9	34.4	18	33.3	36.0
Motorcycles	32	26	81.3	8	30.8	13.1	6	23.1	12.0
Tractor Trailer	7	7	100.0	1	14.3	1.6	1	14.3	2.0
Other Hwy Veh	1	0	0.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	111	93	83.8	49	52.7	80.3	43	46.2	86.0
Multiple vehicle	92	83	90.2	12	14.5	19.7	7	8.4	14.0
TOTAL	203	176	86.7	61	34.7	100.0	50	28.4	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 4-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 70 of 203 (34.5%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 58 (82.9%) have BACs over 80 mg%.

Figure 4-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: British Columbia, 2010



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

According to the British Columbia member jurisdiction of CCMTA, where information is presented on blood alcohol concentration (BAC) levels of deceased drivers (e.g., Figure 3-2 on page 17, Figure 4-1 on page 54 reflecting British Columbia data), the following must be taken into account:

BAC values presented in these figures only represent BAC values for deceased drivers exclusively and therefore represent only a subset of the BAC levels of drivers involved in motor vehicle crashes that cause deaths and injuries. For example, where a driver is assigned alcohol as a contributing factor to a crash and that driver survives that crash but, another road user is killed (pedestrian, cyclist or another driver or occupants of any vehicle), that driver's BAC level is not reflected in the figures shown above or the similar figures assembled for other Canadian provinces and territories. Furthermore, where a driver is assigned alcohol as a contributing factor to a crash and that driver survives that crash but are themselves injured or another road user is injured (pedestrian, cyclist or any driver or occupants of any vehicle involved in the crash), that driver's BAC level is again NOT reflected in the figures 3-2, 4-1, or the similar figures assembled for other Canadian provinces and territories. This is a major and prevailing limitation of these data and the BAC values represented herein. This means that the BAC levels reflected in these tables do not reflect the full range of BAC levels of drivers involved in serious crashes and should not be relied upon to draw conclusions about BAC levels and motor vehicle crash risk. In order to understand BAC levels and motor vehicle crash risk, a number of research studies exist to do that. Based on an extensive amount of research, there is overwhelming evidence that even BAC levels as low as .02 impair driving abilities and at .04 to .05 BAC there is a clear relationship between crash risk and alcohol (see Zador et al. 2000; Blomberg et al. 2009; Moskowitz et al. 2000).

4.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 27.9% were aged 26-35; 21.3% were aged 36-45 and 46-55; 13.1% were aged 20-25; 11.5% were over 55; and 4.9% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.0% were aged 26-35; 24.0% were aged 46-55; 22.0% were aged 36-45; 16.0% were aged 20-25; 6.0% were aged 16-19; and 4.0% were over age 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 26-35 were the most likely to have been drinking (56.7%). By contrast, the lone tested driver under 16 had not been drinking and only 14.0% of the tested drivers aged over 55 had been drinking.

4.2.2 Gender differences. Males dominate the picture – they account for 77.0% of all the fatally injured drivers who had been drinking, and 76.0% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (155 of the 203 fatalities or 76.4% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (35.6% and 31.8%, respectively). And, 80.9% of the male and 85.7% of the female drivers who were drinking had BACs over the legal limit.

4.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 50.8% were automobile drivers; 34.4% were truck/van drivers; 13.1% were motorcyclists; and 1.6% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 50.0% were automobile drivers, 36.0% were truck/van drivers; 12.0% were motorcyclists; and 2.0% were tractor-trailer drivers.

Within each of the vehicle types, 38.9% of fatally injured drivers of truck/vans, 34.8% of automobile drivers, 30.8% of motorcyclists, and 14.3% of tractor-trailer drivers were found to have been drinking.

4.2.4 Collision differences. Just over half of the drivers killed (111 of the 203) were involved in single-vehicle collisions but these crashes accounted for four-fifths of the drivers who had been drinking or were legally impaired (80.3% and 86.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over half of the drivers involved in single-vehicle crashes (52.7%) tested positive for alcohol, compared to only 14.5% of those involved in multiple-vehicle collisions.

4.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in British Columbia. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 4-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 2,022 drivers were involved in crashes in which someone was seriously injured, and among these 18.7% were alcohol-related crashes.

4.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.8% were aged 26-35, 19.8% were aged 36-45; and 18.8% were aged 20-25. Drivers under 16 and those aged 16-19 respectively accounted for only 0.5% and 9.3% of those involved in alcohol-related serious injury crashes.

Over one-quarter of the drivers aged 16-19 and 20-25 (29.4% and 25.9%, respectively) were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (9.8%).

4.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 71.7% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (19.6% and 17.8%, respectively).

4.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 54.8% were automobile drivers; 36.2% were truck/van drivers; 6.3% were motorcyclists; 2.4% were tractor-trailer drivers; and 0.3% were drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers (20.5%), compared to 20.0% for truck/van drivers; 13.8% for tractor-trailer drivers; and 9.8% for motorcyclists. Among drivers of other highway vehicles, 6.7% were involved in alcohol-related crashes.

Table 4-3
Drivers* in Alcohol-Related Serious Injury Crashes:
British Columbia, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	2	2	100.0	0.5
16-19	119	35	29.4	9.3
20-25	274	71	25.9	18.8
26-35	374	86	23.0	22.8
36-45	309	75	24.3	19.8
46-55	362	56	15.5	14.8
>55	543	53	9.8	14.0
unknown	39	0	0.0	0.0
Gender				
Male	1384	271	19.6	71.7
Female	601	107	17.8	28.3
unknown	37	0	0.0	0.0
Vehicle Type				
Auto	1012	207	20.5	54.8
Truck/Van	684	137	20.0	36.2
Motorcycle	246	24	9.8	6.3
Tractor Trailer	65	9	13.8	2.4
Other Hwy. Vehicle	15	1	6.7	0.3
Collision Type				
Single-Vehicle	798	256	32.1	67.7
Multiple-Vehicle	1224	122	10.0	32.3
TOTAL	2022	378	18.7	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

4.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 67.7% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 32.1% of these drivers, compared to only 10.0% for drivers involved in multiple-vehicle crashes.

4.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in British Columbia during 2010. *At the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. For this reason, 2010 data will be reported in this section.* A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 4-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, British Columbia had a high testing rate in 2010, with 82.8% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 70 out of 168 (41.7%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (50.0%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (41.4%), CNS stimulants (30.0%), narcotic analgesics (14.3%), and dissociative anesthetics (2.9%).

Table 4-4
Drug Use Among Fatally Injured Drivers of Highway Vehicles: British Columbia, 2010

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
203	168	(82.8)	70	(41.7)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive*
Cannabis	35	(50.0)
CNS Depressants	29	(41.4)
CNS Stimulants	21	(30.0)
Narcotic Analgesics	10	(14.3)
Dissociative Anesthetics	2	(2.9)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

4.5 Trends in alcohol and drug-impaired driving

Sections 4.1 through 4.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 4.4 examined drug use among fatally injured drivers in 2010. This section examines changes in these four indicators over time.

4.5.1 Deaths involving drinking drivers: 1996-2010. As mentioned earlier in Section 4.1, at the time this report was being prepared, coroner data from 2011 to 2015 for British Columbia were not available. For this reason, 2010 data will be reported in this section. Table 4-5 and Figure 4-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2010. These results differ slightly from those in Section 4.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 206 to 131 between 1996 and 2003, increased to 161 in 2005, and eventually decreased to 119 in 2010. The percentage of alcohol-related fatalities in British Columbia generally decreased from 46.1% in 1996 to its lowest level in 2003 (29.6%), rose to 37.7% in 2005, and generally decreased to 33.4% in 2010.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 129 fatalities involving a drinking driver and they accounted for 34.2% of all fatalities.

Table 4-5

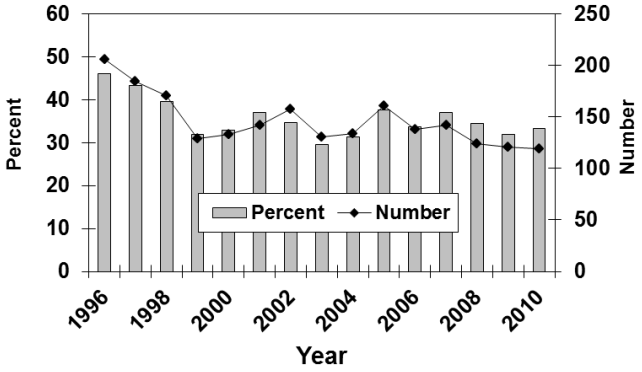
Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: British Columbia, 1996-2010**

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	447	206	46.1
1997	426	185	43.4
1998	432	171	39.6
1999	403	129	32.0
2000	404	133	32.9
2001	384	142	37.0
2002	456	158	34.6
2003	442	131	29.6
2004	427	134	31.4
2005	427	161	37.7
2006	409	138	33.7
2007	383	142	37.1
2008	359	124	34.5
2009	379	121	31.9
2010	356	119	33.4
2006-2010 baseline	377	129	34.2

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 4-2
Number and Percent of Deaths Involving a Drinking Driver: British Columbia, 1996-2010



4.5.2 Alcohol use among fatally injured drivers. As mentioned earlier in Section 4.2, at the time this report was being prepared, coroner data from British Columbia were not available from 2011 to 2015. For this reason, 1996-2010 data will be reported in this section in Table 4-6. Trends are illustrated in Figure 4-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally decreased from 1996 (42.3%) to a low of 28.2% in 2004, rose to 37.0% in 2005, fluctuated until 2008, and decreased until 2010 (28.4%). The percent of fatally injured drivers with zero BACs increased from 1996 (50.0%) to 1999 (64.3%), remained relatively stable until 2006, declined in 2007 (55.0%), and peaked in 2010 (65.3%). The percent of fatally injured drivers with BACs between 1 and 80 mg% reached its highest level in 2004 (9.3%), dropped to its lowest mark in 2009 (3.8%), and rose again in 2010 (6.3%).

Table 4-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
British Columbia, 1996-2010

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	223	208	93.3	104	50.0	16	7.7	88	42.3
1997	236	208	88.1	106	51.0	14	6.7	88	42.3
1998	234	213	91.0	121	56.8	17	8.0	75	35.2
1999	227	210	92.5	135	64.3	12	5.7	63	30.0
2000	238	217	91.2	133	61.3	12	5.5	72	33.2
2001	229	196	85.6	114	58.2	11	5.6	71	36.2
2002	279	236	84.6	135	57.2	15	6.4	86	36.4
2003	217	179	82.5	112	62.6	10	5.6	57	31.8
2004	264	227	86.0	142	62.6	21	9.3	64	28.2
2005	265	230	86.8	132	57.4	13	5.7	85	37.0
2006	239	214	89.5	129	60.3	16	7.5	69	32.2
2007	243	222	91.4	122	55.0	19	8.6	81	36.5
2008	218	195	89.4	113	57.9	10	5.1	72	36.9
2009	231	209	90.5	136	65.1	8	3.8	65	31.1
2010	203	176	86.7	115	65.3	11	6.3	50	28.4
2006-2010 baseline	227	203	(89.4)	123	(60.6)	13	(6.4)	67	(33.0)

* Dying within 30 days in collisions which occurred on public roadways.

During the 2006-2010 baseline period, the percentage of fatally injured drivers was 60.6% for drivers with zero BACs, 6.4% for drivers with BACs from 1-80 mg%, and 33.0% for drivers with BACs over 80 mg%.

Figure 4-3
Trends in Alcohol Use Among Driver Fatalities: British Columbia, 1996-2010

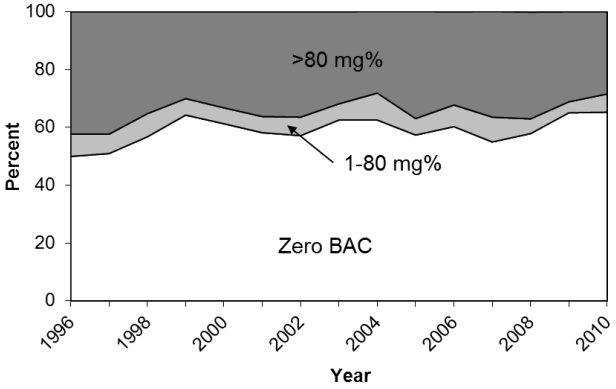


Table 4-7 and Figure 4-4 also show data on alcohol use among fatally injured drivers from 1996 to 2010. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions

which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 4-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 4-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 39.6%.

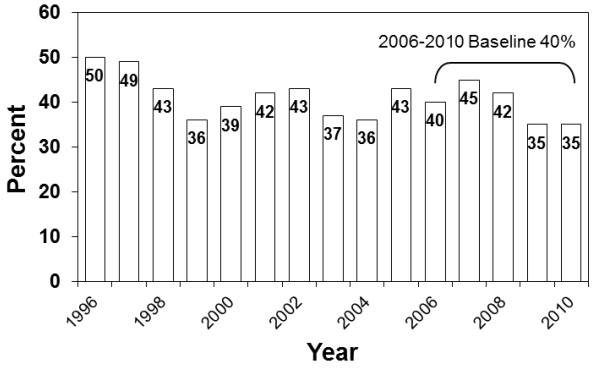
Table 4-7

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles*: British Columbia, 1996-2010

Year	Number of Drivers	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	223	111	(49.8)	112	(50.2)
1997	236	120	(50.8)	116	(49.2)
1998	234	133	(56.8)	101	(43.2)
1999	227	146	(64.3)	81	(35.7)
2000	238	146	(61.3)	92	(38.7)
2001	229	133	(58.1)	96	(41.9)
2002	279	160	(57.3)	119	(42.7)
2003	217	136	(62.7)	81	(37.3)
2004	264	165	(62.5)	99	(37.5)
2005	265	152	(57.4)	113	(42.6)
2006	239	144	(60.3)	95	(39.7)
2007	243	134	(55.1)	109	(44.9)
2008	218	126	(57.8)	92	(42.2)
2009	231	150	(64.9)	81	(35.1)
2010	203	133	(65.5)	70	(34.5)
2006-2010 baseline	227	137	(60.4)	90	(39.6)

* numbers are estimates based on the BAC distribution of drivers tested for alcohol

Figure 4-4
Percent of Fatally Injured Drivers* Positive for Alcohol: British Columbia, 1996-2010



4.5.3 Drivers in serious injury crashes. In British Columbia, data are only available since 2005 to indicate the degree of injury severity for collision victims. Thus trend tables in this section include data from 2005 to 2015, as opposed to the 1996-2015 period reported for serious injury collisions in most other jurisdictions. Table 4-8 and Figure 4-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes.

As can be seen, the incidence of alcohol-involvement in serious injury crashes has increased slightly over this 11-year period. Between 2005 and 2009 the percentage of drivers in serious injury crashes that involved alcohol fluctuated, decreased to 19.8% in 2011, rose to 20.4% in 2012, and decreased to 18.7% in 2015.

As shown in Table 4-8, in the baseline period (2006-2010), an average of 26.5% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2015 period, the incidence of drivers in alcohol-involved serious injury crashes declined to 19.6%, a 26.0% decrease.

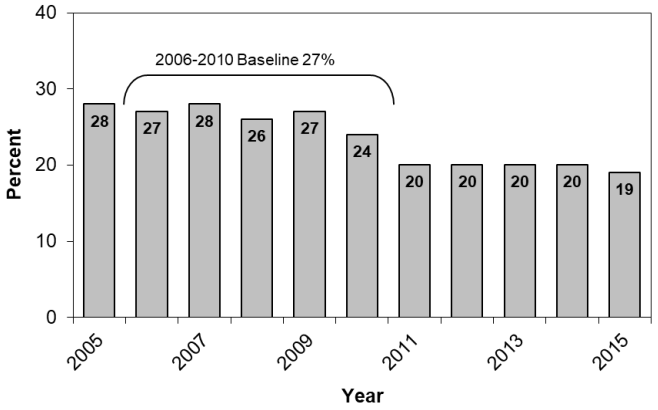
Table 4-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: British Columbia, 2005-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
2005	2655	730	(27.5)
2006	2653	716	(27.0)
2007	2630	723	(27.5)
2008	2397	633	(26.4)
2009	2195	597	(27.2)
2010	2072	494	(23.8)
2011	1837	363	(19.8)
2012	2033	415	(20.4)
2013	1878	369	(19.6)
2014	1941	380	(19.6)
2015	2022	378	(18.7)
2006-2010 baseline	2389	633	(26.5)
2011-2015 period	1942	381	(19.6)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 4-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: British Columbia, 2005-2015



4.5.4 Drug use among fatally injured drivers. Table 4-9 and Figure 4-6 show data on drug use among fatally injured drivers of highway vehicles over an 11-year period (2000-2010). At the time of publication, drug use data among fatally injured drivers in British Columbia from 2011 to 2015 was not yet available. Similar to Table 4-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

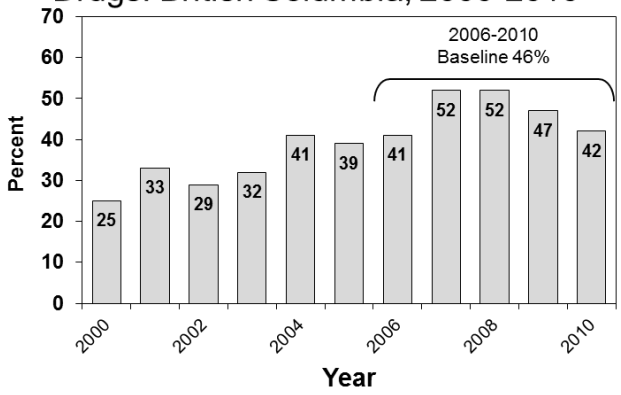
As can be seen at the bottom of Table 4-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 46.6%. In 2010, 41.7% of fatally injured drivers tested positive for drugs.

Table 4-9
Drug Use Among Fatally Injured Drivers* of Highway Vehicles:
British Columbia, 2000-2010

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	238	136	57.1	102	75.0	34	25.0
2001	229	135	59.0	91	67.4	44	32.6
2002	279	135	48.4	96	71.1	39	28.9
2003	217	121	55.8	82	67.8	39	32.2
2004	264	207	78.4	123	59.4	84	40.6
2005	265	205	77.4	125	61.0	80	39.0
2006	239	198	82.8	117	59.1	81	40.9
2007	243	197	81.1	95	48.2	102	51.8
2008	218	186	85.3	90	48.4	96	51.6
2009	231	198	85.7	106	53.5	92	46.5
2010	203	168	82.8	98	58.3	70	41.7
2006-2010 baseline	227	189	83.3	101	53.4	88	46.6

* Dying within 30 days in collisions which occurred on public roadways.

Figure 4-6
Percent of Fatally Injured Drivers Positive for Drugs: British Columbia, 2000-2010



5.0 ALBERTA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Alberta during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 5.1);
- alcohol use among fatally injured drivers (Section 5.2);
- drivers involved in alcohol-related serious injury crashes (Section 5.3);
- drug use among fatally injured drivers (Section 5.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 5.5).

5.1 Deaths in alcohol-related crashes

Table 5-1 presents information on people who died in alcohol-related crashes in Alberta during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, 23 people aged 16-19 were killed in motor vehicle crashes in Alberta during 2015. And, in 20 cases (87.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 10 people aged 16-19 died in alcohol-related crashes in Alberta during 2015. The next column expresses this as a percentage – i.e., 50.0% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 7.4% of all the people killed in alcohol-related crashes in Alberta during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 326 persons died within 30 days of a motor vehicle crash in Alberta during 2015. In 300 (92.0%) of these cases, it was possible to

determine if alcohol was a factor. Of these known cases, 135 (45.0%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (326 x .45) it can be estimated that *in Alberta during 2015, 147 persons died in alcohol-related crashes within 30 days of the collision*.

5.1.1 Victim age. Of all the people who died in alcohol-related crashes, 24.4% (see last column) were aged 20-25 and 26-35; 18.5% were aged 36-45; 13.3% were aged 46-55; 10.4% were aged over age 55; 7.4% were aged 16-19; and 1.5% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 died (61.1%). The lowest incidence of alcohol involvement was found among the oldest fatalities – 20.6% of persons over age 55 died in crashes involving alcohol.

Table 5-1
Deaths in Alcohol-Related Crashes: Alberta, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	9	8	88.9	2	25.0	1.5
16-19	23	20	87.0	10	50.0	7.4
20-25	58	54	93.1	33	61.1	24.4
26-35	63	58	28.0	33	56.9	24.4
36-45	50	46	23.0	25	54.3	18.5
46-55	49	46	18.0	18	39.1	13.3
>55	74	68	91.9	14	20.6	10.4
Gender						
Male	238	220	92.4	106	48.2	78.5
Female	88	80	90.9	29	36.3	21.5
Victim Type						
Driver/ Operator	215	205	95.3	87	42.4	64.4
Passenger	75	63	84.0	32	50.8	23.7
Pedestrian	35	31	88.6	15	48.4	11.1
Unknown	1	1	100.0	1	100.0	0.7
Vehicle Occupied						
Automobiles	94	86	91.5	28	32.6	20.7
Trucks/Vans	153	141	92.2	77	54.6	57.0
Motorcycles	32	30	93.8	11	36.7	8.1
Other Hwy Vehicles	6	6	100.0	1	16.7	0.7
Off-road Vehicles	6	6	100.0	3	50.0	2.2
(Pedestrians)	35	31	88.6	15	48.4	11.1
TOTAL	326	300	92.0	135	45.0	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

5.1.2 Gender. Of all the people who died in alcohol-related crashes, 78.5% were males. The incidence of alcohol in crashes in which a male died (48.2%) was greater than the incidence of alcohol in crashes in which a female died (36.3%).

5.1.3 Victim type. Of all the people who died in alcohol-related crashes, 64.4% were drivers/operators of a vehicle; 23.7% were passengers; 11.1% were pedestrians; and 0.7% were victims with an unknown position.

Within each of the principal victim types, the highest incidence of alcohol involvement (50.8%) occurred in the crashes in which a passenger died. Alcohol was involved in 48.4% of the crashes in which a pedestrian died and 42.4% of those in which a driver/operator died.

5.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 57.0% were in a truck/van; 20.7% were in an automobile; 8.1% were motorcyclists; 2.2% were off-road vehicle occupants; and 0.7% were occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which a motorcyclist or an automobile occupant died (54.6% versus 36.7% and 32.6%). Among fatally injured off-road vehicle occupants, 50.0% were involved in an alcohol-related crash compared to 16.7% of occupants of other highway vehicles.

5.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Alberta during 2015. Table 5-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 16-19 year olds there were 14 drivers killed during 2015; all 14 of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, six (42.9%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 7.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that five of the 14 (35.7%) fatally injured 16-19 year olds who were tested for alcohol had a BAC in excess of 80 mg%. This means that all five of the six drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. As can be seen, 16-19 year old drivers accounted for 7.2% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Alberta had a very high testing rate in 2015, with 97.6% of fatally injured drivers being tested for alcohol use.

In Alberta, 38.2% had been drinking and 69 of 78 (88.4%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 61.8% had BACs of zero mg%;
- 2.5% had BACs from 1-49 mg%;
- 2.0% had BACs from 50-80 mg%
- 10.3% had BACs from 81 to 160 mg%; and,
- 23.5% had BACs over 160 mg%.

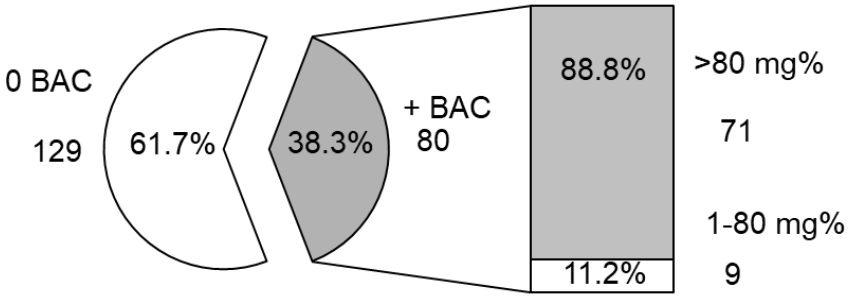
Table 5-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Alberta, 2015

Category of Driver	Number of Drivers*	Drivers		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	14	14	100.0	6	42.9	7.7	5	35.7	7.2
20-25	34	34	100.0	18	52.9	23.1	17	50.0	24.6
26-35	48	47	97.9	25	53.2	32.1	21	44.7	30.4
36-45	29	29	100.0	9	31.0	11.5	7	24.1	10.1
46-55	35	32	91.4	11	34.4	14.1	11	34.4	15.9
>55	49	48	98.0	9	18.8	11.5	8	16.7	11.6
Gender									
Male	174	170	97.7	68	40.0	87.2	60	35.3	87.0
Female	35	34	97.1	10	29.4	12.8	9	26.5	13.0
Vehicle Type									
Automobiles	70	69	98.6	20	29.0	25.6	19	27.5	27.5
Truck/Van	104	102	98.1	46	45.1	59.0	41	40.2	59.4
Motorcycles	29	27	93.1	11	40.7	14.1	9	33.3	13.0
Tractor Trailer	5	5	100.0	1	20.0	1.3	0	0.0	0.0
Other Hwy Veh	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	85	84	98.8	57	67.9	73.1	52	61.9	75.4
Multiple vehicle	124	120	96.8	21	17.5	26.9	17	14.2	24.6
TOTAL	209	204	97.6	78	38.2	100.0	69	33.8	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 5-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 80 of 209 (38.3%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 71 (88.8%) have BACs over 80 mg%.

Figure 5-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Alberta, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

5.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 32.1% were aged 26-35; 23.1% were aged 20-25; 14.1% were aged 46-55; 11.5% were aged 36-45 and over age 55; and 7.7% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 30.4% were aged 26-35; 24.6% were aged 20-25; 15.9% were aged 46-55; 11.6% were over age 55; 10.1% were aged 36-45; and 7.2% were aged 16-19.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 26-35 and 20-25 were the most likely to have been drinking (53.2% and 52.9%, respectively). By contrast, only 18.8% of the tested drivers over age 55 had been drinking.

5.2.2 Gender differences. Males dominate the picture – they account for 87.2% of all the fatally injured drivers who had been drinking, and 87.0% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (174 of the 209 or 83.3% of the fatalities are males). Fatally injured male drivers were more likely to have been drinking than female drivers (40.0% and 29.4%, respectively). And, 88.2% of the male and 90.0% of the female drivers who were drinking had BACs over the legal limit.

5.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 59.0% were truck/van drivers; 25.6% were automobile drivers; 14.1% were motorcyclists; and 1.3% were tractor-trailer drivers..

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 59.4% were truck/van drivers; 27.5% were automobile drivers; and 13.0% were motorcyclists.

Within each of the vehicle types, 45.1% of fatally injured truck/van drivers; 40.7% of motorcyclists, and 29.0% of automobile drivers had been drinking. One out of five (20.0%) fatally injured tractor-trailer drivers had been drinking.

5.2.4 Collision differences. Two-fifths of the drivers killed (85 of the 209) were involved in single-vehicle collisions but these crashes accounted for a majority of the drivers who had been drinking or were legally impaired (73.1% and 75.4%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over two-thirds of the drivers involved in single-vehicle crashes (67.9%) tested positive for alcohol, compared to only 17.5% of those involved in multiple-vehicle collisions.

5.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Alberta. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 5-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 3,752 drivers were involved in crashes in which someone was seriously injured, and among these 13.2% were alcohol-related crashes.

Table 5-3
Drivers* in Alcohol-Related Serious Injury Crashes: Alberta, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	5	1	20.0	0.2
16-19	273	55	20.1	11.1
20-25	499	91	18.2	18.3
26-35	847	122	14.4	24.5
36-45	686	86	12.5	17.3
46-55	618	76	12.3	15.3
>55	772	51	6.6	10.3
unknown	52	15	28.8	3.0
Gender				
Male	2487	372	15.0	74.8
Female	1223	115	9.4	23.1
unknown	42	10	23.8	2.0
Vehicle Type				
Auto	1333	166	12.5	33.4
Truck/Van	2039	295	14.5	59.4
Motorcycle	240	22	9.2	4.4
Tractor Trailer	109	12	11.0	2.4
Other Hwy. Vehicle	31	2	6.5	0.4
Collision Type				
Single-Vehicle	1018	333	32.7	67.0
Multiple-Vehicle	2734	164	6.0	33.0
TOTAL	3752	497	13.2	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

5.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.5% were aged 26-35, 18.3% were aged 20-25; and 17.3% were aged 36-45. Drivers under 16 and over 55 accounted for only 0.2% and 10.3%, respectively, of those involved in alcohol-related serious injury crashes.

One-fifth of the drivers aged 16-19 (20.1) and under 16 (20.0%) were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (6.6%).

5.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 74.8% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (15.0% and 9.4, respectively).

5.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 59.4% were truck/van drivers; 33.4% were automobile drivers; 4.4% were motorcyclists; 2.4% were tractor-trailer drivers; and 0.4% were drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers as 14.5% of these drivers were in crashes that involved alcohol, compared to 12.5% for

automobile drivers; 11.0% for tractor-trailer drivers; and 9.2% for motorcyclists. Among drivers of other highway vehicles, 6.5% were involved in alcohol-related crashes.

5.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 67.0% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 32.7% of these drivers, compared to only 6.0% for drivers involved in multiple-vehicle crashes.

5.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Alberta during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 5-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Alberta had a very high testing rate in 2015, with 97.6% of fatally injured drivers being tested for drug use.

Table 5-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Alberta, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
209	204	(97.6)	110	(53.9)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
CNS Depressants	49	(44.5)
Cannabis	40	(36.4)
CNS Stimulants	39	(35.5)
Narcotic Analgesics	24	(21.8)
Dissociative Anesthetics	1	(0.9)
Hallucinogens	1	(0.9)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

Among fatally injured tested drivers, 110 out of 204 (53.9%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was CNS depressants (44.5%). Other categories of drugs found in fatally injured drivers testing positive for drugs were

cannabis (36.4%), CNS stimulants (35.5%), narcotic analgesics (21.8%), and dissociative anesthetics and hallucinogens (0.9% each).

5.5 Trends in alcohol and drug-impaired driving

Sections 5.1 through 5.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 5.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

5.5.1 Deaths involving drinking drivers: 1996-2015. Table 5-5 and Figure 5-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 5.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

Table 5-5

Number* and Percent of Motor Vehicle Deaths** Involving a Drinking Driver: Alberta, 1996-2015

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	350	158	45.1
1997	432	167	38.7
1998	415	161	38.8
1999	331	127	38.4
2000	354	132	37.3
2001	404	162	40.1
2002	363	124	34.2
2003	365	145	39.7
2004	373	129	34.6
2005	446	156	35.0
2006	434	168	38.7
2007	441	167	37.9
2008	400	152	38.0
2009	332	144	43.4
2010	337	138	40.9
2011	304	107	35.2
2012	332	123	37.0
2013	343	130	37.9
2014	345	113	32.8
2015	326	134	41.1
2006-2010 baseline	389	154	39.6
2011-2015 period	330	121	36.7

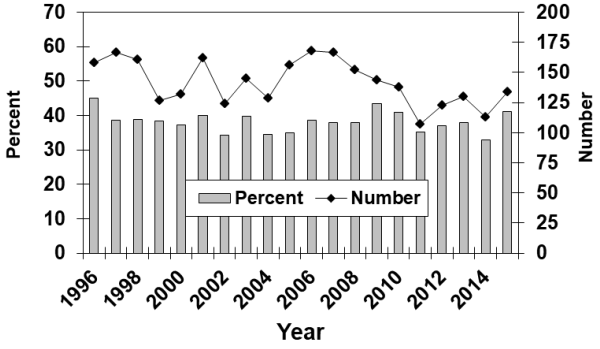
* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally decreased from a high of 167 in 1997 to a low of 107 in 2011, rose to 130 in 2013, decreased to 112 in 2014, and rose to 134 in 2015. The percentage of alcohol-related fatalities generally decreased from a high of 45.1% in 1996 to a low of 32.8% in 2014, and rose again to 41.1% in 2015.

As shown at the bottom of the table, during the 2006-2010 baseline period, there was an average of 154 fatalities involving a drinking driver and they accounted for 39.6% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 7.3% from 39.6% in the baseline period (2006-2010) to 36.7% in the 2011-2015 period. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 21.4% decrease from an average of 154 in the 2006-2010 baseline period to 121 in the 2011-2015 period.

Figure 5-2
Number and Percent of Deaths Involving a Drinking Driver: Alberta, 1996-2015



5.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 5-6. Trends are illustrated in Figure 5-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit was relatively stable from 1996 (30.3%) to 2009 (33.5%), decreased to 24.6% in 2011, rose in 2012 (30.6%), decreased until 2014 (25.2%), and rose again in 2015 (33.8%). The percent of fatally injured drivers with zero BACs was also stable from 1996 to 2004, decreased until 2007 (59.4%), peaked in 2014 (68.6%), and decreased in 2015 (61.8%). The percent of fatally injured drivers with BACs between 1 and 80 mg% was 6.9% in 1996, remained stable until 2011 (7.3%), decreased to its lowest level in 2012 (2.4%), peaked in 2013 (10.0%), and decreased again in 2015 (4.4%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 5-6, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 9.0% (from 60.1% to 65.5%). Among drivers with BACs from 1-80 mg%, there was no change (from 6.3% to 6.3%). And among those with BACs over 80 mg%, there was a 16.1% decrease (from 33.6% to 28.2%).

Table 5-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Alberta, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	200	188	94.0	118	62.8	13	6.9	57	30.3
1997	252	240	95.2	162	67.5	12	5.0	66	27.5
1998	243	232	95.5	143	61.6	19	8.2	70	30.2
1999	208	204	98.1	136	66.7	9	4.4	59	28.9
2000	196	193	98.5	123	63.7	12	6.2	58	30.1
2001	225	218	96.9	132	60.6	10	4.6	76	34.9
2002	222	215	96.8	140	65.1	16	7.4	59	27.4
2003	225	216	96.0	133	61.6	13	6.0	70	32.4
2004	218	210	96.3	140	66.7	9	4.3	61	29.0
2005	273	260	95.2	160	61.5	12	4.6	88	33.8
2006	274	266	97.1	163	61.3	15	5.6	88	33.1
2007	262	251	95.8	149	59.4	13	5.2	89	35.5
2008	272	263	96.7	160	60.8	15	5.7	88	33.5
2009	207	200	96.6	117	58.5	12	6.0	71	35.5
2010	215	211	98.1	127	60.2	18	8.5	66	31.3
2011	186	179	96.2	122	68.2	13	7.3	44	24.6
2012	216	209	96.8	140	67.0	5	2.4	64	30.6
2013	217	210	96.8	133	63.3	21	10.0	56	26.7
2014	229	226	98.7	155	68.6	14	6.2	57	25.2
2015	209	204	97.6	126	61.8	9	4.4	69	33.8
2006-2010 baseline	246	238	(96.7)	143	(60.1)	15	(6.3)	80	(33.6)
2011-2015 period	211	206	(97.6)	135	(65.5)	13	(6.3)	58	(28.2)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 5-3

Trends in Alcohol Use Among Driver Fatalities: Alberta, 1996-2015

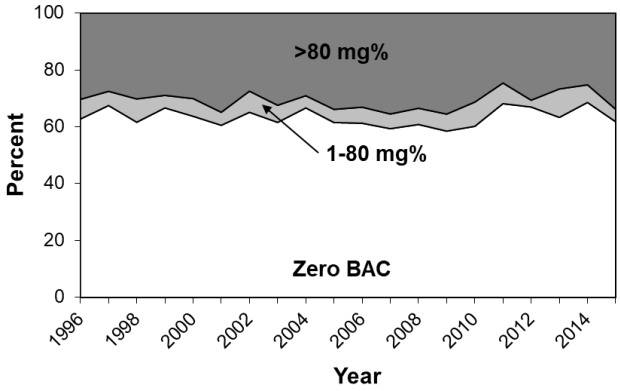


Table 5-7 and Figure 5-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 5-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 5-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 39.8%. In the 2011-2015 period, 34.1% of fatally injured drivers tested positive for alcohol, a 14.3% decrease from the baseline period.

Table 5-7

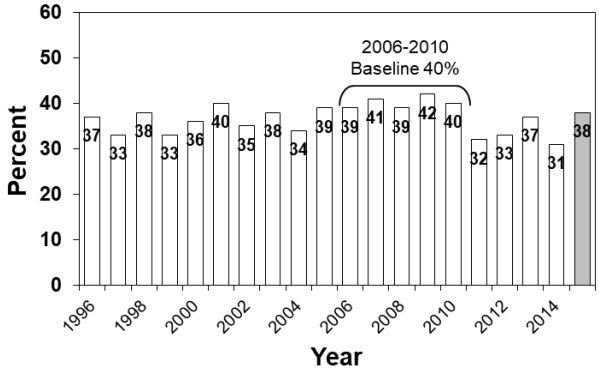
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Alberta, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	200	126	(63.0)	74	(37.0)
1997	252	170	(67.5)	82	(32.5)
1998	243	150	(61.7)	93	(38.3)
1999	208	139	(66.8)	69	(33.2)
2000	196	125	(63.8)	71	(36.2)
2001	225	136	(60.4)	89	(39.6)
2002	222	145	(65.3)	77	(34.7)
2003	225	139	(61.8)	86	(38.2)
2004	218	145	(66.5)	73	(33.5)
2005	273	168	(61.5)	105	(38.5)
2006	274	168	(61.3)	106	(38.7)
2007	262	156	(59.5)	106	(40.5)
2008	272	165	(60.7)	107	(39.3)
2009	207	121	(58.5)	86	(41.5)
2010	215	129	(60.0)	86	(40.0)
2011	186	127	(68.3)	59	(31.7)
2012	216	145	(67.1)	71	(32.9)
2013	217	137	(63.1)	80	(36.9)
2014	229	157	(68.6)	72	(31.4)
2015	209	129	(61.7)	80	(38.3)
2006-2010 baseline	246	148	(60.2)	98	(39.8)
2011-2015 period	211	139	(65.9)	72	(34.1)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 5-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Alberta, 1996-2015



5.5.3 Drivers in serious injury crashes. Table 5-8 and Figure 5-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. From 1996 to 1997, the percentage of drivers in serious injury crashes that involved alcohol rose from 20.6% to a high of 25.5%, generally decreased until 2003 (20.3%), rose to 21.8% in 2006, decreased until 2013 (14.3%), rose in 2014 (16.7%), and decreased again in 2015 (13.2%).

As shown Table 5-8, in the baseline period (2006-2010) an average of 19.7% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2015 period, the incidence of drivers in alcohol-involved crashes decreased to 15.2%, a 22.8% decrease.

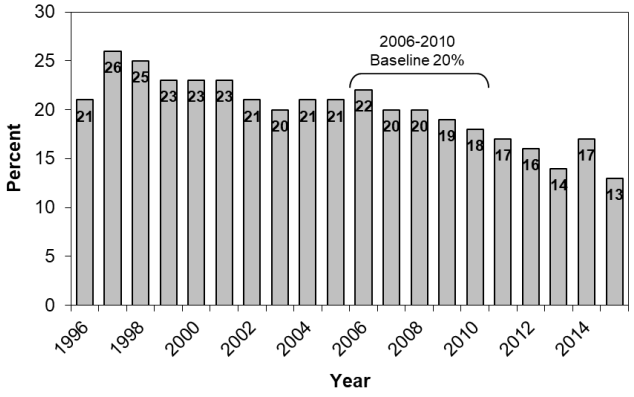
Table 5-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Alberta, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	3023	622	(20.6)
1997	2938	749	(25.5)
1998	3332	821	(24.6)
1999	3178	742	(23.3)
2000	3269	741	(22.7)
2001	3534	817	(23.1)
2002	3777	784	(20.8)
2003	3587	727	(20.3)
2004	3641	755	(20.7)
2005	3826	788	(20.6)
2006	4382	954	(21.8)
2007	3967	795	(20.0)
2008	3776	737	(19.5)
2009	3537	660	(18.7)
2010	3564	641	(18.0)
2011	3024	504	(16.7)
2012	3129	492	(15.7)
2013	3607	515	(14.3)
2014	3603	601	(16.7)
2015	3752	497	(13.2)
2006-2010 baseline	3845	757	(19.7)
2011-2015 period	3423	522	(15.2)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 5-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Alberta, 1996-2015



5.5.4 Drug use among fatally injured drivers. Table 5-9 and Figure 5-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 5-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

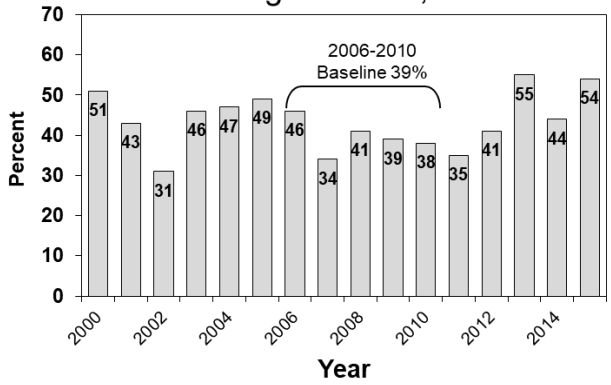
As can be seen at the bottom of Table 5-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 39.3%. The percentage of fatally injured drivers testing positive for drugs was 35.3% in 2011, rose to 55.2% in 2013, decreased to 44.4% in 2014, and rose again to 53.9% in 2015. From 2011 to 2015, the average percentage of fatally injured drivers testing positive for drugs was 46.0%, a 17.0% increase from the baseline period.

Table 5-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Alberta, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	196	43	21.9	21	48.8	22	51.2
2001	225	35	15.6	20	57.1	15	42.9
2002	222	49	22.1	34	69.4	15	30.6
2003	225	50	22.2	27	54.0	23	46.0
2004	218	34	15.6	18	52.9	16	47.1
2005	273	53	19.4	27	50.9	26	49.1
2006	274	181	66.1	97	53.6	84	46.4
2007	262	223	85.1	147	65.9	76	34.1
2008	272	239	87.9	142	59.4	97	40.6
2009	207	186	89.9	113	60.8	73	39.2
2010	215	202	94.0	126	62.4	76	37.6
2011	186	170	91.4	110	64.7	60	35.3
2012	216	197	91.2	117	59.4	80	40.6
2013	217	203	93.5	91	44.8	112	55.2
2014	229	225	98.3	126	56.0	99	44.0
2015	209	204	97.6	94	46.1	110	53.9
2006-2010 baseline	246	206	83.7	125	60.7	81	39.3
2011-2015 period	211	200	94.8	108	54.0	92	46.0

* Dying within 30 days in collisions which occurred on public roadways.

Figure 5-6
Percent of Fatally Injured Drivers
Positive for Drugs: Alberta, 2000-2015



6.0 SASKATCHEWAN

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Saskatchewan during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 6.1);
- alcohol use among fatally injured drivers (Section 6.2);
- drivers involved in alcohol-related serious injury crashes (Section 6.3);
- drug use among fatally injured drivers (Section 6.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 6.5).

6.1 Deaths in alcohol-related crashes

Table 6-1 presents information on people who died in alcohol-related crashes in Saskatchewan during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, it can be seen that eight people aged 16-19 were killed in motor vehicle crashes in Saskatchewan during 2015. And, in all eight cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. There were three people aged 16-19 who died in alcohol-related crashes in Saskatchewan during 2015. The next column expresses this as a percentage – i.e., 37.5% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 7.7% of all the people killed in alcohol-related crashes in Saskatchewan during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 108 persons died within 30 days of a motor vehicle crash in Saskatchewan during 2015. In 107 (99.1%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 39 (36.4%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (108 x .364) it can be estimated that *in Saskatchewan during 2015, 39 persons died in alcohol-related crashes within 30 days of the collision*.

Table 6-1
Deaths in Alcohol-Related Crashes: Saskatchewan, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	6	6	100.0	2	33.3	5.1
16-19	8	8	100.0	3	37.5	7.7
20-25	14	14	100.0	7	50.0	17.9
26-35	14	14	100.0	7	50.0	17.9
36-45	10	10	100.0	5	50.0	12.8
46-55	12	12	100.0	6	50.0	15.4
>55	44	43	97.7	9	20.9	23.1
Gender						
Male	74	74	100.0	33	44.6	84.6
Female	34	33	97.1	6	18.2	15.4
Victim Type						
Driver/ Operator	69	69	100.0	28	40.6	71.8
Passenger	26	25	96.2	6	24.0	15.4
Pedestrian	13	13	100.0	5	38.5	12.8
Vehicle Occupied						
Automobiles	47	46	97.9	12	26.1	30.8
Trucks/Vans	38	38	100.0	19	50.0	48.7
Motorcycles	3	3	100.0	2	66.7	5.1
Other Hwy Vehicles	4	4	100.0	1	25.0	2.6
Off-road Vehicles	3	3	100.0	0	0.0	0.0
(Pedestrians)	13	13	100.0	5	38.5	12.8
TOTAL	108	107	99.1	39	36.4	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

6.1.1 Victim age. Of all the people who died in alcohol-related crashes, 23.1% (see last column) were over age 55; 17.9% were aged 20-25 and 26-35; 15.4% were aged 46-55; 12.8% were aged 36-45; 7.7% were aged 16-19; and 5.1% were under 16.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25, 26-35, 36-45 and 46-55 died (50.0%). The lowest incidence of alcohol involvement was found among the oldest fatalities – 20.9% of the fatalities over 55 years of age died in crashes involving alcohol.

6.1.2 Gender. Of all the people who died in alcohol-related crashes, 84.6% were males. The incidence of alcohol in crashes in which a male died (44.6%) was greater than the incidence of alcohol in crashes in which a female died (18.2%).

6.1.3 Victim type. Of all the people who died in alcohol-related crashes, 71.8% were drivers/operators of a vehicle; 15.4% were passengers; and 12.8% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (40.6%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 38.5% of the crashes in which a pedestrian died and 24.0% of those in which a passenger died.

6.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 48.7% were truck/van occupants; 30.8% were automobile occupants; and 5.1% were motorcyclists; and 2.3% were occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which a motorcyclist died (66.7%) was greater than the incidence of alcohol crashes in which a truck/van occupant died (50.0%). Among automobile occupants, 26.1% died in an alcohol-involved collision compared to 25.0% of occupants of other highway vehicles.

6.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Saskatchewan during 2015. Table 6-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 20-25 year olds there were nine drivers killed during 2015; all nine of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, six (66.7%) were positive for alcohol. This means that fatally injured drinking drivers aged 20-25 accounted for 22.2% of all drinking drivers who were killed.

Table 6-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Saskatchewan, 2015

Category of Driver	Number of Drivers*	Drivers		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
<20**	7	7	100.0	2	28.6	7.4	2	28.6	8.7
20-25	9	9	100.0	6	66.7	22.2	6	66.7	26.1
26-35	10	9	90.0	5	55.6	18.5	4	44.4	17.4
36-45	6	5	83.3	2	40.0	7.4	2	40.0	8.7
46-55	9	8	88.9	5	62.5	18.5	4	50.0	17.4
>55	25	22	88.0	7	31.8	25.9	5	22.7	21.7
Gender									
Male	52	48	92.3	25	52.1	92.6	21	43.8	91.3
Female	14	12	85.7	2	16.7	7.4	2	16.7	8.7
Vehicle Type									
Automobiles	33	31	93.9	10	32.3	37.0	10	32.3	43.5
Truck/Van	26	23	88.5	14	60.9	51.9	12	52.2	52.2
Motorcycles	3	3	100.0	2	66.7	7.4	0	0.0	0.0
Tractor Trailer	4	3	75.0	1	33.3	3.7	1	33.3	4.3
Collision Type									
Single vehicle	29	27	93.1	17	63.0	63.0	15	55.6	65.2
Multiple vehicle	37	33	89.2	10	30.3	37.0	8	24.2	34.8
TOTAL	66	60	90.9	27	45.0	100.0	23	38.3	100.0

* Drivers dying within 30 days in crashes on public roadways.

** Drivers in two age groups have been aggregated to ensure that an individual will not be identified.

Then, in the final three columns, it can be seen that six of the nine (66.7%) fatally injured drivers aged 20-25 who were tested for alcohol had BACs in excess of 80 mg%. This means that all six drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 20-25 accounted for 26.1% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Saskatchewan had a very high testing rate in 2015, with 90.9% of fatally injured drivers being tested for alcohol use.

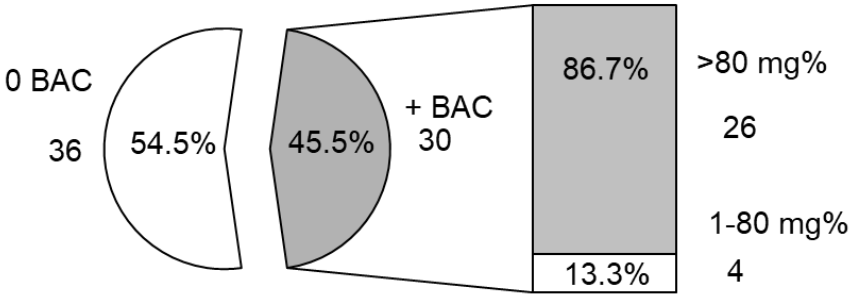
In Saskatchewan, 45.0% had been drinking and 23 of 27 (85.2%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 55.0% had BACs of zero mg%;
- 6.7% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%
- 8.3% had BACs from 81 to 160 mg%; and,

- 30.0% had BACs over 160 mg%.

In Figure 6-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure 30 of 66 (45.5%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 26 (86.7%) have BACs over 80 mg%.

Figure 6-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Saskatchewan, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

6.2.1 Age differences. Drivers under 16 years of age and those aged 16-19 have been regrouped (<20) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 25.9% were over age 55; 22.2% were aged 20-25; 18.5% were aged 26-35 and 46-55; and 7.4% were aged under 20 and 36-45.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 26.1% were aged 20-25; 21.7% were over age 55; 17.4% were aged 26-35 and 46-55; and 8.7% were aged under 20 and 36-45.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 20-25 were the most likely to have been drinking (66.7%). By contrast, only 28.6% of the tested drivers under age 20 had been drinking.

6.2.2 Gender differences. Males dominate the picture – they account for 92.6% of all the fatally injured drivers who had been drinking, and 91.3% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (52 of the 66 drivers are males). Fatally injured male drivers were more likely to have been drinking than female drivers (52.1% and 16.7%, respectively). And, 84.0% of the male and 100.0% of the female drivers who were drinking had BACs over the legal limit.

6.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 51.9% were truck/van drivers; 37.0% were automobile drivers; 7.4% were motorcyclists; and 3.7% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 52.2% were truck/van drivers; 43.5% were automobile drivers; and 4.3% were tractor-trailer drivers.

Within each of the vehicle types, 66.7% of motorcyclists, 60.9% of truck/van drivers; and 33.3% of tractor-trailer drivers were found to have been drinking. Among fatally injured automobile drivers, 32.3% had been drinking.

6.2.4 Collision differences. Two-fifths of the drivers killed (29 of the 66) were involved in single-vehicle collisions but these crashes accounted for almost two-thirds of the drivers who had been drinking or were legally impaired (63.0% and 65.2%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over two-thirds of the drivers involved in single-vehicle crashes (63.0%) tested positive for alcohol, compared to only 30.3% of those involved in multiple-vehicle collisions.

6.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Saskatchewan. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 6-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 431 drivers were involved in crashes in which someone was seriously injured, and among these 29.5% were alcohol-related crashes.

6.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.0% were aged 20-25, and 18.9% were aged 26-35. Drivers under 16 and over 55 accounted for only 0.0% and 7.1% respectively of those involved in alcohol-related serious injury crashes.

Over two-fifths of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (43.8%). The lowest incidence of involvement in alcohol-related crashes was found for those aged under 16 and over 55 (0.0% and 9.8%, respectively).

Table 6-3
Drivers* in Alcohol-Related Serious Injury Crashes: Saskatchewan, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	5	0	0.0	0.0
16-19	39	16	41.0	12.6
20-25	64	28	43.8	22.0
26-35	83	24	28.9	18.9
36-45	76	23	30.3	18.1
46-55	54	18	33.3	14.2
>55	92	9	9.8	7.1
unknown	18	9	50.0	7.1
Gender				
Male	297	92	31.0	72.4
Female	114	25	21.9	19.7
unknown	20	10	50.0	7.9
Vehicle Type				
Auto	138	47	34.1	37.0
Truck/Van	223	72	32.3	56.7
Motorcycle	28	5	17.9	3.9
Tractor Trailer	38	3	7.9	2.4
Other Hwy. Vehicle	4	0	0.0	0.0
Collision Type				
Single-Vehicle	155	77	49.7	60.6
Multiple-Vehicle	276	50	18.1	39.4
TOTAL	431	127	29.5	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

6.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 72.4% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (31.0% and 21.9%, respectively).

6.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 56.7% were truck/van drivers; 37.0% were automobile drivers; 3.9% were motorcyclists; and 2.4% were tractor-trailer drivers.

Among principal vehicle types, the highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 34.1% of these drivers were in crashes that involved alcohol, compared to 32.3% for truck/van drivers; 17.9% for motorcyclists; and 7.9% for tractor-trailer drivers.

6.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 60.6% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 49.7% of these drivers, compared to only 18.1% for drivers involved in multiple-vehicle crashes.

6.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Saskatchewan during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 6-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Saskatchewan had a high testing rate in 2015, with 87.9% of fatally injured drivers being tested for drug use.

Table 6-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Saskatchewan, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
66	58	(87.9)	27	(46.6)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
CNS Depressants	12	(44.4)
Narcotic Analgesics	12	(44.4)
Cannabis	8	(29.6)
CNS Stimulants	7	(25.9)
Dissociative Anesthetics	0	(0.0)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

Among fatally injured tested drivers, 27 out of 58 (46.6%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was CNS depressants and narcotic analgesics (44.4%). Other categories of drugs found in fatally injured drivers testing positive for drugs were cannabis (29.6%) and CNS stimulants (25.9%).

6.5 Trends in alcohol and drug-impaired driving

Sections 6.1 through 6.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury

crashes that involved alcohol. Section 6.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

6.5.1 Deaths involving drinking drivers: 1996-2015. Table 6-5 and Figure 6-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 6.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol- related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

Table 6-5

Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Saskatchewan, 1996-2015**

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	126	52	41.3
1997	154	54	35.1
1998	146	61	41.8
1999	175	77	44.0
2000	142	49	34.5
2001	145	69	47.6
2002	130	45	34.6
2003	136	54	39.7
2004	120	44	36.7
2005	141	44	31.2
2006	123	49	39.8
2007	131	54	41.2
2008	144	73	50.7
2009	154	63	40.9
2010	155	68	43.9
2011	145	62	42.8
2012	169	59	34.9
2013	132	53	40.2
2014	116	49	42.2
2015	108	35	32.4
2006-2010 baseline	141	61	43.3
2011-2015 period	134	52	38.8

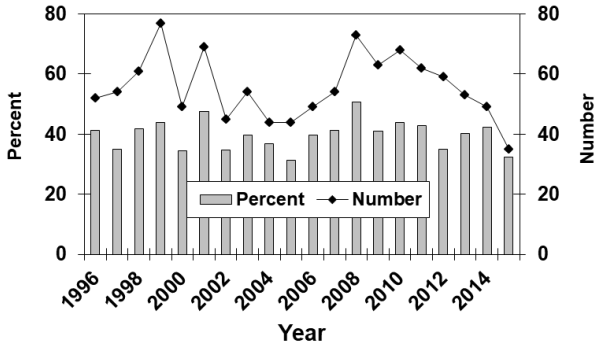
* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver rose from 52 in 1996 to a high of 77 in 1999, generally decreased to a low of 44 in 2004 and 2005, increased to 73 in 2008, and generally decreased to 35 in 2015. The percentage of alcohol-related fatalities generally increased from 41.3% in 1996 to 47.6% in 2001, dropped to a low of 31.9% in 2005, peaked at 50.7% in 2008, generally decreased to 34.9% in 2012, rose to 42.2% in 2014, and decreased to 32.4% in 2015.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 61 fatalities involving a drinking driver and they accounted for 43.3% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 10.4% from 43.3% in the baseline period (2006-2010) to 38.8% in the 2011-2015 period. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 14.8% decrease from an average of 61 in the baseline period (2006-2010) to 52 in the 2011-2015 period.

Figure 6-2
Number and Percent of Deaths Involving a Drinking Driver: Saskatchewan, 1996-2015



6.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 6-6. Trends are illustrated in Figure 6-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally increased from 1996 (30.8%) until 2008 (44.7%), generally decreased until 2013 (24.3%), rose in 2014 (38.7%), and slightly decreased in 2015 (38.3%). The percent of fatally injured drivers with zero BACs decreased from 1996 (63.1%) to 2001 (50.0%), generally rose until 2006 (63.8%), declined until 2008 (48.7%), rose in 2012 (68.5%), and decreased until 2015 (55.0%). The percent of fatally injured drivers with BACs from 1-80 mg% decreased from 1996 (6.2%) to its lowest mark in 1998 (1.3%), fluctuated until 2012 (4.5%), peaked in 2013 (9.5%), decreased in 2014 (4.8%), and increased again in 2015 (6.7%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 6-6, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 4.3% (from 57.8% to 60.3%). Among drivers with BACs from 1-80 mg%, there was a 13.3% increase (from 6.0% to 6.8%). And among those with BACs over 80 mg%, there was an 8.9% decrease (from 36.1% to 32.9%).

Table 6-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Saskatchewan, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	69	65	94.2	41	63.1	4	6.2	20	30.8
1997	72	63	87.5	42	66.7	5	7.9	16	25.4
1998	83	77	92.8	49	63.6	1	1.3	27	35.1
1999	93	85	91.4	47	55.3	8	9.4	30	35.3
2000	81	70	86.4	45	64.3	2	2.9	23	32.9
2001	91	80	87.9	40	50.0	7	8.8	33	41.3
2002	71	58	81.7	31	53.4	4	6.9	23	39.7
2003	89	84	94.4	51	60.7	3	3.6	30	35.7
2004	66	58	87.9	32	55.2	4	6.9	22	37.9
2005	79	66	83.5	40	60.6	4	6.1	22	33.3
2006	81	69	85.2	44	63.8	6	8.7	19	27.5
2007	93	87	93.5	54	62.1	5	5.7	28	32.2
2008	83	76	91.6	37	48.7	5	6.6	34	44.7
2009	101	96	95.0	55	57.3	5	5.2	36	37.5
2010	92	85	92.4	49	57.6	5	5.9	31	36.5
2011	86	79	91.9	44	55.7	4	5.1	31	39.2
2012	95	89	93.7	61	68.5	4	4.5	24	27.0
2013	78	74	94.9	49	66.2	7	9.5	18	24.3
2014	66	62	93.9	35	56.5	3	4.8	24	38.7
2015	66	60	90.9	33	55.0	4	6.7	23	38.3
2006-2010 baseline	90	83	(92.2)	48	(57.8)	5	(6.0)	30	(36.1)
2011-2015 period	78	73	(93.6)	44	(60.3)	5	(6.8)	24	(32.9)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 6-3

Trends in Alcohol Use Among Driver Fatalities: Saskatchewan, 1996-2015

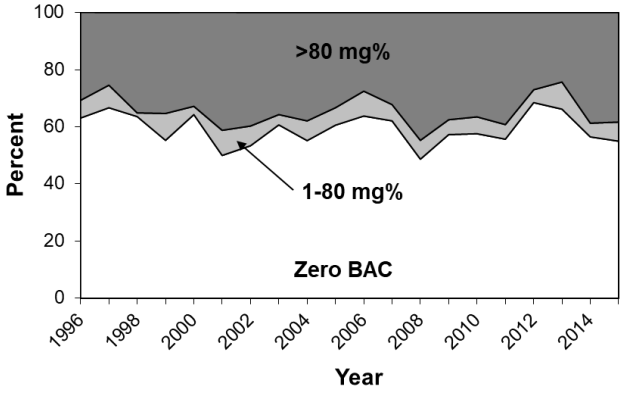


Table 6-7 and Figure 6-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 6-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 6-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 42.2%. In the 2011-2015 period, 39.7% of fatally injured drivers tested positive for alcohol, a 5.9% decrease from the baseline period.

Table 6-7

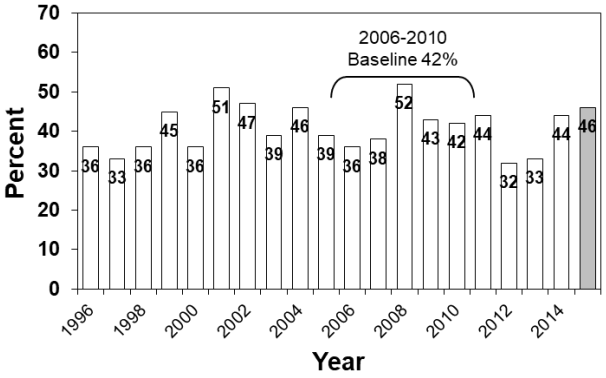
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Saskatchewan, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	69	44	(63.8)	25	(36.2)
1997	72	48	(66.7)	24	(33.3)
1998	83	53	(63.9)	30	(36.1)
1999	93	51	(54.8)	42	(45.2)
2000	81	52	(64.2)	29	(35.8)
2001	91	45	(49.5)	46	(50.5)
2002	71	38	(53.5)	33	(46.5)
2003	89	54	(60.7)	35	(39.3)
2004	66	36	(54.5)	30	(45.5)
2005	79	48	(60.8)	31	(39.2)
2006	81	52	(64.2)	29	(35.8)
2007	93	58	(62.4)	35	(37.6)
2008	83	40	(48.2)	43	(51.8)
2009	101	58	(57.4)	43	(42.6)
2010	92	53	(57.6)	39	(42.4)
2011	86	48	(55.8)	38	(44.2)
2012	95	65	(68.4)	30	(31.6)
2013	78	52	(66.7)	26	(33.3)
2014	66	37	(56.1)	29	(43.9)
2015	66	36	(54.5)	30	(45.5)
2006-2010 baseline	90	52	(57.8)	38	(42.2)
2011-2015 period	78	47	(60.3)	31	(39.7)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 6-4
Percent of Fatally Injured Drivers* Positive for Alcohol: Saskatchewan, 1996-2015



6.5.3 Drivers in serious injury crashes. Table 6-8 and Figure 6-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2008, the percentage of all drivers in serious injury crashes that involved alcohol generally rose from 25.6% to a high of 33.2% in 2008, decreased to 27.7% in 2009, remained relatively stable until 2013 (28.4%), decreased in 2014 (22.8%), and increased again in 2015 (29.5%).

In the baseline period (2006-2010), an average of 29.5% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2015, the average percentage of drivers in alcohol-involved crashes declined to 27.6%, a 6.4% decrease from the baseline period.

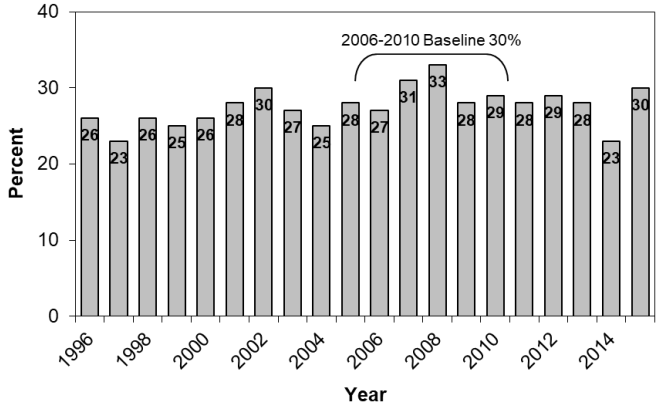
Table 6-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Saskatchewan, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	656	168	(25.6)
1997	843	197	(23.4)
1998	703	185	(26.3)
1999	757	195	(25.8)
2000	693	183	(26.4)
2001	583	164	(28.1)
2002	599	177	(29.5)
2003	667	177	(26.5)
2004	606	154	(25.4)
2005	443	122	(27.5)
2006	507	136	(26.8)
2007	492	151	(30.7)
2008	540	180	(33.3)
2009	528	146	(27.7)
2010	492	142	(28.9)
2011	460	128	(27.8)
2012	451	129	(28.6)
2013	507	144	(28.4)
2014	381	87	(22.8)
2015	431	127	(29.5)
2006-2010 baseline	512	151	(29.5)
2011-2015 period	446	123	(27.6)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 6-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Saskatchewan, 1996-2015



6.5.4 Drug use among fatally injured drivers. Table 6-9 and Figure 6-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 6-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

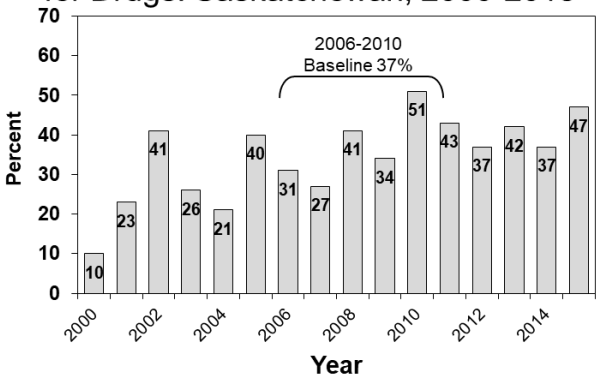
As can be seen at the bottom of Table 6-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 36.7%. The percentage of fatally injured drivers testing positive for drugs was 42.5% in 2011, 37.3% in 2012, 41.7% in 2013, 36.8% in 2014, and 46.6% in 2015. From 2011 to 2015, the average percentage of fatally injured drivers testing positive for drugs was 40.6%, a 10.6% increase from the baseline period.

Table 6-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Saskatchewan, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	81	63	77.8	57	90.5	6	9.5
2001	91	73	80.2	56	76.7	17	23.3
2002	71	54	76.1	32	59.3	22	40.7
2003	89	82	92.1	61	74.4	21	25.6
2004	66	52	78.8	41	78.8	11	21.2
2005	79	62	78.5	37	59.7	25	40.3
2006	81	67	82.7	46	68.7	21	31.3
2007	93	84	90.3	61	72.6	23	27.4
2008	83	74	89.2	44	59.5	30	40.5
2009	101	92	91.1	61	66.3	31	33.7
2010	92	79	85.9	39	49.4	40	50.6
2011	86	73	84.9	42	57.5	31	42.5
2012	95	83	87.4	52	62.7	31	37.3
2013	78	72	92.3	42	58.3	30	41.7
2014	66	57	86.4	36	63.2	21	36.8
2015	66	58	87.9	31	53.4	27	46.6
2006-2010 baseline	90	79	87.8	50	63.3	29	36.7
2011-2015 period	78	69	88.5	41	59.4	28	40.6

* Dying within 30 days in collisions which occurred on public roadways.

Figure 6-6
Percent of Fatally Injured Drivers Positive for Drugs: Saskatchewan, 2000-2015



7.0 MANITOBA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Manitoba during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 7.1);
- alcohol use among fatally injured drivers (Section 7.2);
- drivers involved in alcohol-related serious injury crashes (Section 7.3);
- drug use among fatally injured drivers (Section 7.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 7.5).

7.1 Deaths in alcohol-related crashes

Table 7-1 presents information on people who died in alcohol-related crashes in Manitoba during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, it can be seen that among persons dying within 30 days of the collision, nine people aged 26-35 were killed in motor vehicle crashes in Manitoba during 2015. And, in eight cases (88.9%) it was possible to determine if alcohol was a factor in the crash. The next column shows the number of people killed in crashes that were known to be alcohol-involved. Two people aged 26-35 died in alcohol-related crashes in Manitoba during 2015. The next column expresses this as a percentage – i.e., 25.0% of the 26-35 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 26-35 year olds represent 7.7% of all the people killed in alcohol-related crashes in Manitoba during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 78 persons died within 30 days of a motor vehicle crash in Manitoba during 2015. In 76 (97.4%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 26 (34.2%) involved alcohol. Extrapolating this

figure to the total number of motor vehicle fatalities (77 x .342) it can be estimated that *in Manitoba during 2015, 27 persons died in alcohol-related crashes within 30 days of the collision*.

7.1.1 Victim age. Of all the people who died in alcohol-related crashes, 30.8% (see last column) were aged 20-25; 26.9% were over age 55; 15.4% were aged 46-55; 11.5% were aged 36-45; 7.7% were aged 26-35; and 3.8% were aged under 16 and 16-19.

The highest incidence of alcohol involvement occurred in the crashes in which persons aged 20-25 died (61.5%). The lowest incidence of alcohol involvement was found among 46-55 year old fatalities as only 23.5% of these victims died in crashes involving alcohol.

Table 7-1
Deaths in Alcohol-Related Crashes: Manitoba, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	2	2	100.0	1	50.0	3.8
16-19	5	5	100.0	1	20.0	3.8
20-25	13	13	100.0	8	61.5	30.8
26-35	9	8	88.9	2	25.0	7.7
36-45	10	10	100.0	3	30.0	11.5
46-55	17	17	100.0	4	23.5	15.4
>55	22	21	95.5	7	33.3	26.9
Gender						
Male	56	54	96.4	21	38.9	80.8
Female	22	22	100.0	5	22.7	19.2
Victim Type						
Driver/ Operator	56	55	98.2	17	30.9	65.4
Passenger	14	14	100.0	5	35.7	19.2
Pedestrian	8	7	87.5	4	57.1	15.4
Vehicle Occupied						
Automobiles	39	38	97.4	10	26.3	38.5
Trucks/Vans	23	23	100.0	10	43.5	38.5
Motorcycles	6	6	100.0	2	33.3	7.7
Off-road Vehicles	2	2	100.0	0	0.0	0.0
(Pedestrians)	8	7	87.5	4	57.1	15.4
TOTAL	78	76	97.4	26	34.2	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

7.1.2 Gender. Of all the people who died in alcohol-related crashes, 80.8% were males. The incidence of alcohol in crashes in which a male died (38.9%) was greater than the incidence of alcohol in crashes in which a female died (22.7%).

7.1.3 Victim type. Of all the people who died in alcohol-related crashes, 65.4% were drivers/operators of a vehicle; 19.2% were passengers; and 15.4% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (57.1%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 35.7% of the crashes in which a passenger died and 30.9% of those in which a driver/operator died.

7.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 38.5% were automobile and truck/van occupants; and 7.7% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died (43.5%) was greater than the incidence of alcohol in crashes in which a motorcyclist died (33.3%). Among automobile occupants, 26.3% died in an alcohol-related crash.

7.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Manitoba during 2015. Table 7-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among those aged 26-35 there were eight drivers killed during 2015; all eight of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (12.5%) was positive for alcohol. This means fatally injured drinking drivers aged 26-35 accounted for 7.7% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one (12.5%) fatally injured driver aged 26-35 who was tested for alcohol had a BAC in excess of 80 mg%. This means that the driver who was positive for alcohol had a BAC in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 26-35 accounted for 10.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Manitoba had a high testing rate in 2015, with 88.9% of fatally injured drivers being tested for alcohol use.

In Manitoba, 27.1% had been drinking and 10 of 13 (76.9%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 72.9% had BACs of zero mg%;
- 4.2% had BACs from 1-49 mg%;
- 2.1% had BACs from 50-80 mg%
- 6.3% had BACs from 81 to 160 mg%; and,

> 14.6% had BACs over 160 mg%.

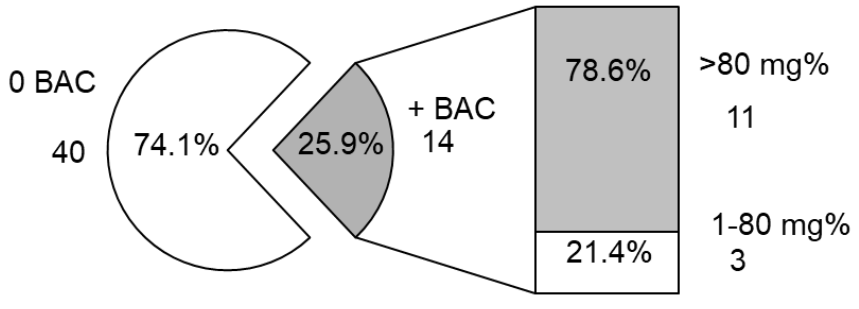
Table 7-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Manitoba, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	5	4	80.0	1	25.0	7.7	0	0.0	0.0
20-25	6	5	83.3	4	80.0	30.8	4	80.0	40.0
26-35	8	8	100.0	1	12.5	7.7	1	12.5	10.0
36-45	5	4	80.0	2	50.0	15.4	1	25.0	10.0
46-55	14	14	100.0	3	21.4	23.1	2	14.3	20.0
>55	16	13	81.3	2	15.4	15.4	2	15.4	20.0
Gender									
Male	40	36	90.0	11	30.6	84.6	8	22.2	80.0
Female	14	12	85.7	2	16.7	15.4	2	16.7	20.0
Vehicle Type									
Automobiles	31	29	93.5	7	24.1	53.8	6	20.7	60.0
Truck/Van	17	13	76.5	5	38.5	38.5	4	30.8	40.0
Motorcycles	6	6	100.0	1	16.7	7.7	0	0.0	0.0
Collision Type									
Single vehicle	18	16	88.9	7	43.8	53.8	6	37.5	60.0
Multiple vehicle	36	32	88.9	6	18.8	46.2	4	12.5	40.0
TOTAL	54	48	88.9	13	27.1	100.0	10	20.8	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 7-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 14 of 54 (25.9%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 11 (78.6%) have BACs over 80 mg%.

Figure 7-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: Manitoba, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

7.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 30.8% were aged 20-25; 23.1% were aged 46-55; 15.4% were aged 36-45 and over 55; and 7.7% were aged 16-19 and 26-35.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 40.0% were aged 20-25; 20.0% were aged 46-55 and over 55; and 10.0% were aged 26-35 and 36-45.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 20-25 were the most likely to have been drinking (80.0%). By contrast, 12.5% of the tested drivers aged 26-35 had been drinking.

7.2.2 Gender differences. Males dominate the picture as they account for 84.6% of all the fatally injured drivers who had been drinking and 80.0% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for 40 of the 54 drivers (74.1%) who are killed. Fatally injured male drivers were more likely to have been drinking than female drivers (30.6% and 16.7%, respectively). Most of the male drivers (72.7%) and 100.0% of the female drivers who were drinking had BACs over the legal limit.

7.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), automobile drivers accounted for 53.8% of the total, 38.5% were truck/van drivers, and 7.7% were motorcyclists. Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 60.0% were automobile drivers and 40.0% were truck/van drivers.

Within each of the vehicle types, 38.5% of truck/van drivers, 24.1% of automobile drivers, and 16.7% of motorcyclists had been drinking.

7.2.4 Collision differences. One-third of the drivers killed (18 of the 54) were involved in single-vehicle collisions but these crashes accounted for a majority of the drivers who had been drinking or were legally impaired (53.8% and 60.0%, respectively).

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Almost two-fifths of the drivers involved in single-vehicle crashes (43.8%) tested positive for alcohol compared to only 18.8% of those involved in multiple-vehicle collisions.

7.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Manitoba. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case

of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 7-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 562 drivers were involved in crashes in which someone was seriously injured, and among these 9.4% were alcohol-related crashes.

Table 7-3
Drivers* in Alcohol-Related Serious Injury Crashes: Manitoba, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	1	1	100.0	1.9
16-19	56	10	17.9	18.9
20-25	76	11	14.5	20.8
26-35	106	13	12.3	24.5
36-45	108	9	8.3	17.0
46-55	75	3	4.0	5.7
>55	140	6	4.3	11.3
Gender				
Male	356	36	10.1	67.9
Female	205	17	8.3	32.1
unknown	1	0	0.0	0.0
Vehicle Type				
Auto	333	32	9.6	60.4
Truck/Van	196	19	9.7	35.8
Motorcycle	27	2	7.4	3.8
Other Hwy. Vehicle	6	0	0.0	0.0
Collision Type				
Single-Vehicle	159	37	23.3	69.8
Multiple-Vehicle	403	16	4.0	30.2
TOTAL	562	53	9.4	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

7.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 24.5% were aged 26-35; 20.8% were aged 20-25; 18.9% were aged 16-19; 17.0% were aged 36-45; 11.3% were over age 55; and 5.7% were aged 46-55. Drivers under age 16 accounted for 1.9% of those involved in alcohol-related serious injury crashes.

Almost one-fifth of the drivers aged 16-19 were involved in alcohol-related serious injury crashes (17.9%). The lowest incidence of involvement in alcohol-related crashes was found for those aged 46-55 (4.0%).

7.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 67.9% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (10.1% and 8.3%).

7.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 60.4% were automobile drivers; 35.8% were truck/van drivers; and 3.8% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers (9.7%) compared to 9.6% for automobile drivers; and 7.4% for motorcyclists. None of the drivers of other highway vehicles were involved in an alcohol-related crash.

7.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 69.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 23.3% of these drivers, compared to only 4.0% for drivers involved in multiple-vehicle crashes.

7.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Manitoba during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 7-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Manitoba had a high testing rate in 2015, with 88.9% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 34 out of 48 (70.8%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was CNS depressants (58.8%). Other categories of drugs found in fatally injured drivers testing positive for drugs were narcotic analgesics (29.4%), CNS stimulants (26.5%), dissociative anesthetics (11.8%), hallucinogens (5.9%), and cannabis (2.9%).

Table 7-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Manitoba, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
54	48	(88.9)	34	(70.8)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
CNS Depressants	20	(58.8)
Narcotic Analgesics	10	(29.4)
CNS Stimulants	9	(26.5)
Dissociative Anesthetics	4	(11.8)
Hallucinogens	2	(5.9)
Cannabis	1	(2.9)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

7.5 Trends in alcohol and drug-impaired driving

Sections 7.1 through 7.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 7.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

7.5.1 Deaths involving drinking drivers: 1996-2015. Table 7-5 and Figure 7-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 7.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally dropped from 36 to 29 between 1996 and 2001, peaked at 45 in 2007, decreased to a low of 19 in 2014, and rose to 24 in 2015. The percentage of alcohol-related fatalities generally decreased from 37.9% in 1996 to 27.4% in 2005, peaked in 2008 (57.0%), eventually decreased to its lowest level in 2013 (26.4%), and rose to 30.8% in 2015.

Table 7-5

Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Manitoba, 1996-2015**

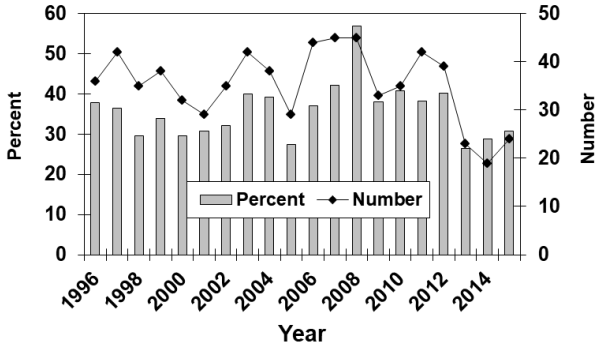
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	95	36	37.9
1997	115	42	36.5
1998	118	35	29.7
1999	112	38	33.9
2000	108	32	29.6
2001	94	29	30.9
2002	109	35	32.1
2003	105	42	40.0
2004	97	38	39.2
2005	106	29	27.4
2006	119	44	37.0
2007	107	45	42.1
2008	79	45	57.0
2009	87	33	37.9
2010	86	35	40.7
2011	110	42	38.2
2012	97	39	40.2
2013	87	23	26.4
2014	66	19	28.8
2015	78	24	30.8
2006-2010 baseline	96	40	41.7
2011-2015 period	88	29	33.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 40 fatalities involving a drinking driver and they accounted for 41.7% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 20.9% from 41.7% in the baseline period (2006-2010) to 33.0% in the 2011-2015 period. In terms of the number of persons killed in crashes involving a drinking driver, there was a 27.5% decrease from an average of 40 in the baseline period (2006-2010) to 29 in the 2011-2015 period.

Figure 7-2
Number and Percent of Deaths Involving a Drinking Driver: Manitoba, 1996-2015



7.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 7-6. Trends are illustrated in Figure 7-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1996 (50.0%) to 22.6% in 2005, increased until 2008 (44.2%), fluctuated until 2014 (25.0%), and decreased in 2015 (20.8%). The percent of fatally injured drivers with zero BACs generally increased from 43.2% in 1996 to its highest level in 2005 (75.5%), decreased to a low of 37.2% in 2008, fluctuated until 2014 (65.6%), and increased again in 2015 (72.9%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 2008 (18.6%), dropped to 7.1% in 2011, fluctuated until 2013 (6.5%), rose in 2014 (9.4%), and decreased again in 2015 (6.3%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 7-6, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 23.2% (from 54.7% to 67.4%). Among drivers with BACs from 1-80 mg%, there was a 7.4% decrease (from 9.4% to 8.7%) and among those with BACs over 80 mg%, there was a 33.2% decrease (from 35.8% to 23.9%).

Table 7-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Manitoba, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	48	44	91.7	19	43.2	3	6.8	22	50.0
1997	61	55	90.2	34	61.8	5	9.1	16	29.1
1998	62	62	100.0	41	66.1	3	4.8	18	29.0
1999	57	55	96.5	37	67.3	3	5.5	15	27.3
2000	64	62	96.9	39	62.9	4	6.5	19	30.6
2001	62	57	91.9	36	63.2	1	1.8	20	35.1
2002	57	55	96.5	35	63.6	3	5.5	17	30.9
2003	61	57	93.4	27	47.4	5	8.8	25	43.9
2004	54	49	90.7	29	59.2	3	6.1	17	34.7
2005	54	53	98.1	40	75.5	1	1.9	12	22.6
2006	67	64	95.5	39	60.9	3	4.7	22	34.4
2007	65	61	93.8	34	55.7	2	3.3	25	41.0
2008	45	43	95.6	16	37.2	8	18.6	19	44.2
2009	59	53	89.8	32	60.4	8	15.1	13	24.5
2010	44	41	93.2	23	56.1	4	9.8	14	34.1
2011	59	57	96.6	41	71.9	4	7.0	12	21.1
2012	52	49	94.2	25	51.0	7	14.3	17	34.7
2013	48	46	95.8	33	71.7	3	6.5	10	21.7
2014	35	32	91.4	21	65.6	3	9.4	8	25.0
2015	54	48	88.9	35	72.9	3	6.3	10	20.8
2006-2010 baseline	56	53	(94.6)	29	(54.7)	5	(9.4)	19	(35.8)
2011-2015 period	50	46	(92.0)	31	(67.4)	4	(8.7)	11	(23.9)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 7-3
Trends in Alcohol Use Among Driver Fatalities: Manitoba, 1996-2015

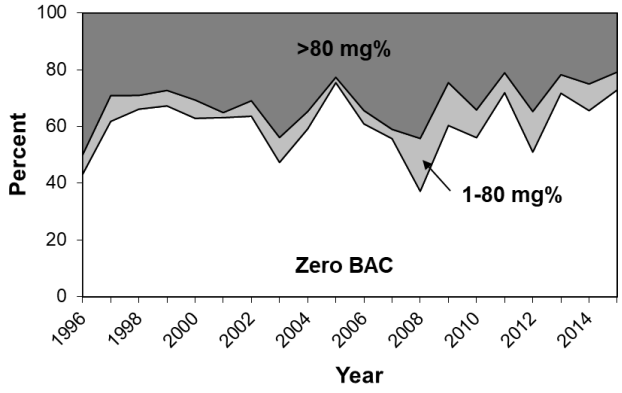


Table 7-7 and Figure 7-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 7-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 7-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 44.6%. In the 2011-2015 period, 32.7% of fatally injured drivers tested positive for alcohol, a 26.7% decrease from the baseline period.

Table 7-7

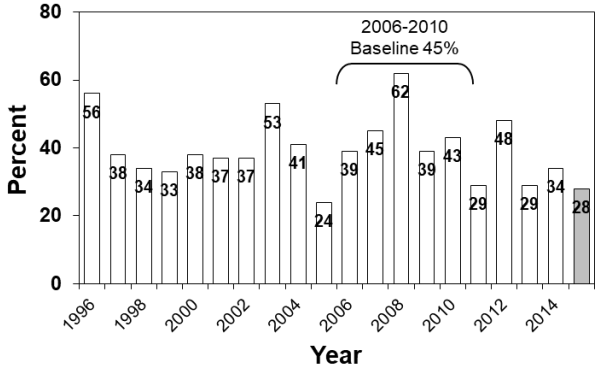
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Manitoba, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	48	21	(43.8)	27	(56.3)
1997	61	38	(62.3)	23	(37.7)
1998	62	41	(66.1)	21	(33.9)
1999	57	38	(66.7)	19	(33.3)
2000	64	40	(62.5)	24	(37.5)
2001	62	39	(62.9)	23	(37.1)
2002	57	36	(63.2)	21	(36.8)
2003	61	29	(47.5)	32	(52.5)
2004	54	32	(59.3)	22	(40.7)
2005	54	41	(75.9)	13	(24.1)
2006	67	41	(61.2)	26	(38.8)
2007	65	36	(55.4)	29	(44.6)
2008	45	17	(37.8)	28	(62.2)
2009	59	36	(61.0)	23	(39.0)
2010	44	25	(56.8)	19	(43.2)
2011	59	42	(71.2)	17	(28.8)
2012	52	27	(51.9)	25	(48.1)
2013	48	34	(70.8)	14	(29.2)
2014	35	23	(65.7)	12	(34.3)
2015	54	39	(72.2)	15	(27.8)
2006-2010 baseline	56	31	(55.4)	25	(44.6)
2011-2015 period	49	33	(67.3)	16	(32.7)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 7-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Manitoba, 1996-2015



7.5.3 Drivers in serious injury crashes. Table 7-8 and Figure 7-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 1997, the percentage of all drivers in serious injury crashes that involved alcohol generally rose from 21.6% to a high of 25.7%, generally decreased to 10.7% in 2012, rose in 2013 (13.1%), and decreased to its lowest level in 2015 (9.4%).

In the baseline period (2006-2010), an average of 18.4% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2015, the average percentage of drivers in alcohol-involved crashes declined to 11.8%, a 35.9% decrease from the baseline period.

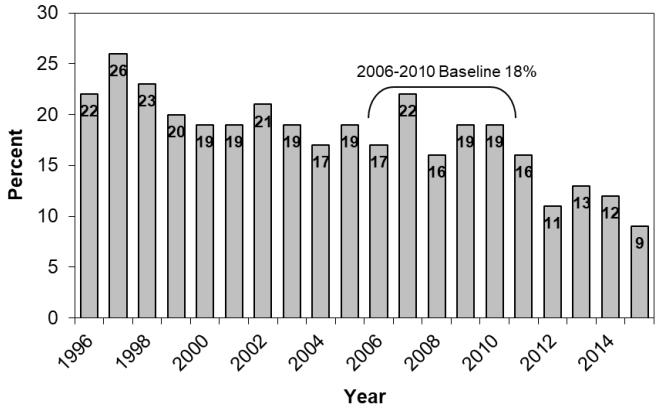
Table 7-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Manitoba, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	804	174	(21.6)
1997	630	162	(25.7)
1998	657	151	(23.0)
1999	595	120	(20.2)
2000	587	110	(18.7)
2001	597	115	(19.3)
2002	525	108	(20.6)
2003	532	102	(19.2)
2004	550	95	(17.3)
2005	482	92	(19.1)
2006	526	91	(17.3)
2007	467	103	(22.1)
2008	437	68	(15.6)
2009	452	85	(18.8)
2010	341	63	(18.5)
2011	403	63	(15.6)
2012	438	47	(10.7)
2013	398	52	(13.1)
2014	398	47	(11.8)
2015	562	53	(9.4)
2006-2010 baseline	445	82	(18.4)
2011-2015 period	440	52	(11.8)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 7-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Manitoba, 1996-2015



7.5.4 Drug use among fatally injured drivers. Table 7-9 and Figure 7-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 7-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

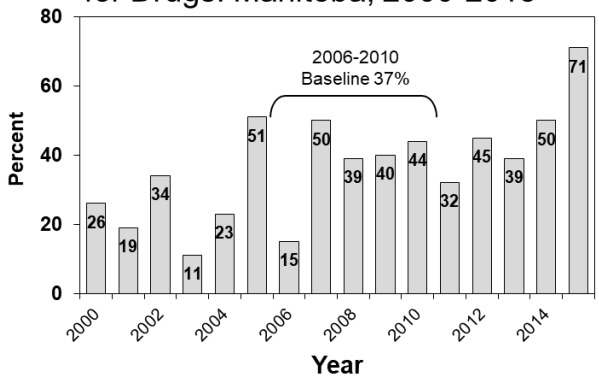
As can be seen at the bottom of Table 7-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 37.3%. In the 2011-2015 period, 47.8% of fatally injured drivers tested positive for drugs, a 28.2% increase from the baseline period.

Table 7-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Manitoba, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	64	58	90.6	43	74.1	15	25.9
2001	62	54	87.1	44	81.5	10	18.5
2002	57	53	93.0	35	66.0	18	34.0
2003	61	56	91.8	50	89.3	6	10.7
2004	55	47	85.5	36	76.6	11	23.4
2005	54	51	94.4	25	49.0	26	51.0
2006	67	62	92.5	53	85.5	9	14.5
2007	65	60	92.3	30	50.0	30	50.0
2008	45	41	91.1	25	61.0	16	39.0
2009	59	53	89.8	32	60.4	21	39.6
2010	44	41	93.2	23	56.1	18	43.9
2011	59	56	94.9	38	67.9	18	32.1
2012	52	49	94.2	27	55.1	22	44.9
2013	48	46	95.8	28	60.9	18	39.1
2014	35	32	91.4	16	50.0	16	50.0
2015	54	48	88.9	14	29.2	34	70.8
2006-2010 baseline	56	51	91.1	32	62.7	19	37.3
2011-2015 period	50	46	92.0	24	52.2	22	47.8

* Dying within 30 days in collisions which occurred on public roadways.

Figure 7-6
Percent of Fatally Injured Drivers Positive for Drugs: Manitoba, 2000-2015



8.0 ONTARIO

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Ontario during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 8.1);
- alcohol use among fatally injured drivers (Section 8.2);
- drivers involved in alcohol-related serious injury crashes (Section 8.3);
- drug use among fatally injured drivers (Section 8.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 8.5).

8.1 Deaths in alcohol-related crashes

Table 8-1 presents information on people who died in alcohol-related crashes in Ontario during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, 34 people aged 16-19 were killed in motor vehicle crashes in Ontario during 2015. And, in 32 cases (94.1%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, six people aged 16-19 died in alcohol-related crashes in Ontario during 2015. The next column expresses this as a percentage – i.e., 18.8% of the 16-19 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 16-19 year olds represent 4.3% of all the people killed in alcohol-related crashes in Ontario during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 567 persons died within 30 days of a motor vehicle crash in Ontario during 2015. In 548 (96.6%) of these cases, it was possible to

determine if alcohol was a factor. Of these known cases, 138 (25.2%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (567 x .252) it can be estimated that *in Ontario during 2015, 143 persons died in alcohol-related crashes within 30 days of the collision*.

8.1.1 Victim age. Of all the people who died in alcohol-related crashes, 26.1% (see last column) were aged 20-25; 21.0% were aged 26-35 and over 55; 13.8% were aged 46-55; 11.6% were aged 36-45; 4.3% were aged 16-19; and 2.2% were under 16.

Table 8-1
Deaths in Alcohol-Related Crashes: Ontario, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	23	23	100.0	3	13.0	2.2
16-19	34	32	94.1	6	18.8	4.3
20-25	72	70	97.2	36	51.4	26.1
26-35	78	77	98.7	29	37.7	21.0
36-45	51	49	96.1	16	32.7	11.6
46-55	80	78	97.5	19	24.4	13.8
>55	229	219	95.6	29	13.2	21.0
Gender						
Male	411	397	96.6	118	29.7	85.5
Female	156	151	96.8	20	13.2	14.5
Victim Type						
Driver/ Operator	351	339	96.6	92	27.1	66.7
Passenger	99	95	96.0	19	20.0	13.8
Pedestrian	117	114	97.4	27	23.7	19.6
Vehicle Occupied						
Automobiles	252	246	97.6	50	20.3	36.2
Trucks/Vans	97	96	99.0	31	32.3	22.5
Motorcycles	64	61	95.3	20	32.8	14.5
Other Hwy Vehicles	12	11	91.7	2	18.2	1.4
Off-road Vehicles	25	20	80.0	8	40.0	5.8
(Pedestrians)	117	114	97.4	27	23.7	19.6
TOTAL	567	548	96.6	138	25.2	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

The highest incidence of alcohol involvement occurred in the crashes in which persons aged 20-25 and 26-35 died (51.4% and 37.7% respectively). The lowest incidence of alcohol involvement was found among the youngest and oldest fatalities – 13.0% of persons under 16 and 13.2% of the fatalities over 55 years of age died in crashes involving alcohol.

8.1.2 Gender. Of all the people who died in alcohol-related crashes, 85.5% were males. The incidence of alcohol in crashes in which a male died (29.7%) was greater than the incidence of alcohol in crashes in which a female died (13.2%).

8.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.7% were driver/operators of a vehicle; 19.6% were pedestrians; and 13.8% were passengers.

Within each of the victim types, the highest incidence of alcohol involvement (27.1%) occurred in the crashes in which a driver/operator died. Alcohol was involved in 23.7% of the crashes in which a pedestrian died and 20.0% of the crashes in which a passenger died.

8.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 36.2% were automobile occupants; 22.5% were truck/van occupants; 14.5% were motorcyclists; 5.8% were off-road vehicle occupants; and 1.4% were occupants of other highway vehicles.

Within each of these vehicle types, the incidence of alcohol involvement in which a motorcyclist died was greater than the incidence of alcohol in crashes in which a truck/van occupant or automobile occupant died (32.8% versus 32.3% and 20.3%). Among off-road vehicle occupants, 40.0% were involved in an alcohol-related crash compared to 18.2% of occupants of other highway vehicles.

8.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Ontario during 2015. Table 8-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 20-25 year olds there were 47 drivers killed during 2015; 43 of these fatally injured drivers (91.5%) were tested for alcohol. Of those who were tested, 20 (46.5%) were positive for alcohol. This means that 20-25 year old fatally injured drinking drivers accounted for 27.4% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that 15 of the 43 (34.9%) fatally injured 20-25 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that 15 of the 20 drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 20-25 year old drivers accounted for 28.3% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Ontario had a high testing rate in 2015, with 85.9% of fatally injured drivers being tested for alcohol use.

In Ontario, 26.1% had been drinking and 53 of 73 (72.6%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 73.9% had BACs of zero mg%;
- 6.1% had BACs from 1-49 mg%;
- 1.1% had BACs from 50-80 mg%
- 8.9% had BACs from 81 to 160 mg%; and,
- 10.0% had BACs over 160 mg%.

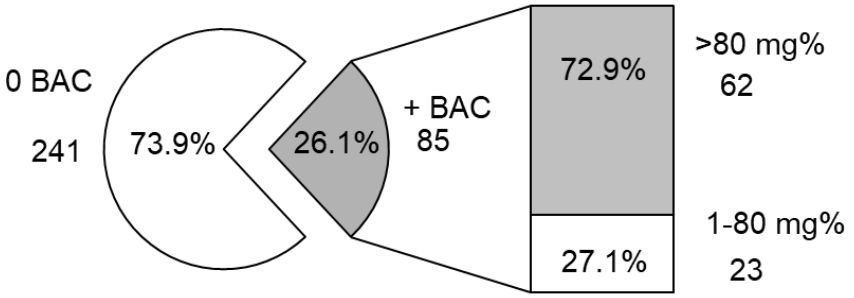
Table 8-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Ontario, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	18	16	88.9	3	18.8	4.1	2	12.5	3.8
20-25	47	43	91.5	20	46.5	27.4	15	34.9	28.3
26-35	54	51	94.4	19	37.3	26.0	16	31.4	30.2
36-45	30	28	93.3	8	28.6	11.0	6	21.4	11.3
46-55	56	47	83.9	10	21.3	13.7	5	10.6	9.4
>55	121	95	78.5	13	13.7	17.8	9	9.5	17.0
Gender									
Male	264	228	86.4	67	29.4	91.8	49	21.5	92.5
Female	62	52	83.9	6	11.5	8.2	4	7.7	7.5
Vehicle Type									
Automobiles	188	155	82.4	31	20.0	42.5	23	14.8	43.4
Truck/Van	71	60	84.5	24	40.0	32.9	18	30.0	34.0
Motorcycles	58	57	98.3	17	29.8	23.3	11	19.3	20.8
Tractor Trailer	9	8	88.9	1	12.5	1.4	1	12.5	1.9
Collision Type									
Single vehicle	123	102	82.9	49	48.0	67.1	37	36.3	69.8
Multiple vehicle	203	178	87.7	24	13.5	32.9	16	9.0	30.2
TOTAL	326	280	85.9	73	26.1	100.0	53	18.9	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 8-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 85 of 326 (26.1%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 60 (72.9%) have BACs over 80 mg%.

Figure 8-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Ontario, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

8.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 27.4% were aged 20-25; 26.0% were aged 26-35; 17.8% were over age 55; 13.7% were aged 46-55; 11.0% were aged 36-45; and 4.1% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 30.2% were aged 26-35; 28.3% were aged 20-25; 17.0% were over age 55; 11.3% were aged 36-45; 9.4% were aged 46-55; and 3.8% were aged 16-19.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 20-25 were the most likely to have been drinking (46.5%). By contrast, only 13.7% of the tested drivers aged over 55 had been drinking.

8.2.2 Gender differences. Males dominate the picture as they account for 91.8% of all the fatally injured drivers who had been drinking and 92.5% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (264 of the 326 drivers are males). Fatally injured male drivers were more likely to have been drinking than female drivers (29.4% and 11.5%, respectively). And, 73.1% of the male and 66.7% of the female drivers who were drinking had BACs over the legal limit.

8.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 42.5% were automobile drivers; 32.9% were truck/van drivers; 23.3% were motorcyclists; and 1.4% were tractor-trailer drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 43.4% were automobile drivers, 34.0% were truck/van drivers; 20.8% were motorcyclists; and 1.9% were tractor-trailer drivers.

Within each of the vehicle types, 40.0% of truck/van drivers, 29.8% of fatally injured motorcyclists, 20.0% of automobile drivers, and 12.5% of tractor-trailer drivers had been drinking.

8.2.4 Collision differences. Less than half of the drivers killed (123 of the 326) were involved in single-vehicle collisions but these crashes accounted for over two-thirds of the drivers who had been drinking or were legally impaired (67.1% and 69.8%, respectively).

The reason for this apparent disparity is because alcohol is over represented in single-vehicle crashes. Over two-fifths of the drivers involved in single-vehicle crashes (48.0%) tested positive for alcohol, compared to only 13.5% of those involved in multiple-vehicle collisions.

8.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Ontario. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 8-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 3,013 drivers were involved in crashes in which someone was seriously injured, and among these 12.9% were alcohol-related crashes.

8.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 20.0% were aged 20-25; 19.5% were aged 26-35 and 36-45. Drivers aged 16-19 accounted for only 9.7% and drivers aged over 55 accounted for only 12.3% of those involved in alcohol-related serious injury crashes. One-fifth of the drivers aged 16-19 (19.8%) and 20-25 (19.1%) were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (6.1%).

Table 8-3
Drivers in Alcohol-Related Serious Injury Crashes: Ontario, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
16-19	192	38	19.8	9.7
20-25	408	78	19.1	20.0
26-35	540	76	14.1	19.5
36-45	485	76	15.7	19.5
46-55	569	61	10.7	15.6
>55	782	48	6.1	12.3
unknown	37	13	35.1	3.3
Gender				
Male	2061	314	15.2	80.5
Female	916	63	6.9	16.2
unknown	36	13	36.1	3.3
Vehicle Type				
Auto	1926	260	13.5	66.7
Truck/Van	628	91	14.5	23.3
Motorcycle	332	23	6.9	5.9
Tractor Trailer	85	8	9.4	2.1
Other Hwy. Vehicle	42	8	19.0	2.1
Collision Type				
Single-Vehicle	851	289	34.0	74.1
Multiple-Vehicle	2162	101	4.7	25.9
TOTAL	3013	390	12.9	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

8.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 80.5% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (15.2% and 6.9%, respectively).

8.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% were automobile drivers; 23.3% were truck/van drivers; 5.9% were motorcyclists; and 2.1% were tractor-trailer drivers and drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles – 19.0% of these drivers were in crashes that involved alcohol, compared to 14.5% of truck/van drivers; 13.5% of automobile drivers; 9.4% of tractor-trailer drivers; and 6.9% of motorcyclists.

8.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 74.1% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 34.0% of these drivers, compared to only 4.7% for drivers involved in multiple-vehicle crashes.

8.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Ontario during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 8-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Ontario had a high testing rate in 2015, with 78.5% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 133 out of 256 (52.0%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (48.9%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (41.4%), CNS stimulants (21.1%), narcotic analgesics (14.3%), and dissociative anesthetics and hallucinogens (0.8% each).

Table 8-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Ontario, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
326	256	(78.5)	133	(52.0)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	65	(48.9)
CNS Depressants	55	(41.4)
CNS Stimulants	28	(21.1)
Narcotic Analgesics	19	(14.3)
Dissociative Anesthetics	1	(0.8)
Hallucinogens	1	(0.8)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

8.5 Trends in alcohol and drug-impaired driving

Sections 8.1 through 8.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 8.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

8.5.1 Deaths involving drinking drivers: 1996-2015. Table 8-5 and Figure 8-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 8.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 292 in 1996 to a low of 123 in 2015. The percentage of alcohol-related fatalities generally declined from 32.4% in 1996 to 25.9% in 2002, remained relatively stable until 2012 (26.3%), fell to a low of 21.7% in 2015.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 196 fatalities involving a drinking driver and they accounted for 28.7% of all fatalities. Thus, it can be seen that the percent of fatalities involving a drinking driver decreased by 16.4% from 28.7% in the baseline period (2006-2010) to 24.0% in the 2011-2015 period. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 29.6% decrease from an average of 196 in the baseline period (2006-2010) to 138 in the 2011-2015 period.

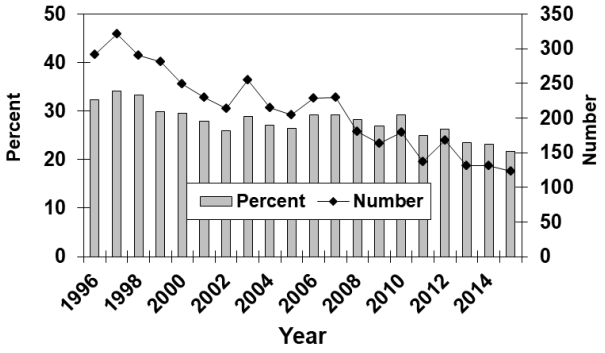
Table 8-5
Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Ontario, 1996-2015**

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	902	292	32.4
1997	942	321	34.1
1998	872	290	33.3
1999	939	281	29.9
2000	843	249	29.5
2001	823	230	27.9
2002	826	214	25.9
2003	883	255	28.9
2004	793	215	27.1
2005	777	205	26.4
2006	782	229	29.3
2007	784	230	29.3
2008	638	180	28.2
2009	603	163	27.0
2010	611	179	29.3
2011	550	137	24.9
2012	640	168	26.3
2013	557	131	23.5
2014	565	131	23.2
2015	567	123	21.7
2006-2010 baseline	684	196	28.7
2011-2015 period	576	138	24.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 8-2
Number and Percent of Deaths Involving a Drinking Driver: Ontario, 1996-2015



8.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 8-6. Trends are illustrated in Figure 8-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here

are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1996 (28.7%) to 2008 (21.7%), rose until 2010 (27.8%), fell to a low in 2014 (17.7%), and rose slightly in 2015 (18.9%). The percent of fatally injured drivers with zero BACs generally increased from 1996 (63.1%) to 2008 (73.6%), fluctuated until 2012 (69.2%), peaked in 2014 (77.8%), and decreased in 2015 (73.9%). The percent of fatally injured drivers with BACs decreased from 8.1% in 1996 to 4.2% in 2001, generally increased until 2007 (8.0%), decreased until 2009 (4.4%), and fluctuated until 2015 (7.1%).

When compared to the 2006-2010 baseline period, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 5.3% (from 69.3% to 73.0%). Among drivers with BACs from 1-80 mg%, there was an 11.3% decrease (from 6.2% to 5.5%). Among drivers with BACs over 80 mg%, there was a 12.2% decrease (from 24.5% to 21.5%).

Table 8-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Ontario, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	475	407	85.7	257	63.1	33	8.1	117	28.7
1997	550	450	81.8	290	64.4	34	7.6	126	28.0
1998	483	413	85.5	266	64.4	27	6.5	120	29.1
1999	546	467	85.5	331	70.9	24	5.1	112	24.0
2000	494	422	85.4	289	68.5	31	7.3	102	24.2
2001	484	429	88.6	302	70.4	18	4.2	109	25.4
2002	482	432	89.6	316	73.1	22	5.1	94	21.8
2003	500	446	89.2	306	68.6	25	5.6	115	25.8
2004	483	444	91.9	312	70.3	26	5.9	106	23.9
2005	461	408	88.5	287	70.3	20	4.9	101	24.8
2006	446	390	87.4	265	67.9	30	7.7	95	24.4
2007	473	425	89.9	292	68.7	34	8.0	99	23.3
2008	401	345	86.0	254	73.6	16	4.6	75	21.7
2009	350	293	83.7	206	70.3	13	4.4	74	25.3
2010	371	320	86.3	215	67.2	16	5.0	89	27.8
2011	319	275	86.2	197	71.6	16	5.8	62	22.5
2012	354	305	86.2	211	69.2	15	4.9	79	25.9
2013	323	275	85.1	197	71.6	15	5.5	63	22.9
2014	349	311	89.1	242	77.8	14	4.5	55	17.7
2015	326	280	85.9	207	73.9	20	7.1	53	18.9
2006-2010 baseline	408	355	(87.0)	246	(69.3)	22	(6.2)	87	(24.5)
2011-2015 period	334	289	(86.5)	211	(73.0)	16	(5.5)	62	(21.5)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 8-3
Trends in Alcohol Use Among Driver Fatalities: Ontario, 1996-2015

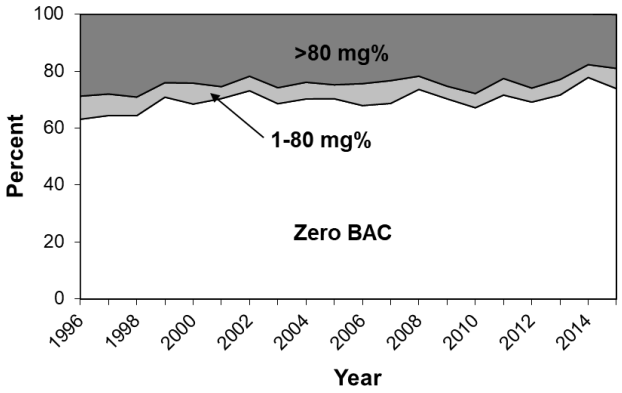


Table 8-7 and Figure 8-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 8-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 8-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 30.6%. In the 2011-2015 period, 27.2% of fatally injured drivers tested positive for alcohol, an 11.1% decrease from the baseline period.

Table 8-7

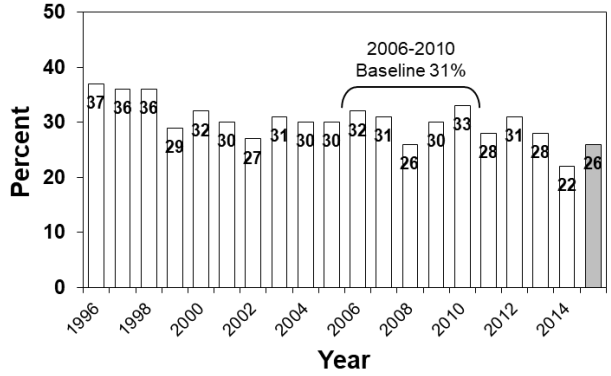
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Ontario, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	475	300	(63.2)	175	(36.8)
1997	550	354	(64.4)	196	(35.6)
1998	483	311	(64.4)	172	(35.6)
1999	546	387	(70.9)	159	(29.1)
2000	494	338	(68.4)	156	(31.6)
2001	484	341	(70.5)	143	(29.5)
2002	482	353	(73.2)	129	(26.8)
2003	500	343	(68.6)	157	(31.4)
2004	483	339	(70.2)	144	(29.8)
2005	461	324	(70.3)	137	(29.7)
2006	446	303	(67.9)	143	(32.1)
2007	473	325	(68.7)	148	(31.3)
2008	401	295	(73.6)	106	(26.4)
2009	350	246	(70.3)	104	(29.7)
2010	371	249	(67.1)	122	(32.9)
2011	319	229	(71.8)	90	(28.2)
2012	354	245	(69.2)	109	(30.8)
2013	323	231	(71.5)	92	(28.5)
2014	349	272	(77.9)	77	(22.1)
2015	326	241	(73.9)	85	(26.1)
2006-2010 baseline	408	283	(69.4)	125	(30.6)
2011-2015 period	334	243	(72.8)	91	(27.2)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 8-4
Percent of Fatally Injured Drivers* Positive for Alcohol: Ontario, 1996-2015



8.5.3 Drivers in serious injury crashes. Table 8-8 and Figure 8-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2010, the

percentage of all drivers in serious injury crashes that involved alcohol generally decreased from 22.1% to 14.5%, rose in 2012 (15.4%), and decreased again in 2015 (12.9%).

In the baseline period (2006-2010), an average of 16.8% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2014, the average percentage of drivers in alcohol-involved crashes declined to 14.1%, a 16.1% decrease from the baseline period.

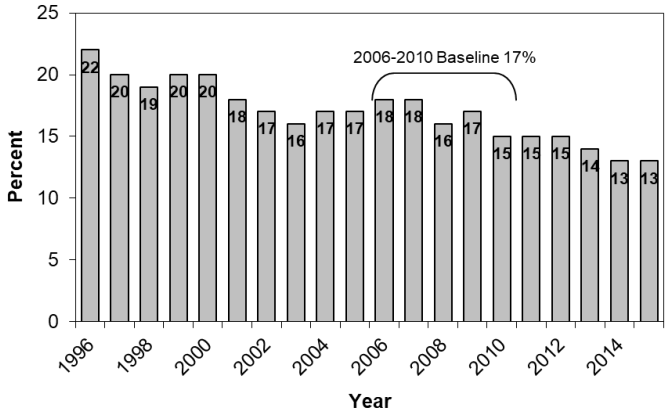
Table 8-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Ontario, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	6003	1326	(22.1)
1997	5442	1106	(20.3)
1998	5402	1026	(19.0)
1999	5486	1088	(19.8)
2000	5126	1030	(20.1)
2001	5199	916	(17.6)
2002	5468	939	(17.2)
2003	5086	829	(16.3)
2004	4568	787	(17.2)
2005	4724	783	(16.6)
2006	4155	759	(18.3)
2007	4312	763	(17.7)
2008	4096	669	(16.3)
2009	3306	556	(16.8)
2010	3292	477	(14.5)
2011	3238	497	(15.3)
2012	3255	488	(15.0)
2013	3135	425	(13.6)
2014	2975	396	(13.3)
2015	3013	390	(12.9)
2006-2010 baseline	3832	645	(16.8)
2011-2015 period	3123	439	(14.1)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 8-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Ontario, 1996-2015



8.5.4 Drug use among fatally injured drivers. Table 8-9 and Figure 8-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 8-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

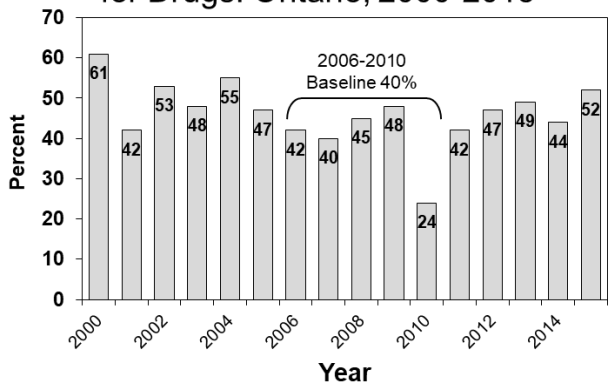
As can be seen at the bottom of Table 8-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 40.9%. In the 2011-2015 period, 46.7% of fatally injured drivers tested positive for drugs, a 14.2% increase from the baseline period.

Table 8-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Ontario, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	494	69	14.0	27	39.1	42	60.9
2001	484	93	19.2	54	58.1	39	41.9
2002	482	100	20.7	47	47.0	53	53.0
2003	500	113	22.6	59	52.2	54	47.8
2004	483	114	23.6	51	44.7	63	55.3
2005	461	144	31.2	76	52.8	68	47.2
2006	446	154	34.5	89	57.8	65	42.2
2007	473	173	36.6	104	60.1	69	39.9
2008	401	42	10.5	23	54.8	19	45.2
2009	350	29	8.3	15	51.7	14	48.3
2010	371	41	11.1	31	75.6	10	24.4
2011	319	226	70.8	132	58.4	94	41.6
2012	354	262	74.0	138	52.7	124	47.3
2013	323	264	81.7	136	51.5	128	48.5
2014	349	275	78.8	155	56.4	120	43.6
2015	326	256	78.5	123	48.0	133	52.0
2006-2010 baseline	408	88	21.6	52	59.1	36	40.9
2011-2015 period	334	257	76.9	137	53.3	120	46.7

* Dying within 30 days in collisions which occurred on public roadways.

Figure 8-6
Percent of Fatally Injured Drivers Positive for Drugs: Ontario, 2000-2015



9.0 QUEBEC

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Quebec during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 9.1);
- alcohol use among fatally injured drivers (Section 9.2);
- drivers involved in alcohol-related serious injury crashes (Section 9.3);
- drug use among fatally injured drivers (Section 9.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 9.5).

9.1 Deaths in alcohol-related crashes

Table 9-1 presents information on people who died in alcohol-related crashes in Quebec during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, 55 people aged 26-35 were killed in motor vehicle crashes in Quebec during 2015. And, in 52 cases (94.5%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, 12 people aged 26-35 died in alcohol-related crashes in Quebec during 2015. The next column expresses this as a percentage – i.e., 36.4% of the 26-35 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 26-35 year olds represent 16.7% of all the people killed in alcohol-related crashes in Quebec during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 364 persons died within 30 days of a motor vehicle crash in Quebec during 2015. In 338 (92.9%) of these cases, it was possible to

determine if alcohol was a factor. Of these known cases, 72 (21.3%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (346 x .213) it can be estimated that *in Quebec during 2015, 78 persons died in alcohol-related crashes within 30 days of the collision*.

9.1.1 Victim age. Of all the people who died in alcohol-related crashes, 26.4% (see last column) were over 55; 18.1% were aged 46-55; 16.7% were aged 20-25 and 26-35; 11.1% were aged 36-45; 9.7% were aged 16-19; and 1.4% were under age 16.

Table 9-1
Deaths in Alcohol-Related Crashes: Quebec, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	9	9	100.0	1	11.1	1.4
16-19	23	22	95.7	7	31.8	9.7
20-25	34	33	97.1	12	36.4	16.7
26-35	55	52	94.5	12	23.1	16.7
36-45	37	37	100.0	8	21.6	11.1
46-55	60	55	91.7	13	23.6	18.1
>55	146	130	89.0	19	14.6	26.4
Gender						
Male	242	226	93.4	56	24.8	77.8
Female	122	112	91.8	16	14.3	22.2
Victim Type						
Driver/ Operator	262	246	93.9	55	22.4	76.4
Passenger	61	57	93.4	11	19.3	15.3
Pedestrian	41	35	85.4	6	17.1	8.3
Vehicle Occupied						
Automobiles	187	179	95.7	35	19.6	48.6
Trucks/Vans	64	58	90.6	20	34.5	27.8
Motorcycles	52	49	94.2	9	18.4	12.5
Other Hwy Vehicles	3	3	100.0	0	0.0	0.0
Off-road Vehicles	17	14	82.4	2	14.3	2.8
(Pedestrians)	41	35	85.4	6	17.1	8.3
TOTAL	364	338	92.9	72	21.3	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

The highest incidence of alcohol involvement occurred in the crashes in which persons aged 20-25 died (36.4%). The lowest incidence of alcohol involvement was found among the youngest fatalities as 11.1% of persons under 16 years of age died in crashes involving alcohol.

9.1.2 Gender. Of all the people who died in alcohol-related crashes, 77.8% were males. The incidence of alcohol in crashes in which a male died (24.8%) was greater than the incidence of alcohol in crashes in which a female died (14.3%).

9.1.3 Victim type. Of all the people who died in alcohol-related crashes, 76.4% were drivers/operators of a vehicle; 15.3% were passengers; and 8.3% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (22.4%) occurred in crashes in which a driver/operator died. Alcohol was involved in 19.3% of the crashes in which a passenger died and 17.1% of those in which a pedestrian died.

9.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 48.6% were in an automobile; 27.8% were truck/van occupants; 12.5% were motorcyclists; and 2.8% were off-road vehicle occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which an automobile occupant died (34.5% versus 19.6%). Among motorcyclists, 18.4% died in an alcohol-related crash compared to 14.3% of off-road vehicle occupants.

9.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Quebec during 2015. Table 9-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 16-19 year olds there were 15 drivers killed during 2015; nine of these fatally injured drivers (60.0%) were tested for alcohol. Of those who were tested, two (22.2%) were positive for alcohol. This means that 16-19 year old fatally injured drinking drivers accounted for 4.5% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the nine (22.2%) fatally injured 16-19 year olds who were tested for alcohol had BACs in excess of 80 mg%. This means that both of the drivers who tested positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 16-19 year old drivers accounted for 5.6% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Quebec had a low testing rate in 2015, with 67.1% of fatally injured drivers being tested for alcohol use.

In Quebec, 26.7% had been drinking and 36 of 44 (81.8%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 73.3% had BACs of zero mg%;
- 2.4% had BACs from 1-49 mg%;
- 2.4% had BACs from 50-80 mg%;
- 6.7% had BACs from 81 to 160 mg%; and,
- 15.2% had BACs over 160 mg%.

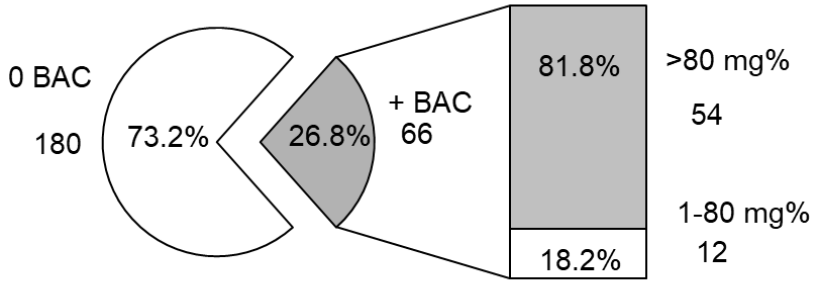
Table 9-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Quebec, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	15	9	60.0	2	22.2	4.5	2	22.2	5.6
20-25	27	19	70.4	8	42.1	18.2	8	42.1	22.2
26-35	44	27	61.4	8	29.6	18.2	7	25.9	19.4
36-45	26	18	69.2	6	33.3	13.6	4	22.2	11.1
46-55	44	34	77.3	8	23.5	18.2	6	17.6	16.7
>55	90	58	64.4	12	20.7	27.3	9	15.5	25.0
Gender									
Male	189	133	70.4	39	29.3	88.6	31	23.3	86.1
Female	57	32	56.1	5	15.6	11.4	5	15.6	13.9
Vehicle Type									
Automobiles	139	93	66.9	22	23.7	50.0	20	21.5	55.6
Truck/Van	57	38	66.7	14	36.8	31.8	11	28.9	30.6
Motorcycles	47	31	66.0	8	25.8	18.2	5	16.1	13.9
Tractor Trailer	3	3	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	96	64	66.7	26	40.6	59.1	23	35.9	63.9
Multiple vehicle	150	101	67.3	18	17.8	40.9	13	12.9	36.1
TOTAL	246	165	67.1	44	26.7	100.0	36	21.8	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 9-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure, 66 of 246 (26.8%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 54 (81.8%) have BACs over 80 mg%.

Figure 9-1
BACs* Among Fatally Injured Drivers
of Highway Vehicles: Quebec, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

9.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with positive BAC), 27.3% were over age 55; 18.2% were aged 20-25, 26-35 and 46-55; 13.6% were aged 36-45; and 4.5% were aged 16-19.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.0% were over age 55; 22.2% were aged 20-25; 19.4% were aged 26-35; 16.7% were aged 46-55; 11.1% were aged 36-45; and 5.6% were aged 16-19.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 20-25 were the most likely to have been drinking (42.1%). By contrast, only 20.7% of the tested drivers over age 55 had been drinking.

9.2.2 Gender differences. Males dominate the picture as they account for 88.6% of all the fatally injured drivers who had been drinking and 86.1% of all of the fatally injured drivers who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (189 of the 246 fatalities or 76.8% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (29.3% and 15.6%, respectively). And, 79.4% of the male and 100.0% of the female drivers who were drinking had BACs over the legal limit.

9.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 50.0% were automobile drivers; 31.8% were truck/van drivers; and 18.2% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 55.6% were automobile drivers; 30.6% were truck/van drivers; and 13.9% were motorcyclists.

Within each of the vehicle types, 36.8% of fatally injured truck/van drivers, 25.8% of motorcyclists,, and 23.7% of automobile drivers had been drinking.

9.2.4 Collision differences. Less than half of the drivers killed (96 of the 246) were involved in single-vehicle collisions but these crashes accounted for three-fifths of the drivers who had been drinking or were legally impaired (59.1% and 63.9%, respectively). The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Over two-fifths of the drivers involved in single-vehicle crashes (40.6%) tested positive for alcohol, compared to only 17.8% of those involved in multiple-vehicle collisions.

9.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Quebec. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 9-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers of involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown by the totals at the bottom of the table, 2,099 drivers were involved in crashes in which someone was seriously injured, and among these 13.4% were alcohol-related crashes.

9.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 22.0% were aged 20-25; 19.5% were aged 26-35; and 12.4% were aged 36-45. Drivers under 16 accounted for 0.7% and drivers aged 16-19 accounted for 8.5% of those involved in alcohol-related serious injury crashes.

Almost one-quarter of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (24.0%). The lowest incidence of involvement in alcohol-related crashes was found for those aged over 55 (6.5%) and aged 46-55 (10.4%).

9.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 75.2% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (15.0% and 9.6%, respectively).

Table 9-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Quebec, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	15	2	13.3	0.7
16-19	133	24	18.0	8.5
20-25	258	62	24.0	22.0
26-35	330	55	16.7	19.5
36-45	282	35	12.4	12.4
46-55	280	29	10.4	10.3
>55	415	27	6.5	9.6
unknown	386	48	12.4	17.0
Gender				
Male	1411	212	15.0	75.2
Female	571	55	9.6	19.5
unknown	117	15	12.8	5.3
Vehicle Type				
Auto and Truck/Van**	1724	248	14.4	87.9
Motorcycle	258	24	9.3	8.5
Tractor-Trailer	78	4	5.1	1.4
Other Hwy. Vehicle	39	6	15.4	2.1
Collision Type				
Single-Vehicle	655	209	31.9	74.1
Multiple-Vehicle	1444	73	5.1	25.9
TOTAL	2099	282	13.4	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

** Automobiles and light trucks have been regrouped in collison data as of March 2010.

9.3.3 Type of vehicle driven. Drivers of automobiles and light trucks have been merged in this table as Quebec has regrouped these vehicle types into one category in its collision data since March 2010. Of all the drivers involved in alcohol-related serious injury crashes, 87.9% were automobile-truck/van drivers; 8.5% were motorcyclists; 2.3% were drivers of other highway vehicles; and 1.4% were tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles – 15.4% of these drivers were in crashes that involved alcohol, compared to 14.4% for automobile-truck/van drivers and 9.3% for motorcyclists. Among tractor-trailer drivers, 5.1% were involved in alcohol-related crashes.

9.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 74.1% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 31.9% of these drivers, compared to only 5.1% for drivers involved in multiple-vehicle crashes.

9.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Quebec during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 9-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Quebec had an average testing rate in 2015, with 67.9% of fatally injured drivers being tested for drug use.

Table 9-4
Drug Use Among Fatally Injured Drivers of Highway Vehicles: Quebec, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
246	167	(67.9)	58	(34.7)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive*
Cannabis	30	(51.7)
CNS Stimulants	21	(36.2)
CNS Depressants	17	(29.3)
Narcotic Analgesics	8	(13.8)
Dissociative Anesthetics	0	(0.0)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

Among fatally injured tested drivers, 58 out of 167 (34.7%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (51.7%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS stimulants (36.2%), CNS depressants (29.3%), and narcotic analgesics (13.8%).

9.5 Trends in alcohol and drug-impaired driving

Sections 9.1 through 9.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury

crashes that involved alcohol. Section 9.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

9.5.1 Deaths involving drinking drivers: 1996-2015. Table 9-5 and Figure 9-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 9.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally dropped from 236 to 113 between 1996 and 2009, rose to 132 in 2011, decreased to a low of 73 in 2014, and remained at this level in 2015. The percentage of alcohol-related fatalities fluctuated between 1996 and 2002, rose to 30.1% in 2003, generally decreased to 21.9% in 2007, rose to 28.6% in 2010, decreased to 22.4% in 2013, rose in 2014 (23.0%), and fell to its lowest level in 2015 (20.1%).

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 128 fatalities involving a drinking driver and they accounted for 26.8% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 10.4% from 26.8% in the baseline period (2006-2010) to 24.0% in the 2011-2015 period. In terms of the number of persons killed in crashes involving a drinking driver, there has been a 26.6% decrease from an average of 128 in the baseline period (2006-2010) to 94 in the 2011-2015 period.

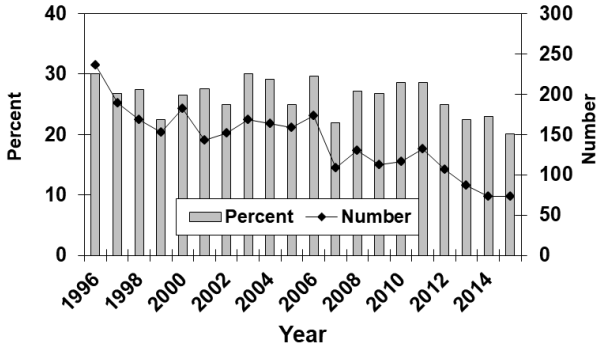
Table 9-5
Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Quebec, 1996-2015**

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	785	236	30.1
1997	706	189	26.8
1998	615	169	27.5
1999	682	153	22.4
2000	686	182	26.5
2001	519	143	27.6
2002	611	152	24.9
2003	561	169	30.1
2004	563	164	29.1
2005	636	159	25.0
2006	584	173	29.6
2007	497	109	21.9
2008	478	130	27.2
2009	421	113	26.8
2010	405	116	28.6
2011	462	132	28.6
2012	428	107	25.0
2013	388	87	22.4
2014	317	73	23.0
2015	364	73	20.1
2006-2010 baseline	477	128	26.8
2011-2015 period	392	94	24.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 9-2
Number and Percent of Deaths Involving a Drinking Driver: Quebec, 1996-2015



9.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 9-6. Trends are illustrated in Figure 9-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here

are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally declined from 1996 (37.2%) to 1999 (22.0%), rose to 38.7% in 2003, fluctuated until 2008, and decreased to its lowest point in 2015 (21.8%). The percent of fatally injured drivers with zero BACs generally increased from 1996 (57.3%) to 1999 (71.9%), fluctuated until 2010 (62.9%), and peaked in 2015 (73.3%). The percent of fatally injured drivers with BACs between 1 and 80 mg% peaked in 2004 (9.1%), and eventually decreased to 4.8% in 2015.

When compared to the 2006-2010 baseline period shown at the bottom of Table 9-6, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 9.4% (from 61.6% to 67.4%). Among drivers with BACs from 1-80 mg%, there was a 24.2% decrease (from 6.6% to 5.0%). And among those with BACs over 80 mg%, there was a 13.2% decrease (from 31.8% to 27.6%).

Table 9-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Quebec, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	454	344	75.8	197	57.3	19	5.5	128	37.2
1997	389	275	70.7	160	58.2	19	6.9	96	34.9
1998	368	262	71.2	152	58.0	15	5.7	95	36.3
1999	411	313	76.2	225	71.9	19	6.1	69	22.0
2000	407	311	76.4	199	64.0	23	7.4	89	28.6
2001	326	244	74.8	152	62.3	18	7.4	74	30.3
2002	394	300	76.1	199	66.3	14	4.7	87	29.0
2003	352	253	71.9	140	55.3	15	5.9	98	38.7
2004	347	243	70.0	145	59.7	22	9.1	76	31.3
2005	419	300	71.6	191	63.7	20	6.7	89	29.7
2006	380	266	70.0	162	60.9	23	8.6	81	30.5
2007	321	207	64.5	139	67.1	12	5.8	56	27.1
2008	304	236	77.6	140	59.3	13	5.5	83	35.2
2009	276	182	65.9	105	57.7	12	6.6	65	35.7
2010	255	167	65.5	105	62.9	11	6.6	51	30.5
2011	300	201	67.0	124	61.7	11	5.5	66	32.8
2012	286	193	67.5	128	66.3	9	4.7	56	29.0
2013	257	194	75.5	131	67.5	11	5.7	52	26.8
2014	213	153	71.8	107	69.9	5	3.3	41	26.8
2015	246	165	67.1	121	73.3	8	4.8	36	21.8
2006-2010 baseline	307	211	(68.7)	130	(61.6)	14	(6.6)	67	(31.8)
2011-2015 period	260	181	(69.6)	122	(67.4)	9	(5.0)	50	(27.6)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 9-3
Trends in Alcohol Use Among Driver Fatalities: Quebec, 1996-2015

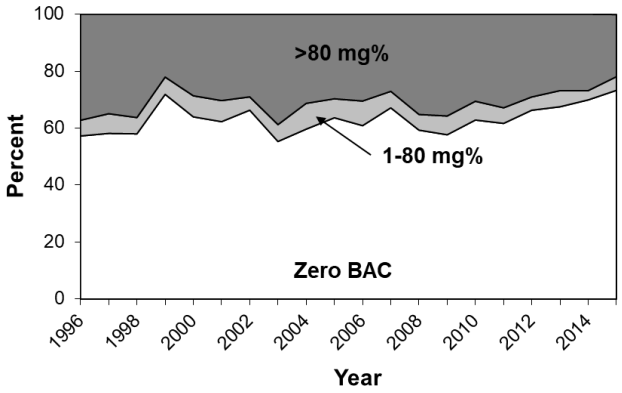


Table 9-7 and Figure 9-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC distribution of drivers tested for alcohol (see Figure 9-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 9-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 38.4%. In the 2011-2015 period, 31.8% of fatally injured drivers tested positive for alcohol, a 17.2% decrease from the baseline period.

Table 9-7

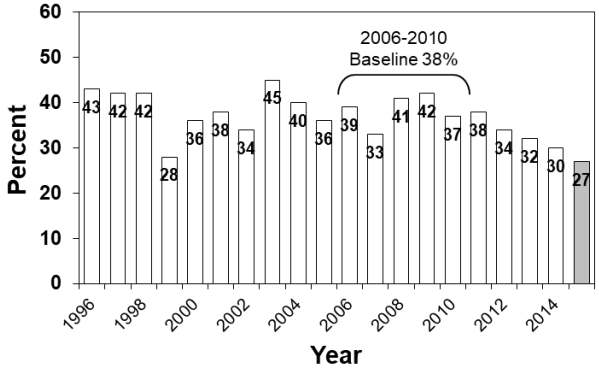
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Quebec, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	454	260	(57.3)	194	(42.7)
1997	389	226	(58.1)	163	(41.9)
1998	368	213	(57.9)	155	(42.1)
1999	411	295	(71.8)	116	(28.2)
2000	407	260	(63.9)	147	(36.1)
2001	326	203	(62.3)	123	(37.7)
2002	394	261	(66.2)	133	(33.8)
2003	352	195	(55.4)	157	(44.6)
2004	347	207	(59.7)	140	(40.3)
2005	419	267	(63.7)	152	(36.3)
2006	380	231	(60.8)	149	(39.2)
2007	321	216	(67.3)	105	(32.7)
2008	304	180	(59.2)	124	(40.8)
2009	276	159	(57.6)	117	(42.4)
2010	255	160	(62.7)	95	(37.3)
2011	300	185	(61.7)	115	(38.3)
2012	286	190	(66.4)	96	(33.6)
2013	257	174	(67.7)	83	(32.3)
2014	213	149	(70.0)	64	(30.0)
2015	246	180	(73.2)	66	(26.8)
2006-2010 baseline	307	189	(61.6)	118	(38.4)
2011-2015 period	260	175	(67.3)	85	(32.7)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 9-4
Percent of Fatally Injured Drivers*
Positive for Alcohol: Quebec, 1996-2015



9.5.3 Drivers in serious injury crashes. Table 9-8 and Figure 9-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 1997, the percentage of all drivers in serious injury crashes that involved alcohol generally decreased from 18.9% to 15.3%, rose to 18.8% in 2009, and eventually decreased to 13.4% in 2015.

In the baseline period (2006-2010), an average of 17.8% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2015, the average percentage of drivers in alcohol-involved crashes declined to 15.9%, a 10.7% decrease from the baseline period.

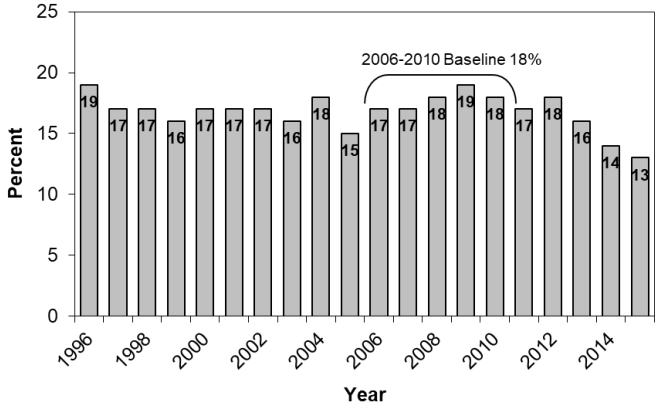
Table 9-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Quebec, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	5382	1018	(18.9)
1997	5146	871	(16.9)
1998	4782	800	(16.7)
1999	4557	740	(16.2)
2000	4455	750	(16.8)
2001	4179	699	(16.7)
2002	4323	746	(17.3)
2003	4386	679	(15.5)
2004	4337	761	(17.5)
2005	4856	745	(15.3)
2006	4404	741	(16.8)
2007	3350	584	(17.4)
2008	2812	508	(18.1)
2009	2740	515	(18.8)
2010	2895	531	(18.3)
2011	2542	443	(17.4)
2012	2490	446	(17.9)
2013	2218	345	(15.6)
2014	2074	298	(14.4)
2015	2099	282	(13.4)
2006-2010 baseline	3240	576	(17.8)
2011-2015 period	2285	363	(15.9)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 9-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Quebec, 1996-2015



9.5.4 Drug use among fatally injured drivers. Table 9-9 and Figure 9-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 9-6, these

results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

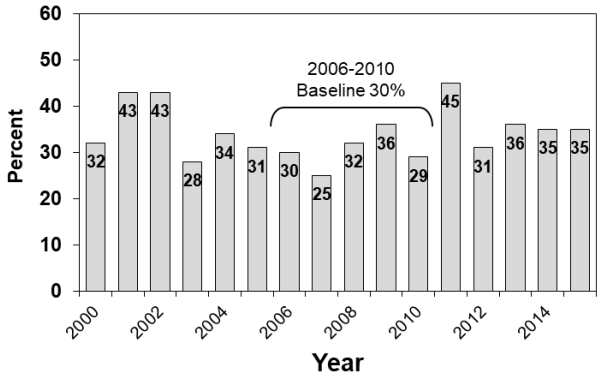
As can be seen at the bottom of Table 9-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 30.2%. In the 2011-2015 period, 36.4% of fatally injured drivers tested positive for drugs, a 20.5% increase from the baseline period.

Table 9-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Quebec, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	407	189	46.4	128	67.7	61	32.3
2001	326	210	64.4	120	57.1	90	42.9
2002	394	256	65.0	145	56.6	111	43.4
2003	352	211	59.9	153	72.5	58	27.5
2004	347	167	48.1	110	65.9	57	34.1
2005	419	219	52.3	152	69.4	67	30.6
2006	380	244	64.2	170	69.7	74	30.3
2007	321	197	61.4	147	74.6	50	25.4
2008	304	216	71.1	147	68.1	69	31.9
2009	276	137	49.6	88	64.2	49	35.8
2010	255	151	59.2	107	70.9	44	29.1
2011	300	186	62.0	103	55.4	83	44.6
2012	286	190	66.4	132	69.5	58	30.5
2013	257	186	72.4	120	64.5	66	35.5
2014	213	152	71.4	99	65.1	53	34.9
2015	246	167	67.9	109	65.3	58	34.7
2006-2010 baseline	307	189	61.6	132	69.8	57	30.2
2011-2015 period	260	176	67.7	112	63.6	64	36.4

* Dying within 30 days in collisions which occurred on public roadways.

Figure 9-6
Percent of Fatally Injured Drivers
Positive for Drugs: Quebec, 2000-2015



10.0 NEW BRUNSWICK

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in New Brunswick during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 10.1);
- alcohol use among fatally injured drivers (Section 10.2);
- drivers involved in alcohol-related serious injury crashes (Section 10.3);
- drug use among fatally injured drivers (Section 10.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 10.5).

10.1 Deaths in alcohol-related crashes

Table 10-1 presents information on people who died in alcohol-related crashes in New Brunswick during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, seven people aged 20-25 were killed in motor vehicle crashes in New Brunswick during 2015. And, in all seven cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. There were four people aged 20-25 who died in alcohol-related crashes in New Brunswick during 2015. The next column expresses this as a percentage – i.e., 57.1% of the 20-25 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 20-25 year olds represent 18.2% of all the people killed in alcohol-related crashes in New Brunswick during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 63 persons died within 30 days of a motor vehicle crash in New Brunswick during 2015. In 58 (92.1%) of these cases, it was

possible to determine if alcohol was a factor. Of these known cases, 22 (37.9%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (63 x .379) it can be estimated that *in New Brunswick during 2015, 24 persons died in alcohol-related crashes within 30 days of the collision*.

Table 10-1
Deaths in Alcohol-Related Crashes: New Brunswick, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	2	1	50.0	0	0.0	0.0
16-19	7	7	100.0	5	71.4	22.7
20-25	7	7	100.0	4	57.1	18.2
26-35	5	5	100.0	3	60.0	13.6
36-45	6	6	100.0	0	0.0	0.0
46-55	13	13	100.0	8	61.5	36.4
>55	23	19	82.6	2	10.5	9.1
Gender						
Male	43	39	90.7	16	41.0	72.7
Female	20	19	95.0	6	31.6	27.3
Victim Type						
Driver/ Operator	46	44	95.7	14	31.8	63.6
Passenger	12	11	91.7	7	63.6	31.8
Pedestrian	5	3	60.0	1	33.3	4.5
Vehicle Occupied						
Automobiles	39	37	94.9	16	43.2	72.7
Trucks/Vans	10	9	90.0	4	44.4	18.2
Motorcycles	7	7	100.0	1	14.3	4.5
Other Highway Vehicles	1	1	100.0	0	0.0	0.0
Off-road Vehicles	1	1	100.0	0	0.0	0.0
(Pedestrians)	5	3	60.0	1	33.3	4.5
TOTAL	63	58	92.1	22	37.9	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

10.1.1 Victim age. Of all the people who died in alcohol-related crashes, 36.4% (see last column) were aged 46-55; 22.7% were aged 16-19; 18.2% were aged 20-25; 13.6% were aged 26-35; and 9.1% were over age 55.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 16-19 died (71.4%). The lowest incidence of alcohol involvement was found among fatalities under 16 and 36-45 – 0.0% of persons in these age groups died in crashes involving alcohol.

10.1.2 Gender. Of all the people who died in alcohol-related crashes, 72.7% were males. The incidence of alcohol in crashes in which a male died (41.0%) was greater than the incidence of alcohol in crashes in which a female died (31.6%).

10.1.3 Victim type. Of all the people who died in alcohol-related crashes, 63.6% were drivers/operators of a vehicle; 31.8% were passengers; and 4.5% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (63.6%) occurred in the crashes in which a passenger died. Alcohol was involved in 33.3% of the crashes in which a pedestrian died and 31.8% of those in which a driver/operator died.

10.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 72.7% were automobile occupants; 18.2% were truck/van occupants; and 4.5% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was slightly greater than the incidence of alcohol in crashes in which an automobile occupant or motorcyclist died (44.4% versus 43.2%). Among motorcyclists, 14.3% died in a crash involving alcohol.

10.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in New Brunswick during 2015. Table 10-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests: the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 26-35 year olds there were three drivers killed during 2015; all three of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (33.3%) was positive for alcohol. This means that fatally injured drinking drivers aged 26-35 accounted for 7.7% of all drinking drivers who were killed.

Table 10-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: New Brunswick, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-25**	6	5	83.3	3	60.0	23.1	2	40.0	20.0
26-35	3	3	100.0	1	33.3	7.7	1	33.3	10.0
36-45	6	5	83.3	0	0.0	0.0	0	0.0	0.0
46-55	11	10	90.9	7	70.0	53.8	7	70.0	70.0
>55	19	13	68.4	2	15.4	15.4	0	0.0	0.0
Gender									
Male	35	29	82.9	11	37.9	84.6	9	31.0	90.0
Female	10	7	70.0	2	28.6	15.4	1	14.3	10.0
Vehicle Type									
Automobiles	29	23	79.3	9	39.1	69.2	8	34.8	80.0
Truck/Van	9	7	77.8	3	42.9	23.1	1	14.3	10.0
Motorcycles	6	5	83.3	1	20.0	7.7	1	20.0	10.0
Tractor-Trailers	1	1	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	21	16	76.2	8	50.0	61.5	5	31.3	50.0
Multiple vehicle	24	20	83.3	5	25.0	38.5	5	25.0	50.0
TOTAL	45	36	80.0	13	36.1	100.0	10	27.8	100.0

* Drivers dying within 30 days in crashes on public roadways.

** Drivers from two age groups have been aggregated to ensure that an individual will not be identified.

Then, in the final three columns, it can be seen that one of the three (33.3%) fatally injured 26-35 year olds who were tested for alcohol had a BAC in excess of 80 mg%. This means that the driver who tested positive for alcohol had a BAC above the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 26-35 year old drivers accounted for 10.0% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. New Brunswick had an average testing rate in 2015, with 80.0% of fatally injured drivers being tested for alcohol use.

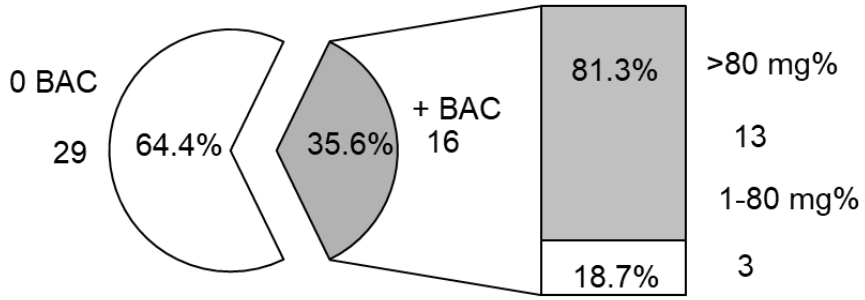
In New Brunswick, 36.1% had been drinking and 10 out of 13 (76.9%) fatally injured drinking drivers had BACs >80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 63.9% had BACs of zero mg%;
- 5.6% had BACs from 1-49 mg%;
- 2.8% had BACs from 50-80 mg%
- 11.1% had BACs from 81 to 160 mg%; and,

- 16.7% had BACs over 160 mg%.

In Figure 10-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure 16 of 45 (35.6%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, 13 (81.3%) have BACs over 80 mg%.

Figure 10-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: New Brunswick, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

10.2.1 Age differences. Drivers aged 16-19 and 20-25 have been regrouped (16-25 age group) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with positive BAC), 53.8% were aged 46-55; 23.1% were aged 16-25; 15.4% were over 55; and 7.7% were aged 26-35.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 70.0% were aged 46-55; 20.0% were aged 16-25; and 10.0% were aged 26-35.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 46-55 were the most likely to have been drinking (70.0%). By contrast, 0.0% of the tested drivers aged 36-45 had been drinking.

10.2.2 Gender differences. Males dominate the picture – they account for 84.6% of the fatally injured drivers who had been drinking and 90.0% of those who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (35 of the 45 fatalities or 77.8% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (37.9% and 28.6%, respectively). And, 81.8% of the male drivers and 50.0% of the female drivers who were drinking had BACs over the legal limit.

10.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 69.2% were automobile drivers; 23.1% were truck/van drivers; and 7.7% were motorcyclists.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 80.0% were automobile drivers; and 10.0% were truck/van drivers and motorcyclists.

Within each of the vehicle types, 42.9% of fatally injured truck/van drivers, 39.1% of automobile drivers, and 20.0% of motorcyclists had been drinking.

10.2.4 Collision differences. Slightly less than half of the drivers killed (21 of the 45) were involved in single-vehicle collisions but these crashes accounted for 61.5% of the drivers who had been drinking and 50.0% of those who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Two-fifths of the drivers involved in single-vehicle crashes (50.0%) tested positive for alcohol, compared to 25.0% of those involved in multiple-vehicle collisions.

10.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in New Brunswick. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 10-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 228 drivers were involved in crashes in which someone was seriously injured, and among these 24.6% were involved in alcohol-related crashes.

10.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 28.6% were aged 26-35; 17.9% were aged 20-25; and 14.3% were over age 55. Drivers aged 16-19, 36-45, and 46-55 each accounted for 12.5% of those involved in alcohol-related serious injury crashes.

One-half of the drivers aged 16-19 were involved in alcohol-related serious injury crashes (50.0%). The lowest incidence of involvement in alcohol-related crashes was found for those aged over 55 (12.5%).

10.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 89.3% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (29.4% and 8.8%, respectively).

Table 10-3
Drivers* in Alcohol-Related Serious Injury Crashes:
New Brunswick, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
16-19	14	7	50.0	12.5
20-25	30	10	33.3	17.9
26-35	49	16	32.7	28.6
36-45	35	7	20.0	12.5
46-55	35	7	20.0	12.5
>55	64	8	12.5	14.3
unknown	1	1	100.0	1.8
Gender				
Male	170	50	29.4	89.3
Female	57	5	8.8	8.9
unknown	1	1	100.0	1.8
Vehicle Type				
Auto	113	32	28.3	57.1
Truck/Van	76	18	23.7	32.1
Motorcycle	31	5	16.1	8.9
Tractor-Trailer	8	1	12.5	1.8
Collision Type				
Single-Vehicle	93	48	51.6	85.7
Multiple-Vehicle	135	8	5.9	14.3
TOTAL	228	56	24.6	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

10.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 57.1% were automobile drivers; 32.1% were truck/van drivers; 8.9% were motorcyclists; and 1.8% were tractor-trailer drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for automobile drivers – 28.3% of these drivers were in crashes that involved alcohol, compared to 23.7% for truck/van drivers, 16.1% for motorcyclists, and 12.5% for tractor-trailer drivers.

10.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 85.7% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 51.6% of these drivers, compared to only 5.9% for drivers involved in multiple-vehicle crashes.

10.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in New Brunswick during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 10-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a

public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, New Brunswick had a high testing rate in 2015, with 80.0% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 21 out of 36 (58.3%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (57.1%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (47.6%), narcotic analgesics (33.3%), and CNS stimulants (19.0%).

Table 10-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: New Brunswick, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
45	36	(80.0)	21	(58.3)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	12	(57.1)
CNS Depressants	10	(47.6)
Narcotic Analgesics	7	(33.3)
CNS Stimulants	4	(19.0)
Dissociative Anesthetics	0	(0.0)
Hallucinogens	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

10.5 Trends in alcohol and drug-impaired driving

Sections 10.1 through 10.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 10.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

10.5.1 Deaths involving drinking drivers: 1996-2015. Table 10-5 and Figure 10-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 10.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more

restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 34 in 1996 to 25 in 2008, peaked at 39 in 2010, fell to a low of eight in 2014, and rose again to 22 in 2015. The percentage of alcohol-related fatalities generally decreased from 35.4% in 1996 to 26.9% in 2000, peaked at 41.1% in 2010, generally decreased to its lowest level in 2014 (15.7%), and rose in 2015 (34.9%).

Table 10-5

Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: New Brunswick, 1996-2015**

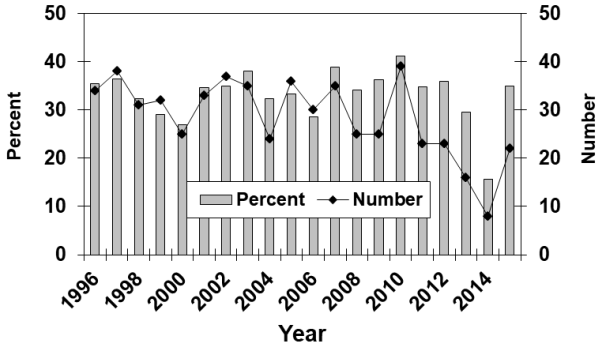
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	96	34	35.4
1997	104	38	36.5
1998	96	31	32.3
1999	110	32	29.1
2000	93	25	26.9
2001	95	33	34.7
2002	106	37	34.9
2003	92	35	38.0
2004	74	24	32.4
2005	108	36	33.3
2006	105	30	28.6
2007	90	35	38.9
2008	73	25	34.2
2009	69	25	36.2
2010	95	39	41.1
2011	66	23	34.8
2012	64	23	35.9
2013	54	16	29.6
2014	51	8	15.7
2015	63	22	34.9
2006-2010 baseline	86	31	36.0
2011-2015 period	60	18	30.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 31 fatalities involving a drinking driver and they accounted for 36.0% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 16.7% from 36.0% in the baseline period (2006-2010) to 30.0% in the 2011-2015 period. In terms of the number of persons killed in crashes involving a drinking driver, there has been a 41.9% decrease from an average of 31 in the baseline period (2006-2010) to 18 in the 2011-2015 period.

Figure 10-2
Number and Percent of Deaths Involving a Drinking Driver: New Brunswick, 1996-2015



10.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 10-6. Trends are illustrated in Figure 10-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percentage of fatally injured drivers with BACs over the legal limit fluctuated, peaking in 2010 (45.6%) generally decreasing until 2013 (16.1%), and rising again in 2015 (27.8%). The percent of fatally injured drivers with zero BACs generally decreased from 1996 (62.5%) to 2001 (46.5%), generally rose until 2006 (67.2%), eventually decreased in 2010 (50.9%), peaked in 2014 (77.8%), and declined again in 2015 (63.9%). The percent of fatally injured drivers with BACs between 1 and 80 mg% generally rose from 1996 (8.3%) until 2001 (11.6%), fluctuated until 2007, declined until 2011 (2.5%), peaked in 2013 (12.9%), fell to 0.0% in 2014, and rose again in 2015 (8.3%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 10-6, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 18.4% (from 57.1% to 67.6%). Among drivers with BACs from 1-80 mg%, there was a 3.3% decrease (from 6.1% to 5.9%). And among drivers with BACs over 80 mg%, there was a 27.8% decrease (from 36.7% to 26.5%).

Table 10-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: New Brunswick, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	56	48	85.7	30	62.5	4	8.3	14	29.2
1997	58	52	89.7	30	57.7	4	7.7	18	34.6
1998	57	50	87.7	29	58.0	2	4.0	19	38.0
1999	60	49	81.7	32	65.3	2	4.1	15	30.6
2000	51	40	78.4	24	60.0	2	5.0	14	35.0
2001	56	43	76.8	20	46.5	5	11.6	18	41.9
2002	61	49	80.3	30	61.2	2	4.1	17	34.7
2003	59	53	89.8	31	58.5	4	7.5	18	34.0
2004	42	37	88.1	25	67.6	2	5.4	10	27.0
2005	60	54	90.0	35	64.8	3	5.6	16	29.6
2006	65	58	89.2	39	67.2	3	5.2	16	27.6
2007	50	45	90.0	23	51.1	5	11.1	17	37.8
2008	41	38	92.7	20	52.6	2	5.3	16	42.1
2009	48	46	95.8	28	60.9	2	4.3	16	34.8
2010	60	57	95.0	29	50.9	2	3.5	26	45.6
2011	45	40	88.9	27	67.5	1	2.5	12	30.0
2012	40	37	92.5	25	67.6	1	2.7	11	29.7
2013	34	31	91.2	22	71.0	4	12.9	5	16.1
2014	30	27	90.0	21	77.8	0	0.0	6	22.2
2015	45	36	80.0	23	63.9	3	8.3	10	27.8
2006-2010 baseline	53	49	(92.5)	28	(57.1)	3	(6.1)	18	(36.7)
2011-2015 period	39	34	(87.2)	23	(67.6)	2	(5.9)	9	(26.5)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 10-3

Trends in Alcohol Use Among Driver Fatalities: New Brunswick, 1996-2015

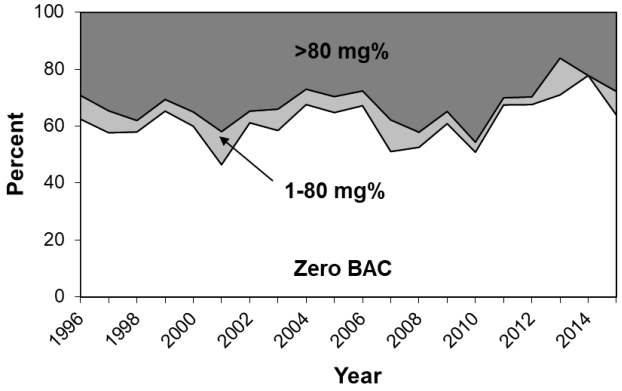


Table 10-7 and Figure 10-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 10-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 10-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 43.4%. In the 2011-2015 period, 31.6% of fatally injured drivers tested positive for alcohol, a 27.2% decrease from the baseline period.

Table 10-7

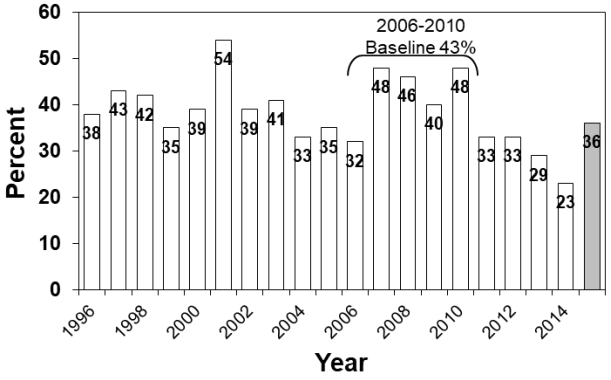
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: New Brunswick, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	56	35	(62.5)	21	(37.5)
1997	58	33	(56.9)	25	(43.1)
1998	57	33	(57.9)	24	(42.1)
1999	60	39	(65.0)	21	(35.0)
2000	51	31	(60.8)	20	(39.2)
2001	56	26	(46.4)	30	(53.6)
2002	61	37	(60.7)	24	(39.3)
2003	59	35	(59.3)	24	(40.7)
2004	42	28	(66.7)	14	(33.3)
2005	60	39	(65.0)	21	(35.0)
2006	65	44	(67.7)	21	(32.3)
2007	50	26	(52.0)	24	(48.0)
2008	41	22	(53.7)	19	(46.3)
2009	48	29	(60.4)	19	(39.6)
2010	60	31	(51.7)	29	(48.3)
2011	45	30	(66.7)	15	(33.3)
2012	40	27	(67.5)	13	(32.5)
2013	34	24	(70.6)	10	(29.4)
2014	30	23	(76.7)	7	(23.3)
2015	45	29	(64.4)	16	(35.6)
2006-2010 baseline	53	30	(56.6)	23	(43.4)
2011-2015 period	39	27	(69.2)	12	(30.8)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 10-4
Percent of Fatally Injured Drivers* Positive for Alcohol: New Brunswick, 1996-2015



10.5.3 Drivers in serious injury crashes. Table 10-8 and Figure 10-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Collision data from 2013 for New Brunswick were not available at the time this report was being prepared. For this reason, the 2011-2014 period in this table only includes data for 2011, 2012, 2014, and 2015. From 1996 to 2001, the percentage of all drivers in serious injury crashes that involved alcohol generally rose from 24.5% to a high of 27.8%. Since then, the incidence declined until 2005 (23.8%), rose in 2010 (27.5%), and decreased until 2014 (23.9%).

In the baseline period (2006-2010), an average of 25.6% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2014 period, the percentage of drivers in serious injury crashes involving alcohol was 25.5%, resulting in a 0.4% decrease.

Table 10-8

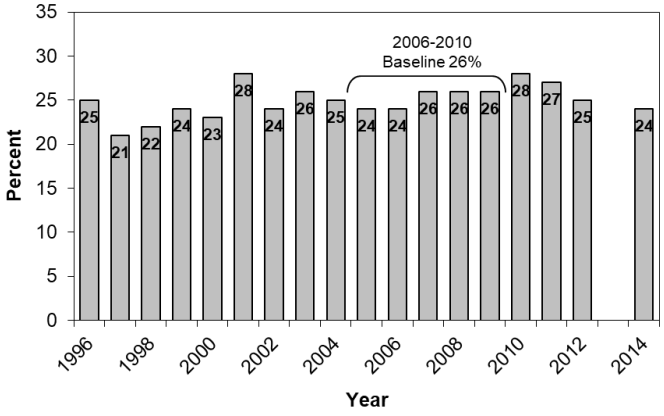
Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: New Brunswick, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	597	146	(24.5)
1997	561	118	(21.0)
1998	542	121	(22.3)
1999	512	124	(24.2)
2000	493	112	(22.7)
2001	511	142	(27.8)
2002	439	105	(23.9)
2003	426	110	(25.8)
2004	425	108	(25.4)
2005	429	102	(23.8)
2006	369	89	(24.1)
2007	327	85	(26.0)
2008	302	78	(25.8)
2009	313	80	(25.6)
2010	309	85	(27.5)
2011	277	76	(27.4)
2012	230	57	(24.8)
2013			
2014	222	53	(23.9)
2015	228	56	(24.6)
2006-2010 baseline	324	83	(25.6)
2011-2015 period**	239	61	(25.5)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

** 2013 data were not available at the time of publication; the 2011-2015 period only includes 2011, 2012, 2014 and 2015.

Figure 10-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: New Brunswick, 1996-2015



10.5.4 Drug use among fatally injured drivers. Table 10-9 and Figure 10-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 10-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

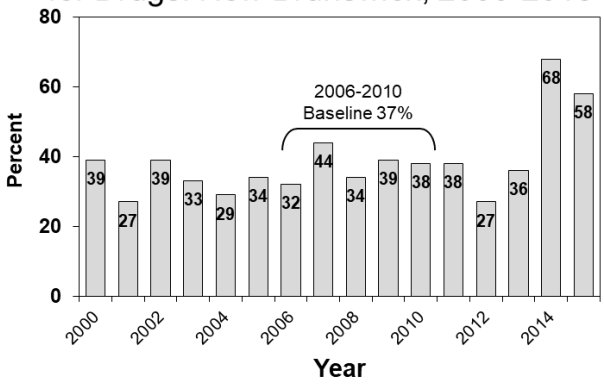
As can be seen at the bottom of Table 10-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 37.0%. In the 2011-2015 period, an average of 43.8% of fatally injured drivers tested positive for drugs, an 18.4% increase from the baseline period.

Table 10-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
New Brunswick, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	51	39	76.5	24	61.5	15	38.5
2001	56	37	66.1	27	73.0	10	27.0
2002	61	44	72.1	27	61.4	17	38.6
2003	59	52	88.1	35	67.3	17	32.7
2004	42	35	83.3	25	71.4	10	28.6
2005	60	50	83.3	33	66.0	17	34.0
2006	65	56	86.2	38	67.9	18	32.1
2007	50	43	86.0	24	55.8	19	44.2
2008	41	35	85.4	23	65.7	12	34.3
2009	48	44	91.7	27	61.4	17	38.6
2010	60	56	93.3	35	62.5	21	37.5
2011	45	34	75.6	21	61.8	13	38.2
2012	39	33	84.6	24	72.7	9	27.3
2013	34	31	91.2	20	64.5	11	35.5
2014	30	25	83.3	8	32.0	17	68.0
2015	45	36	80.0	15	41.7	21	58.3
2006-2010 baseline	53	46	86.8	29	63.0	17	37.0
2011-2015 period	39	32	82.1	18	56.3	14	43.8

* Dying within 30 days in collisions which occurred on public roadways.

Figure 10-6
Percent of Fatally Injured Drivers Positive for Drugs: New Brunswick, 2000-2015



11.0 NOVA SCOTIA

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Nova Scotia during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 11.1);
- alcohol use among fatally injured drivers (Section 11.2);
- drivers involved in alcohol-related serious injury crashes (Section 11.3);
- drug use among fatally injured drivers (Section 11.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 11.5).

11.1 Deaths in alcohol-related crashes

Table 11-1 presents information on people who died in alcohol-related crashes in Nova Scotia during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, six people aged 20-25 were killed in motor vehicle crashes in Nova Scotia during 2015. And, in five cases (83.3%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. There were three people aged 20-25 who died in alcohol-related crashes in Nova Scotia during 2015. The next column expresses this as a percentage – i.e., 60.0% of the 20-25 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 20-25 year olds represent 27.3% of all the people killed in alcohol-related crashes in Nova Scotia during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 57 persons died within 30 days of a motor vehicle crash in Nova Scotia during 2015. In 53 (93.0%) of these cases, it was possible

to determine if alcohol was a factor. Of these known cases, 11 (20.8%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (57 x .208) it can be estimated that *in Nova Scotia during 2015, 12 persons died in alcohol-related crashes within 30 days of the collision*.

Table 11-1
Deaths in Alcohol-Related Crashes: Nova Scotia, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
<16	3	3	100.0	0	0.0	0.0
16-19	5	5	100.0	1	20.0	9.1
20-25	6	5	83.3	3	60.0	27.3
26-35	6	6	100.0	2	33.3	18.2
36-45	4	4	100.0	2	50.0	18.2
46-55	7	7	100.0	2	28.6	18.2
>55	26	23	88.5	1	4.3	9.1
Gender						
Male	44	40	90.9	9	22.5	81.8
Female	13	13	100.0	2	15.4	18.2
Victim Type						
Driver/ Operator	37	33	89.2	5	15.2	45.5
Passenger	12	12	100.0	4	33.3	36.4
Pedestrian	8	8	100.0	2	25.0	18.2
Vehicle Occupied						
Automobiles	26	23	88.5	4	17.4	36.4
Trucks/Vans	11	10	90.9	3	30.0	27.3
Motorcycles	8	8	100.0	2	25.0	18.2
Other Highway Vehicles	1	1	100.0	0	0.0	0.0
Off-road Vehicles	3	3	100.0	0	0.0	0.0
(Pedestrians)	8	8	100.0	2	25.0	18.2
TOTAL	57	53	93.0	11	20.8	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

11.1.1 Victim age. Of all the people who died in alcohol-related crashes, 27.3% (see last column) were aged 20-25; 18.2% were aged 26-35, 36-45 and 46-55; and 9.1% were aged 16-19 and over 55.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-25 died (60.0%). The lowest incidence of alcohol involvement was found among those aged under 16 (0.0%) and over 55 (4.3%).

11.1.2 Gender. Of all the people who died in alcohol-related crashes, 81.8% were males. The incidence of alcohol in crashes in which a male died (22.5%) was greater than the incidence of alcohol in crashes in which a female died (15.4%).

11.1.3 Victim type. Of all the people who died in alcohol-related crashes, 45.5% were drivers/operators of a vehicle; 36.4% were passengers; and 18.2% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (33.3%) occurred in the crashes in which a passenger died. Alcohol was involved in 25.0% of the crashes in which a pedestrian died and 15.2% of those in which a driver/operator died.

11.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 36.4% were automobile occupants; 27.3% were truck/van occupants; and 18.2% were motorcyclists.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died was greater than the incidence of alcohol in crashes in which a motorcyclist or automobile occupant died (30.0% versus 25.0% and 17.4%). .

11.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Nova Scotia during 2015. Table 11-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

Table 11-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Nova Scotia, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	2	2	100.0	0	0.0	0.0	0	0.0	0.0
20-25	4	4	100.0	1	25.0	20.0	1	25.0	25.0
26-35	3	3	100.0	1	33.3	20.0	1	33.3	25.0
36-45	2	2	100.0	0	0.0	0.0	0	0.0	0.0
46-55	5	4	80.0	2	50.0	40.0	1	25.0	25.0
>55	18	11	61.1	1	9.1	20.0	1	9.1	25.0
Gender									
Male	29	21	72.4	4	19.0	80.0	3	14.3	75.0
Female	5	5	100.0	1	20.0	20.0	1	20.0	25.0
Vehicle Type									
Automobiles	18	13	72.2	2	15.4	40.0	1	7.7	25.0
Truck/Van	7	6	85.7	1	16.7	20.0	1	16.7	25.0
Motorcycles	8	7	87.5	2	28.6	40.0	2	28.6	50.0
Tractor-Trailers	1	0	0.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	21	14	66.7	4	28.6	80.0	4	28.6	100.0
Multiple vehicle	13	12	92.3	1	8.3	20.0	0	0.0	0.0
TOTAL	34	26	76.5	5	19.2	100.0	4	15.4	100.0

* Drivers dying within 30 days in crashes on public roadways.

To illustrate, among 20-25 year olds there were four drivers killed during 2015; all four of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, one (25.0%) was positive for alcohol. This means that 20-25 year old fatally injured drinking drivers accounted for 20.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that one of the four (25.0%) fatally injured 20-25 year olds who were tested for alcohol had a BAC in excess of 80 mg%. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, 20-25 year old drivers accounted for 25.0% of all the drivers with BACs over the legal limit.

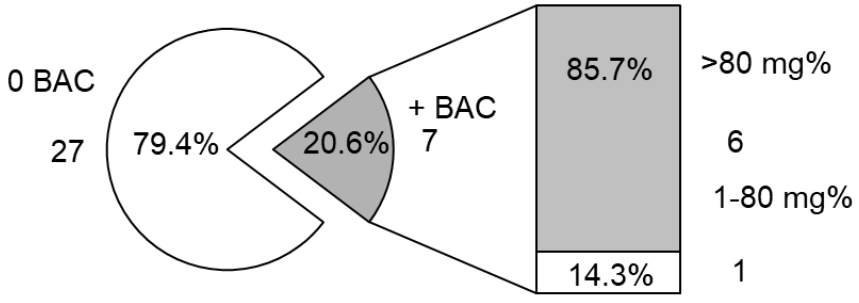
The main findings are shown by the totals at the bottom of the table. Nova Scotia had an average testing rate in 2015, with 76.5% of fatally injured drivers being tested for alcohol use.

In Nova Scotia, 19.2% had been drinking and four of five (80.0%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 80.8% had BACs of zero mg%
- 0.0% had BACs from 1-49 mg%;
- 3.8% had BACs from 50-80 mg%
- 7.7% had BACs from 81 to 160 mg%; and,
- 7.7% had BACs over 160 mg%.

The BAC distribution for fatally injured drivers is shown in Figure 11-1. In this figure seven of 34 (20.6%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, five (85.7%) have BACs over 80 mg%.

Figure 11-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: Nova Scotia, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

11.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 40.0% were aged 46-55; and 20.0% were aged 20-25, 26-35 and over 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 25.0% were aged 20-25, 26-35, 46-55 and over 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 46-55 were the most likely to have been drinking (50.0%). By contrast, 0.0% of the tested drivers aged 16-19 and 36-45 had been drinking.

11.2.2 Gender differences. Males dominate the picture – they account for 80.0% of all of the fatally injured drivers who had been drinking and 75.0% of those who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (28 of the 33 fatalities or 84.8% are males). However, fatally injured female drivers were slightly more likely to have been drinking than male drivers (20.0% and 19.0%, respectively). And 75.0% of the male drivers and 100.0% of the female drivers who were drinking had BACs over the legal limit.

11.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 40.0% were automobile drivers and motorcyclists; and 20.0% were truck/van drivers.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 50.0% were motorcyclists; and 25.0% were automobile drivers and truck/van drivers.

Within each of the vehicle types, 30.0% of fatally injured truck/van drivers, 28.6% of motorcyclists, 16.7% of truck/van drivers, and 15.4% of automobile drivers were found to have been drinking.

11.2.4 Collision differences. Three-fifths of the drivers killed (20 of the 33) were involved in single-vehicle collisions but these crashes accounted for 80.0% of the drivers who had been drinking and 100.0% of the drivers who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Half of the drivers involved in single-vehicle crashes (28.6%) tested positive for alcohol, compared to only 8.3% of those involved in multiple-vehicle collisions.

11.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2014 in Nova Scotia. At the time this report was being prepared, collision data from 2015 for Nova Scotia were not available. For this reason, 2014 data will be reported in this section. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously

injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 11-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 308 drivers were involved in crashes in which someone was seriously injured, and among these 16.6% were alcohol-related crashes.

11.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 29.4% were aged 20-25; 19.6% were aged 46-55; 15.7% were over 55; 11.8% were aged 16-19 and 36-45; 9.8% were aged 26-35; and 2.0% were under 16.

One-half of drivers under 16 (50.0%) were involved in alcohol-related serious injury crashes. Given that there were only two drivers in this age group, the results should be treated with caution. One-third of the drivers aged 20-25 were involved in alcohol-related serious injury crashes (32.6%). The lowest incidence of involvement in alcohol-related crashes was found for those over 55 (9.2%).

Table 11-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Nova Scotia, 2014

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
<16	2	1	50.0	2.0
16-19	24	6	25.0	11.8
20-25	46	15	32.6	29.4
26-35	41	5	12.2	9.8
36-45	42	6	14.3	11.8
46-55	53	10	18.9	19.6
>55	87	8	9.2	15.7
unknown	13	0	0.0	0.0
Gender				
Male	196	39	19.9	76.5
Female	100	12	12.0	23.5
unknown	12	0	0.0	0.0
Vehicle Type				
Auto	167	31	18.6	60.8
Truck/Van	94	15	16.0	29.4
Motorcycle	38	2	5.3	3.9
Tractor-Trailer	7	2	28.6	3.9
Other Hwy. Vehicle	2	1	50.0	2.0
Collision Type				
Single-Vehicle	132	43	32.6	84.3
Multiple-Vehicle	176	8	4.5	15.7
TOTAL	308	51	16.6	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

11.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 76.5% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (19.9% and 12.0%, respectively).

11.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 60.8% were automobile drivers; 29.4% were truck/van drivers; 3.9% were motorcyclists and tractor-trailer drivers; and 2.0% were drivers of other highway vehicles.

Among drivers of other highway vehicles, 50.0% were involved in alcohol-related crashes. However, these results should be treated with caution as this subgroup only includes two drivers. Among other vehicle types, the highest incidence of involvement in alcohol-related serious injury crashes was found for tractor-trailer drivers – 28.6% of these drivers were in crashes that involved alcohol, compared to 18.6% for automobile drivers and 16.0% for truck/van drivers. Among motorcyclists, 5.3% were involved in alcohol-related crashes.

11.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 84.3% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious

injury crashes was also found among drivers in single-vehicle crashes – 32.6% of these drivers, compared to only 4.5% for drivers involved in multiple-vehicle crashes.

11.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Nova Scotia during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 11-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Nova Scotia had a high testing rate in 2015, with 76.5% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, 12 out of 26 (46.2%) were positive for drugs. The most common category of drugs found within drivers testing positive for drug use was cannabis (66.7%). Other categories of drugs found in fatally injured drivers testing positive for drugs were CNS depressants (41.7%), narcotic analgesics (25.0%) and hallucinogens (8.3%).

Table 11-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Nova Scotia, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
34	26	(76.5)	12	(46.2)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	8	(66.7)
CNS Depressants	5	(41.7)
Narcotic Analgesics	3	(25.0)
Hallucinogens	1	(8.3)
CNS Stimulants	0	(0.0)
Dissociative Anesthetics	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

11.5 Trends in alcohol and drug-impaired driving

Sections 11.1 through 11.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 11.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

11.5.1 Deaths involving drinking drivers: 1996-2015. Table 11-5 and Figure 11-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 11.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally dropped from 39 in 1996 to 22 in 2004, increased to 35 in 2007, and generally decreased to a low of 10 in 2015. The percentage of alcohol-related fatalities rose from 34.8% in 1996 to 43.4% in 1998, decreased to 23.1% in 2008, increased to 37.3% in 2009, decreased to 23.6% in 2013, rose to 26.9% in 2014, and decreased to a low of 17.5% in 2015.

Table 11-5

Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Nova Scotia, 1996-2015**

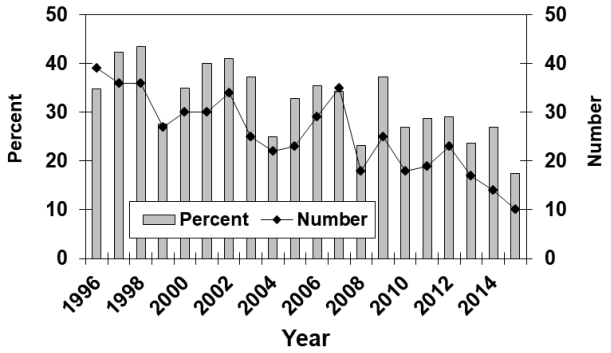
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	112	39	34.8
1997	85	36	42.4
1998	83	36	43.4
1999	95	27	28.4
2000	86	30	34.9
2001	75	30	40.0
2002	83	34	41.0
2003	67	25	37.3
2004	88	22	25.0
2005	70	23	32.9
2006	82	29	35.4
2007	102	35	34.3
2008	78	18	23.1
2009	67	25	37.3
2010	67	18	26.9
2011	66	19	28.8
2012	79	23	29.1
2013	72	17	23.6
2014	52	14	26.9
2015	57	10	17.5
2006-2010 baseline	79	25	31.6
2011-2015 period	65	17	26.2

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 25 fatalities involving a drinking driver and they accounted for 31.6% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 17.1% from 31.6% in the baseline period (2006-2010) to 26.2% in the 2011-2015 period. In terms of the number of persons killed in crashes involving a drinking driver, there has been a 32.0% decrease from an average of 25 in the baseline period (2006-2010) to 17 in the 2011-2015 period.

Figure 11-2
Number and Percent of Deaths Involving a Drinking Driver: Nova Scotia, 1996-2015



11.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 11-6. Trends are illustrated in Figure 11-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit peaked in 1998 (52.6%), generally decreased until 2004 (18.4%), fluctuated until 2011 (32.4%), decreased until 2013 (14.0%), rose in 2014 (23.3%), and decreased again in 2015 (18.5%). The percent of fatally injured drivers with zero BACs generally increased from 1996 (56.1%) until 2008 (78.4%), fluctuated until 2011 (61.8%), peaked in 2013 (79.1%), decreased in 2014 (73.3%), and rose again in 2015 (77.8%). The percent of fatally injured drivers with BACs between 1 and 80 mg% generally increased from 1996 (4.9%) to its highest level in 2002 (22.2%), remained relatively stable until 2012 (1.9%), rose in 2013 (7.0%), and generally decreased until 2015 (3.7%).

When compared to the 2006-2010 baseline period shown at the bottom of Table 11-6, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 11.8% (from 65.9% to 73.7%). Among drivers with BACs from 1-80 mg%, there was an 17.8% increase (from 4.5% to 5.3%). And among drivers with BACs over 80 mg%, there was a 28.4% decrease (from 29.5% to 21.1%).

Table 11-6
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Nova Scotia, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	57	41	71.9	23	56.1	2	4.9	16	39.0
1997	46	38	82.6	21	55.3	4	10.5	13	34.2
1998	51	38	74.5	17	44.7	1	2.6	20	52.6
1999	59	40	67.8	24	60.0	3	7.5	13	32.5
2000	56	45	80.4	22	48.9	1	2.2	22	48.9
2001	52	46	88.5	25	54.3	4	8.7	17	37.0
2002	40	36	90.0	16	44.4	8	22.2	12	33.3
2003	47	44	93.6	26	59.1	1	2.3	17	38.6
2004	44	38	86.4	29	76.3	2	5.3	7	18.4
2005	41	40	97.6	21	52.5	3	7.5	16	40.0
2006	46	41	89.1	27	65.9	2	4.9	12	29.3
2007	54	47	87.0	29	61.7	4	8.5	14	29.8
2008	54	51	94.4	40	78.4	2	3.9	9	17.6
2009	47	43	91.5	25	58.1	1	2.3	17	39.5
2010	40	40	100.0	26	65.0	3	7.5	11	27.5
2011	41	34	82.9	21	61.8	2	5.9	11	32.4
2012	59	54	91.5	40	74.1	1	1.9	13	24.1
2013	47	43	91.5	34	79.1	3	7.0	6	14.0
2014	36	30	83.3	22	73.3	1	3.3	7	23.3
2015	34	27	79.4	21	77.8	1	3.7	5	18.5
2006-2010 baseline	48	44	(91.7)	29	(65.9)	2	(4.5)	13	(29.5)
2011-2015 period	43	38	(88.4)	28	(73.7)	2	(5.3)	8	(21.1)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 11-3
Trends in Alcohol Use Among Driver Fatalities: Nova Scotia, 1996-2015

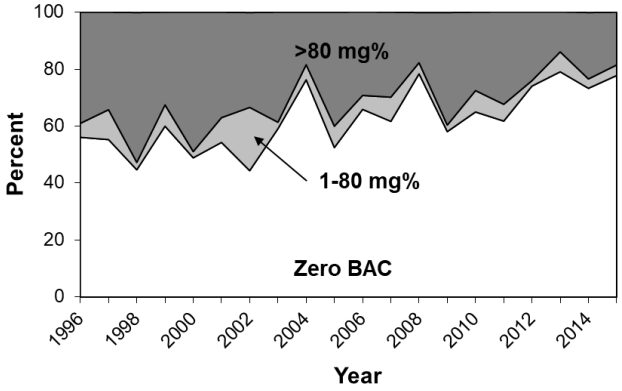


Table 11-7 and Figure 11-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 11-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 11-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 33.3%. In the 2011-2015 period, 25.6% of fatally injured drivers tested positive for alcohol, a 23.1% decrease from the baseline period.

Table 11-7

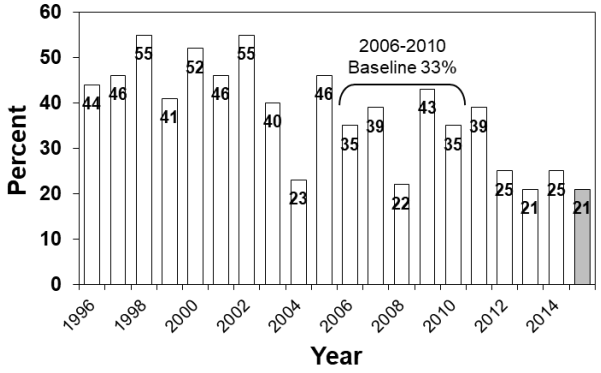
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Nova Scotia, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	57	32	(56.1)	25	(43.9)
1997	46	25	(54.3)	21	(45.7)
1998	51	23	(45.1)	28	(54.9)
1999	59	35	(59.3)	24	(40.7)
2000	56	27	(48.2)	29	(51.8)
2001	52	28	(53.8)	24	(46.2)
2002	40	18	(45.0)	22	(55.0)
2003	47	28	(59.6)	19	(40.4)
2004	44	34	(77.3)	10	(22.7)
2005	41	22	(53.7)	19	(46.3)
2006	46	30	(65.2)	16	(34.8)
2007	54	33	(61.1)	21	(38.9)
2008	54	42	(77.8)	12	(22.2)
2009	47	27	(57.4)	20	(42.6)
2010	40	26	(65.0)	14	(35.0)
2011	41	25	(61.0)	16	(39.0)
2012	59	44	(74.6)	15	(25.4)
2013	47	37	(78.7)	10	(21.3)
2014	36	27	(75.0)	9	(25.0)
2015	34	27	(79.4)	7	(20.6)
2006-2010 baseline	48	32	(66.7)	16	(33.3)
2011-2015 period	43	32	(74.4)	11	(25.6)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 11-4
Percent of Fatally Injured Drivers* Positive for Alcohol: Nova Scotia, 1996-2015



11.5.3 Drivers in serious injury crashes. Table 11-8 and Figure 11-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. As mentioned in Section 11.3, collision data from 2015 for Nova Scotia were not available at the time this report was being prepared. For this reason, this subsection will only report data from 1996 to 2014. From 1996 to 1998, the percentage of drivers in serious injury crashes that involved alcohol decreased from 24.9% to 20.4%, generally increased to 26.2% in 2007, decreased to 20.0% in 2008, rose to 25.8% in 2010, decreased to a low of 15.8% in 2013, and rose again in 2014 (16.6%).

As shown Table 11-8, in the baseline period (2006-2010) an average of 23.7% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2014 period, the incidence of drivers in alcohol-involved crashes decreased to 17.1%, a 27.8% decrease.

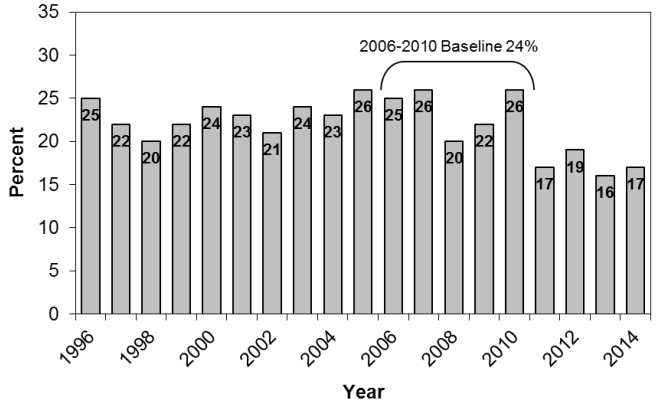
Table 11-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Nova Scotia, 1996-2014

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	458	114	(24.9)
1997	458	102	(22.3)
1998	427	87	(20.4)
1999	577	125	(21.7)
2000	390	92	(23.6)
2001	400	93	(23.3)
2002	383	81	(21.1)
2003	332	78	(23.5)
2004	351	81	(23.1)
2005	330	86	(26.1)
2006	325	81	(24.9)
2007	336	88	(26.2)
2008	288	58	(20.1)
2009	332	73	(22.0)
2010	299	77	(25.8)
2011	345	59	(17.1)
2012	345	64	(18.6)
2013	285	45	(15.8)
2014	308	51	(16.6)
2006-2010 baseline	316	75	(23.7)
2011-2014 period	321	55	(17.1)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 11-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Nova Scotia, 1996-2014



11.5.4 Drug use among fatally injured drivers. Table 11-9 and Figure 11-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 11-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

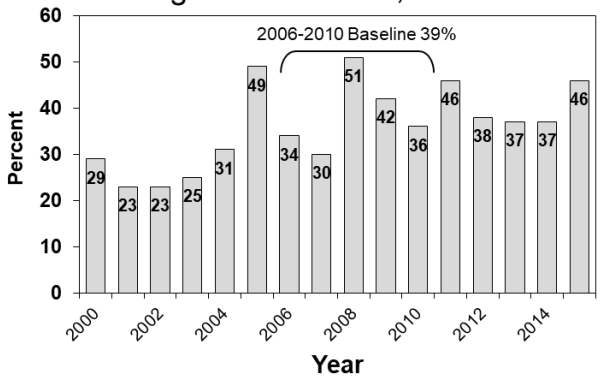
As can be seen at the bottom of Table 11-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 39.0%. In the 2011-2015 period, 40.5% of fatally injured drivers tested positive for drugs, a 3.8% increase from the baseline period.

Table 11-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Nova Scotia, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	56	35	62.5	25	71.4	10	28.6
2001	52	40	76.9	31	77.5	9	22.5
2002	40	35	87.5	27	77.1	8	22.9
2003	47	40	85.1	30	75.0	10	25.0
2004	44	32	72.7	22	68.8	10	31.3
2005	41	35	85.4	18	51.4	17	48.6
2006	46	35	76.1	23	65.7	12	34.3
2007	54	44	81.5	31	70.5	13	29.5
2008	54	43	79.6	21	48.8	22	51.2
2009	47	43	91.5	25	58.1	18	41.9
2010	40	39	97.5	25	64.1	14	35.9
2011	41	33	80.5	18	54.5	15	45.5
2012	59	53	89.8	33	62.3	20	37.7
2013	47	43	91.5	27	62.8	16	37.2
2014	36	30	83.3	19	63.3	11	36.7
2015	34	26	76.5	14	53.8	12	46.2
2006-2010 baseline	48	41	85.4	25	61.0	16	39.0
2011-2015 period	43	37	86.0	22	59.5	15	40.5

* Dying within 30 days in collisions which occurred on public roadways.

Figure 11-6
Percent of Fatally Injured Drivers Positive for Drugs: Nova Scotia, 2000-2015



12.0 PRINCE EDWARD ISLAND

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Prince Edward Island during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 12.1);
- alcohol use among fatally injured drivers (Section 12.2);
- drivers involved in alcohol-related serious injury crashes (Section 12.3);
- drug use among fatally injured drivers (Section 12.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 12.5).

12.1 Deaths in alcohol-related crashes

Table 12-1 presents information on people who died in alcohol-related crashes in Prince Edward Island during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol-involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.*

For example, seven people over 55 years of age were killed in motor vehicle crashes in Prince Edward Island during 2015. And, in all seven cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, one person over 55 years of age died in an alcohol-related crash in Prince Edward Island during 2015. The next column expresses this as a percentage – i.e., 14.3% of those over 55 years of age who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among those over 55 years of age represents 20.0% of all the people killed in alcohol-related crashes in Prince Edward Island during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 16 persons died within 30 days of a motor vehicle crash in Prince Edward Island during 2015. In all 16 (100.0%) of these cases, it was possible to determine if alcohol was a factor. Of these cases, five (31.3%) involved alcohol.

12.1.1 Victim age. Persons aged 20-25 and 26-35 have been placed into a broader age group (20-35) to ensure that individuals cannot be identified. Of all the people who died in alcohol-related crashes, 60.0% (see last column) were aged 20-35l and 20.0% were aged 36-45 and over 55.

The highest incidence of alcohol involvement occurred in the crashes in which a person aged 20-35 died (60.0%). The lowest incidence of alcohol involvement was found among persons aged 46-55 as 0.0% of persons in this age group died in crashes involving alcohol.

Table 12-1
Deaths in Alcohol-Related Crashes: Prince Edward Island, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
20-35**	5	5	100.0	3	60.0	60.0
36-45	2	2	100.0	1	50.0	20.0
46-55	2	2	100.0	0	0.0	0.0
>55	7	7	100.0	1	14.3	20.0
Gender						
Male	10	10	100.0	5	50.0	100.0
Female	6	6	100.0	0	0.0	0.0
Victim Type						
Driver/ Operator	12	12	100.0	3	25.0	60.0
Passenger	3	3	100.0	2	66.7	40.0
Pedestrian	1	1	100.0	0	0.0	0.0
Vehicle Occupied						
Automobiles	10	10	100.0	2	20.0	40.0
Other Highway Vehicles***	5	5	100.0	3	60.0	60.0
(Pedestrians)	1	1	100.0	0	0.0	0.0
TOTAL	16	16	100.0	5	31.3	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.
** Persons in two age groups have been aggregated to ensure that an individual will not be identified.
*** Motorcyclists and truck/van occupants have been aggregated to ensure that an individual will not be identified.

12.1.2 Gender. Of all the people who died in alcohol-related crashes, 100.0% were males. The incidence of alcohol in crashes in which a male died (50.0%) was greater than the incidence of alcohol in crashes in which a female died (0.0%).

12.1.3 Victim type. Of all the people who died in alcohol-related crashes, 60.0% were drivers/operators of a vehicle; 40.0% were passengers; and 0.0% were pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (66.7%) occurred in the crashes in which a passenger died. Alcohol was involved in 25.0% of the crashes in which a driver/operator died and 0.0% of the crashes in which a pedestrian died.

12.1.4 Type of vehicle occupied. Occupants of motorcycles and trucks/vans have been placed into a broader vehicle group (other vehicles) to ensure that individuals cannot be identified. Of all the people who died in alcohol-related crashes, 60.0% each were occupants of other vehicles and 40.0% were automobile occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which an occupant of another vehicle died (60.0%) was greater than the incidence of alcohol in crashes in which an automobile occupant died (20.0%).

12.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Prince Edward Island during 2015. Table 12-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among 20-35 year olds there were four drivers killed during 2015; all four of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, two (50.0%) were positive for alcohol. This means that fatally injured drinking drivers aged 20-35 accounted for 66.7% of all drinking drivers who were killed.

Table 12-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Prince Edward Island, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
20-35**	4	4	100.0	2	50.0	66.7	2	50.0	66.7
36-45	1	1	100.0	0	0.0	0.0	0	0.0	0.0
46-55	2	1	50.0	0	0.0	0.0	0	0.0	0.0
>55	5	4	80.0	1	25.0	33.3	1	25.0	33.3
Gender									
Male	7	5	71.4	3	60.0	100.0	3	60.0	100.0
Female	5	5	100.0	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobiles	7	6	85.7	0	0.0	0.0	0	0.0	0.0
Other Hwy Vehs***	5	4	80.0	3	75.0	100.0	3	75.0	100.0
Collision Type									
Single vehicle	5	4	80.0	3	75.0	100.0	3	75.0	100.0
Multiple vehicle	7	6	85.7	0	0.0	0.0	0	0.0	0.0
TOTAL	12	10	83.3	3	30.0	100.0	3	30.0	100.0

* Drivers dying within 30 days in crashes on public roadways.
** Drivers in two age groups have been aggregated to ensure that an individual will not be identified.
*** Motorcyclists and truck/van drivers have been aggregated to ensure that an individual will not be identified.

Then, in the final three columns, it can be seen that two of the fatally injured 20-35 year olds (50.0%) who were tested for alcohol had BACs in excess of 80 mg%. This means that both drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. As can be seen, drivers aged 20-35 accounted for 66.7% of all the drivers with BACs over the legal limit.

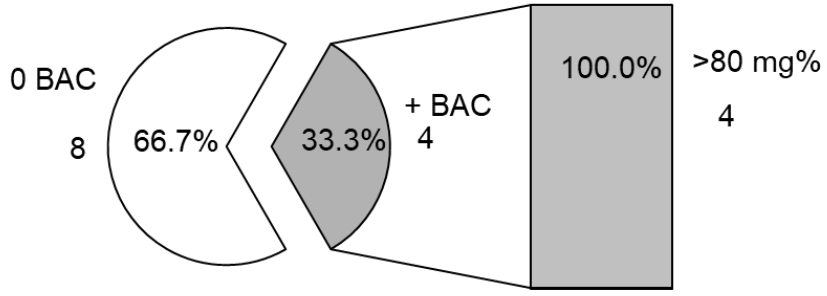
The main findings are shown by the totals at the bottom of the table. Prince Edward Island had a high testing rate in 2015, with 83.3% of fatally injured drivers being tested for alcohol use.

In Prince Edward Island, 30.0% had been drinking and all of the fatally injured drinking drivers (100.0%) had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 70.0% had BACs of zero mg%;
- 0.0% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%;
- 0.0% had BACs from 81-160 mg%; and,
- 30.0% had BACs over 160 mg%.

The BAC distribution for fatally injured drivers is shown in Figure 12-1. As can be seen, four of 12(33.3%) fatally injured drivers had positive BACs. And among fatally injured drinking drivers, four (100.0%) had BACs over 80 mg%.

Figure 12-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: Prince Edward Island, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

12.2.1 Age differences. Drivers aged 20-25 and 26-35 have been regrouped (20-35 age group) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 66.7% were aged 20-35 and 33.3% were aged over 55. Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 66.7% were aged 20-35 and 33.3% were aged over 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 20-35 were the most likely to have been drinking (50.0%). By contrast, 0.0% of the tested drivers aged 36-45 and 46-55 had been drinking.

12.2.2 Gender differences. Males dominate the picture as they account for 100.0% of all the fatally injured drivers who had been drinking and those that were legally impaired.

Males dominate the picture largely because they account for all three (100.0%) of the drivers who are killed. Two-thirds of fatally injured male drivers (66.7%) had been drinking. And, 100.0% of the male drivers who were drinking had BACs over the legal limit.

12.2.3 Vehicle differences. Drivers of trucks/vans and motorcycles have been regrouped (other highway vehicles) to ensure that individuals cannot be identified. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 100.0% were drivers of other highway vehicles.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 100.0% were drivers of other highway vehicles.

Within each of the vehicle types, 75.0% of drivers of other highway vehicles had been drinking. None of the fatally injured automobile drivers (0.0%) had been drinking.

12.2.4 Collision differences. Five of 12 drivers killed (41.7%) were involved in single-vehicle collisions and these crashes accounted for 100.0% of the drivers who had been drinking as well as 100.0% those who were legally impaired.

The reason for this apparent disparity is because alcohol is overrepresented in single-vehicle crashes. Half of the drivers involved in single-vehicle crashes (75.0%) tested positive for alcohol, compared to 0.0% of those involved in multiple-vehicle collisions.

12.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Prince Edward Island. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 12-3 for drivers grouped in terms of age, gender, type of vehicle driven (Section 2.2.1), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, 63 drivers were involved in crashes in which someone was seriously injured, and among these 11.1% were alcohol-related crashes.

12.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 42.9% were aged 26-35; and 14.3% were aged 16-19, 20-25, 36-45 and 46-55.

One-fifth of the drivers aged 36-45 were involved in alcohol-related serious injury crashes (20.0%). The lowest incidence of involvement in alcohol-related crashes was found for those aged over 55 (0.0%).

12.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 85.7% were males. The incidence of involvement in alcohol-related serious injury crashes was greater for males than for females (13.0% and 6.3%, respectively).

12.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 71.4% were automobile drivers and 28.6% were motorcyclists.

The highest incidence of involvement in alcohol-related serious injury crashes was found for motorcyclists (28.6%) compared to 11.9% for automobile drivers. Among truck/van and tractor-trailer drivers, 0.0% were involved in alcohol-related crashes.

12.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes – 29.2% of these drivers, compared to only 0.0% for drivers involved in multiple-vehicle crashes.

Table 12-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Prince Edward Island, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
16-19	7	1	14.3	14.3
20-25	7	1	14.3	14.3
26-35	19	3	15.8	42.9
36-45	5	1	20.0	14.3
46-55	7	1	14.3	14.3
>55	17	0	0.0	0.0
unknown	1	0	0.0	0.0
Gender				
Male	46	6	13.0	85.7
Female	16	1	6.3	14.3
unknown	1	0	0.0	0.0
Vehicle Type				
Auto	42	5	11.9	71.4
Truck/Van	12	0	0.0	0.0
Motorcycle	7	2	28.6	28.6
Tractor-Trailer	2	0	0.0	0.0
Collision Type				
Single-Vehicle	24	7	29.2	100.0
Multiple-Vehicle	39	0	0.0	0.0
TOTAL	63	7	11.1	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

12.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Prince Edward Island during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 12-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Prince Edward Island had an average testing rate in 2015, with 66.7% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, one out of eight (12.5%) were positive for drugs. The most common categories of drugs found within drivers testing positive for drug use was cannabis (100.0%).

Table 12-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Prince Edward Island, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
12	8	(66.7)	1	(12.5)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	1	(100.0)
CNS Stimulants	0	(0.0)
Narcotic Analgesics	0	(0.0)
CNS Depressants	0	(0.0)
Hallucinogens	0	(0.0)
Dissociative Anesthetics	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

12.5 Trends in alcohol and drug-impaired driving

Sections 12.1 through 12.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 12.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

12.5.1 Deaths involving drinking drivers: 1996-2015. Table 12-5 and Figure 12-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 12.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the table and figure, the number of deaths in crashes that involved a drinking driver generally increased from four to a high of 14 between 1996 and 2006. This number decreased to one in 2010, rose to 10 in 2011, decreased to one in 2014 before rising to five in 2015. The percentage of

alcohol-related fatalities generally increased from 26.7% in 1996 to 61.5% in 2003, remained stable until 2009, fell to a low of 11.1% in 2010, peaked at 72.7% in 2012, decreased in 2014 (20.0%), and rose again in 2015 (31.3%).

As shown at the bottom of the table, during the 2006-2010 baseline period, there was an average of seven fatalities involving a drinking driver and they accounted for 50.0% of all fatalities. Thus, it can be seen that the percent of fatalities involving a drinking driver decreased by 7.6% from 50.0% in the baseline period (2006-2010) to 46.2% in the 2011-2015 period. In terms of the number of persons killed in crashes involving a drinking driver, there was a 14.3% decrease from an average of seven in the baseline period (2006-2010) to six in the 2011-2015 period.

Table 12-5

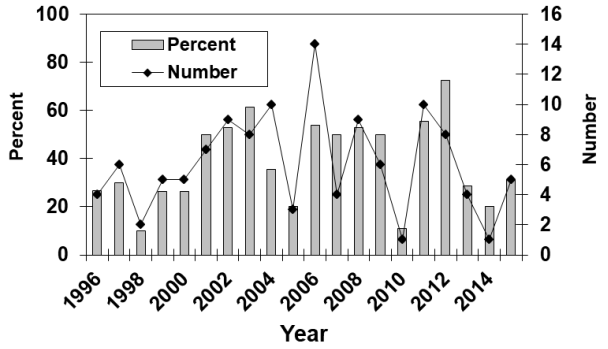
Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Prince Edward Island, 1996-2015**

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	15	4	26.7
1997	20	6	30.0
1998	20	2	10.0
1999	19	5	26.3
2000	19	5	26.3
2001	14	7	50.0
2002	17	9	52.9
2003	13	8	61.5
2004	28	10	35.7
2005	15	3	20.0
2006	26	14	53.8
2007	8	4	50.0
2008	17	9	52.9
2009	12	6	50.0
2010	9	1	11.1
2011	18	10	55.6
2012	11	8	72.7
2013	14	4	28.6
2014	5	1	20.0
2015	16	5	31.3
2006-2010 baseline	14	7	50.0
2011-2015 period	13	6	46.2

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 12-2
Number and Percent of Deaths Involving a Drinking Driver: Prince Edward Island, 1996-2015



12.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 12-6. Trends are illustrated in Figure 12-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percent of fatally injured drivers with BACs over the legal limit generally increased from 1996 (18.2%) to its highest level in 2007 (75.0%), decreased in 2010 (0.0%), rose in 2011 (45.5%), and generally decreased until 2015 (30.0%). The percent of fatally injured drivers with zero BACs generally decreased from 1996 (72.7%) to 2007 (25.0%), rose in 2010 (83.3%), dropped to its lowest point in 2012 (16.7%), and rose to 70.0% in 2015. The percent of fatally injured drivers with BACs between 1 and 80 mg% reached 22.2% in 1997, fell to 0.0% in both 1998 to 2002 and 2005 to 2009, peaked in 2012 (50.0%), and decreased until 2015 (0.0%).

When compared to the 2006-2010 baseline period, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period decreased by 10.1% (from 55.6% to 50.0%). Among drivers with BACs from 1-80 mg%, there was an increase from 0.0% to 12.5%. Among drivers with BACs over 80 mg%, there was a 15.5% decrease from 44.4% in the baseline period to 37.5% in the 2011-2015 period.

Table 12-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	11	11	100.0	8	72.7	1	9.1	2	18.2
1997	10	9	90.0	5	55.6	2	22.2	2	22.2
1998	11	8	72.7	7	87.5	0	0.0	1	12.5
1999	10	7	70.0	5	71.4	0	0.0	2	28.6
2000	12	9	75.0	6	66.7	0	0.0	3	33.3
2001	5	5	100.0	3	60.0	0	0.0	2	40.0
2002	10	10	100.0	6	60.0	0	0.0	4	40.0
2003	8	7	87.5	4	57.1	1	14.3	2	28.6
2004	16	14	87.5	8	57.1	1	7.1	5	35.7
2005	13	8	61.5	5	62.5	0	0.0	3	37.5
2006	13	12	92.3	9	75.0	0	0.0	3	25.0
2007	4	4	100.0	1	25.0	0	0.0	3	75.0
2008	12	12	100.0	4	33.3	0	0.0	8	66.7
2009	10	10	100.0	5	50.0	0	0.0	5	50.0
2010	6	6	100.0	5	83.3	1	16.7	0	0.0
2011	11	11	100.0	4	36.4	2	18.2	5	45.5
2012	6	6	100.0	1	16.7	3	50.0	2	33.3
2013	10	9	90.0	6	66.7	1	11.1	2	22.2
2014	3	3	100.0	2	66.7	0	0.0	1	33.3
2015	12	10	83.3	7	70.0	0	0.0	3	30.0
2006-2010 baseline	9	9	(100.0)	5	(55.6)	0	(0.0)	4	(44.4)
2011-2015 period	8	8	(100.0)	4	(50.0)	1	(12.5)	3	(37.5)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 12-3

Trends in Alcohol Use Among Driver Fatalities:
Prince Edward Island, 1996-2015

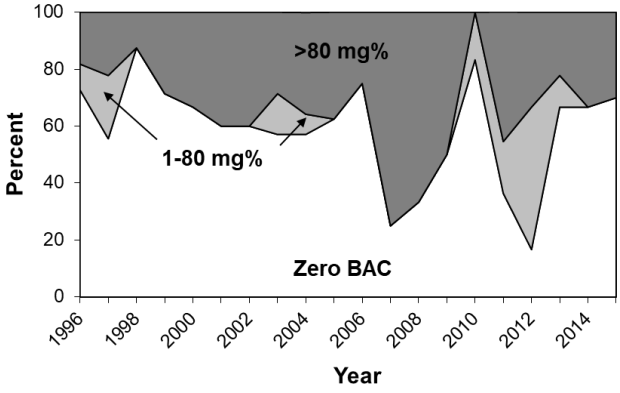


Table 12-7 and Figure 12-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 12-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 12-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 44.4%. In the 2011-2015 period, 50.0% of fatally injured drivers tested positive for alcohol, a 12.6% increase from the baseline period.

Table 12-7

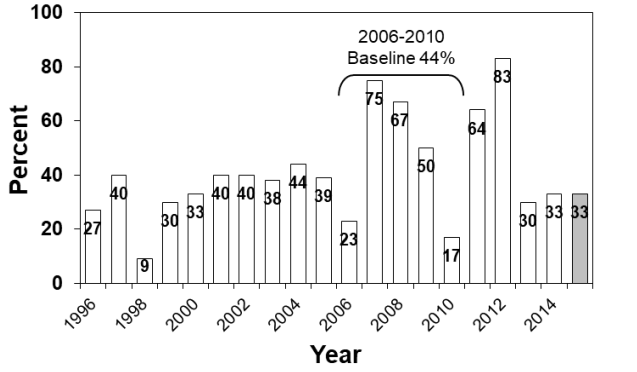
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	11	8	(72.7)	3	(27.3)
1997	10	6	(60.0)	4	(40.0)
1998	11	10	(90.9)	1	(9.1)
1999	10	7	(70.0)	3	(30.0)
2000	12	8	(66.7)	4	(33.3)
2001	5	3	(60.0)	2	(40.0)
2002	10	6	(60.0)	4	(40.0)
2003	8	5	(62.5)	3	(37.5)
2004	16	9	(56.3)	7	(43.8)
2005	13	8	(61.5)	5	(38.5)
2006	13	10	(76.9)	3	(23.1)
2007	4	1	(25.0)	3	(75.0)
2008	12	4	(33.3)	8	(66.7)
2009	10	5	(50.0)	5	(50.0)
2010	6	5	(83.3)	1	(16.7)
2011	11	4	(36.4)	7	(63.6)
2012	6	1	(16.7)	5	(83.3)
2013	10	7	(70.0)	3	(30.0)
2014	3	2	(66.7)	1	(33.3)
2015	12	8	(66.7)	4	(33.3)
2006-2010 baseline	9	5	(55.6)	4	(44.4)
2011-2015 period	8	4	(50.0)	4	(50.0)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 12-4
Percent of Fatally Injured Drivers* Positive for Alcohol: Prince Edward Island, 1996-2015



12.5.3 Drivers in serious injury crashes. Table 12-8 and Figure 12-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2003 the percentage of drivers in serious injury crashes that involved alcohol generally decreased from 29.7% to a low of 16.2%, peaked in 2009 (31.0%), decreased to 19.7% in 2010, stabilized from 2011 to 2014 (25.0%), and decreased to its lowest level in 2015 (11.1%).

As shown in Table 12-8, in the baseline period (2006-2010) an average of 23.0% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2011-2015 period, the incidence of drivers in alcohol-involved crashes decreased to 22.4%, an 2.6% decrease.

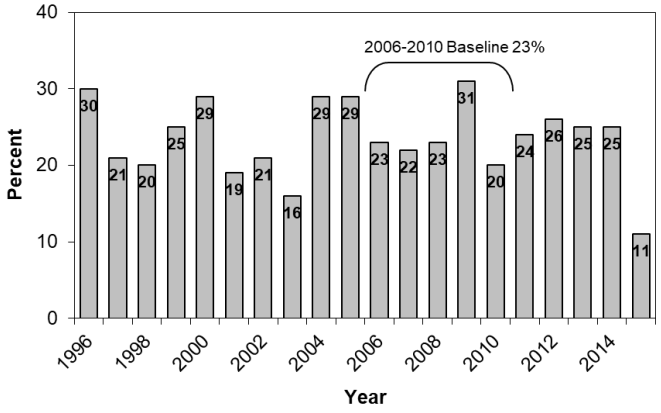
Table 12-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Prince Edward Island, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	74	22	(29.7)
1997	102	21	(20.6)
1998	108	22	(20.4)
1999	130	33	(25.4)
2000	110	32	(29.1)
2001	83	16	(19.3)
2002	80	17	(21.3)
2003	111	18	(16.2)
2004	92	27	(29.3)
2005	66	19	(28.8)
2006	77	18	(23.4)
2007	68	15	(22.1)
2008	35	8	(22.9)
2009	58	18	(31.0)
2010	66	13	(19.7)
2011	62	15	(24.2)
2012	62	16	(25.8)
2013	53	13	(24.5)
2014	48	12	(25.0)
2015	63	7	(11.1)
2006-2010 baseline	61	14	(23.0)
2011-2015 period	58	13	(22.4)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 12-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Prince Edward Island, 1996-2015



12.5.4 Drug use among fatally injured drivers. Table 12-9 and Figure 12-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 12-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

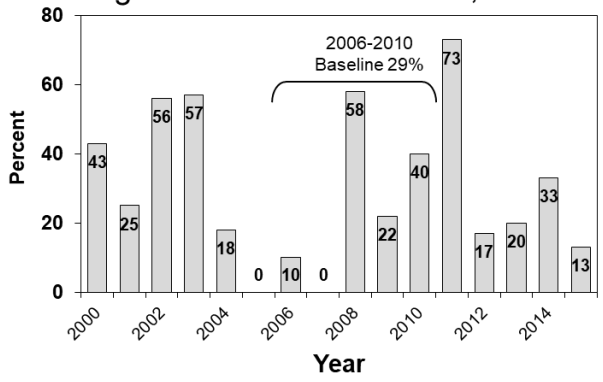
As can be seen at the bottom of Table 12-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 28.6%. In the 2011-2015 period, 42.9% of fatally injured drivers tested positive for drugs, a 50.0% increase from the baseline period.

Table 12-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Prince Edward Island, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	12	7	58.3	4	57.1	3	42.9
2001	5	4	80.0	3	75.0	1	25.0
2002	10	9	90.0	4	44.4	5	55.6
2003	8	7	87.5	3	42.9	4	57.1
2004	16	11	68.8	9	81.8	2	18.2
2005	13	8	61.5	8	100.0	0	0.0
2006	13	10	76.9	9	90.0	1	10.0
2007	4	3	75.0	3	100.0	0	0.0
2008	12	12	100.0	5	41.7	7	58.3
2009	10	9	90.0	7	77.8	2	22.2
2010	6	5	83.3	3	60.0	2	40.0
2011	11	11	100.0	3	27.3	8	72.7
2012	6	6	100.0	5	83.3	1	16.7
2013	10	5	50.0	4	80.0	1	20.0
2014	3	3	100.0	2	66.7	1	33.3
2015	12	8	66.7	7	87.5	1	12.5
2006-2010 baseline	9	7	77.8	5	71.4	2	28.6
2011-2015 period	8	7	87.5	4	57.1	3	42.9

* Dying within 30 days in collisions which occurred on public roadways.

Figure 12-6
Percent of Fatally Injured Drivers Positive for Drugs: Prince Edward Island, 2000-2015



13.0 NEWFOUNDLAND AND LABRADOR

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Newfoundland and Labrador during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 13.1);
- alcohol use among fatally injured drivers (Section 13.2);
- drivers involved in alcohol-related serious injury crashes (Section 13.3);
- drug use among fatally injured drivers (Section 13.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 13.5).

13.1 Deaths in alcohol-related crashes

Table 13-1 presents information on people who died in alcohol-related crashes in Newfoundland and Labrador during 2015. This table specifically reports upon persons who died within 30 days of a collision which occurred on a public roadway that involved at least one highway vehicle. Motor vehicle deaths are categorized in terms of the victim's age, gender, type (i.e., driver, passenger, pedestrian) and the type of vehicle they occupied (see Section 2.2.1 for types of vehicles that are included). The first column in the table presents the number of deaths. The next two columns show the number and percent of these fatalities in which sufficient information was available to determine if alcohol was involved. *A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash*.

For example, four people aged 26-35 were killed in motor vehicle crashes in Newfoundland and Labrador during 2015. And, in all four cases (100.0%) it was possible to determine if alcohol was a factor in the crash.

The next column shows the number of people killed in crashes that were known to be alcohol-involved. For example, one person aged 26-35 died in an alcohol-related crash in Newfoundland and Labrador during 2015. The next column expresses this as a percentage – i.e., 25.0% of the 26-35 year olds who were killed died in an alcohol-related crash.

The final column (percent of all alcohol-related deaths) expresses the number of deaths in alcohol-related crashes as a percent of all the deaths in such crashes. For example, the alcohol-related deaths among 26-35 year olds represent 8.3% of all the people killed in alcohol-related crashes in Newfoundland and Labrador during 2015.

The totals at the bottom of the table provide a summary. As can be seen, 45 persons died within 30 days of a motor vehicle crash in Newfoundland and Labrador during 2015. In 42 (93.3%) of these cases, it was possible to determine if alcohol was a factor. Of these known cases, 12 (28.6%) involved alcohol. Extrapolating this figure to the total number of motor vehicle fatalities (45 x .286) it can be estimated that *in Newfoundland and Labrador during 2015, 13 persons died in alcohol-related crashes within 30 days of the collision*.

13.1.1 Victim age. Of all the people who died in alcohol-related crashes, 25.0% (see last column) were aged 16-19, 36-45, and over 55; and 8.3% were aged 20-25, 26-35, and 46-55.

The highest incidence of alcohol involvement occurred in the crashes in which persons aged 16-19 died (50.0%). The lowest incidence of alcohol involvement was found among persons aged 20-25 and over 55 (20.0% each).

Table 13-1
Deaths in Alcohol-Related Crashes: Newfoundland and Labrador, 2015

Category of Victim	Number of Deaths*	Alcohol Use Known		Alcohol-Related Deaths (ARDs)		
		Number	% of total	Number	% of known cases	% of all ARDs
Age Group						
16-19	6	6	100.0	3	50.0	25.0
20-25	5	5	100.0	1	20.0	8.3
26-35	4	4	100.0	1	25.0	8.3
36-45	8	8	100.0	3	37.5	25.0
46-55	6	4	66.7	1	25.0	8.3
>55	16	15	93.8	3	20.0	25.0
Gender						
Male	30	29	96.7	11	37.9	91.7
Female	15	13	86.7	1	7.7	8.3
Victim Type						
Driver/ Operator	30	29	96.7	8	27.6	66.7
Passenger	12	10	83.3	2	20.0	16.7
Pedestrian	3	3	100.0	2	66.7	16.7
Vehicle Occupied						
Automobiles	25	25	100.0	7	28.0	58.3
Trucks/Vans	13	10	76.9	3	30.0	25.0
Motorcycles	4	4	100.0	0	0.0	0.0
(Pedestrians)	3	3	100.0	2	66.7	16.7
TOTAL	45	42	93.3	12	28.6	100.0

* Persons dying within 30 days in crashes on public roadways that involved at least one principal highway vehicle.

13.1.2 Gender. Of all the people who died in alcohol-related crashes, 91.7% were males. The incidence of alcohol in crashes in which a male died (37.9%) was greater than the incidence of alcohol in crashes in which a female died (7.7%).

13.1.3 Victim type. Of all the people who died in alcohol-related crashes, 66.7% were drivers/operators of a vehicle; and 16.7% were passengers and pedestrians.

Within each of the victim types, the highest incidence of alcohol involvement (66.7%) occurred in the crashes in which a pedestrian died. Alcohol was involved in 27.6% of the crashes in which a driver/operator died and 20.0% of the crashes in which a passenger died.

13.1.4 Type of vehicle occupied. Of all the people who died in alcohol-related crashes, 58.3% were automobile occupants and 25.0% were truck/van occupants.

Within each of these vehicle types, the incidence of alcohol involvement in which a truck/van occupant died (30.0%) was slightly greater than the incidence of alcohol in crashes in which an automobile occupant died (28.0%). None of the fatally injured motorcyclists (0.0%) died in an alcohol-related collision.

13.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in Newfoundland and Labrador during 2015. Table 13-2 shows the information by age group, gender, vehicle type, and collision type (single vs. multiple) for drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The first column in the table shows the number of drivers killed. The next columns show the number and percent of these victims who were tested for alcohol. The remaining columns provide information on the results of the alcohol tests – the first three of these present results for drivers who showed any evidence of alcohol; the last three columns present information on drivers who had BACs over the statutory limit of 80 mg%.

To illustrate, among drivers aged 36-45 there were seven drivers killed during 2015; all seven of these fatally injured drivers (100.0%) were tested for alcohol. Of those who were tested, two (28.6%) were positive for alcohol. This means that fatally injured drinking drivers aged 36-45 accounted for 25.0% of all drinking drivers who were killed.

Then, in the final three columns, it can be seen that two of the seven (28.6%) fatally injured drivers aged 36-45 who were tested for alcohol had BACs in excess of 80 mg%. This means that both drivers who were positive for alcohol had BACs in excess of the legal limit. The final column expresses the number of drivers with illegal BACs as a percent of all drivers with BACs over the limit. Thus, drivers aged 36-45 accounted for 28.6% of all the drivers with BACs over the legal limit.

The main findings are shown by the totals at the bottom of the table. Newfoundland and Labrador had a very high testing rate in 2014, with 96.7% of fatally injured drivers being tested for alcohol use.

In Newfoundland and Labrador, 27.6% had been drinking and seven out of eight (87.5%) fatally injured drinking drivers had BACs over 80 mg%. Although not shown in the table, more refined analyses by different BAC categories show that among tested drivers:

- 72.4% had BACs of zero mg%;

- 3.4% had BACs from 1-49 mg%;
- 0.0% had BACs from 50-80 mg%;
- 6.9% had BACs from 81 to 160 mg%; and,
- 17.2% had BACs over 160 mg%.

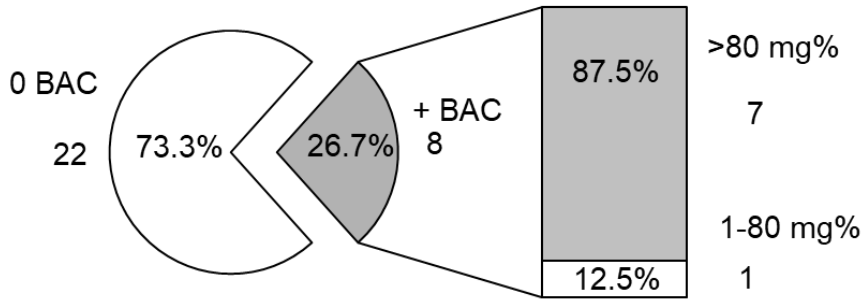
Table 13-2
Alcohol Use Among Fatally Injured Drivers of Highway Vehicles: Newfoundland and Labrador, 2015

Category of Driver	Number of Drivers*	Drivers Tested		Positive BAC			BAC >80 mg%		
		No.	% of total	No.	% of tested	% of all drivers with +BAC	No.	% of tested	% of all drivers with BAC >80 mg%
Age Group									
16-19	3	3	100.0	2	66.7	25.0	2	66.7	28.6
20-25	4	4	100.0	1	25.0	12.5	1	25.0	14.3
26-35	4	4	100.0	1	25.0	12.5	1	25.0	14.3
36-45	7	7	100.0	2	28.6	25.0	2	28.6	28.6
46-55	3	3	100.0	1	33.3	12.5	0	0.0	0.0
>55	9	8	88.9	1	12.5	12.5	1	12.5	14.3
Gender									
Male	23	22	95.7	8	36.4	100.0	7	31.8	100.0
Female	7	7	100.0	0	0.0	0.0	0	0.0	0.0
Vehicle Type									
Automobiles	19	18	94.7	6	33.3	75.0	6	33.3	85.7
Truck/Van	8	8	100.0	2	25.0	25.0	1	12.5	14.3
Motorcycles	3	3	100.0	0	0.0	0.0	0	0.0	0.0
Collision Type									
Single vehicle	15	14	93.3	5	35.7	62.5	5	35.7	71.4
Multiple vehicle	15	15	100.0	3	20.0	37.5	2	13.3	28.6
TOTAL	30	29	96.7	8	27.6	100.0	7	24.1	100.0

* Drivers dying within 30 days in crashes on public roadways.

In Figure 13-1, the BAC distribution for tested fatally injured drivers is extrapolated to reflect the BAC distribution for all fatally injured drivers. In this figure eight of 30 (26.7%) fatally injured drivers have a positive BAC. And among fatally injured drinking drivers, seven (87.5%) have BACs over 80 mg%.

Figure 13-1
BACs* Among Fatally Injured Drivers of Highway Vehicles: Newfoundland and Labrador, 2015



* numbers are estimates based on the BAC distribution of drivers tested for alcohol

13.2.1 Age differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 25.0% were aged 16-19 and 36-45; and 12.5% were aged 20-25, 26-35, 46-55 and over 55.

Of all the fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 28.6% were aged 16-19 and 36-45; 14.3% were aged 20-25, 26-35, and over 55.

When comparing the incidence of drinking and driving among fatally injured drivers by age group, fatally injured drivers aged 16-19 were the most likely to have been drinking (66.7%). By contrast, 12.5% of fatally injured drivers over age 55 had been drinking.

13.2.2 Gender differences. Males dominate the picture – they account for 100.0% of the fatally injured drivers who had been drinking and 100.0% of those who were legally impaired.

Males dominate the picture largely because they account for most of the drivers who are killed (22 of the 29 fatalities or 75.9% are males). Fatally injured male drivers were more likely to have been drinking than female drivers (36.4% and 0.0%, respectively). Seven of the eight male drivers (87.5%) who were drinking had BACs over the legal limit.

13.2.3 Vehicle differences. Of all the fatally injured drinking drivers (i.e., those with a positive BAC), 75.0% were automobile drivers and 25.0% were truck/van drivers. Among fatally injured legally impaired drivers (i.e., those with BACs over 80 mg%), 85.7% were automobile drivers and 14.3% were truck/van drivers.

Within each of the vehicle types, 33.3% of fatally injured automobile drivers and 25.0% of fatally injured truck/van drivers were found to have been drinking, compared to 0.0% of fatally injured motorcyclists.

13.2.4 Collision differences. Slightly less than half of the drivers killed (14 of the 29) were involved in single-vehicle collisions but these crashes accounted for 62.5% of drivers who had been drinking and 71.4% of drivers who were legally impaired.

The reason for this apparent disparity is because alcohol is usually overrepresented in single-vehicle crashes. Over one-third of the drivers involved in single-vehicle crashes (35.7%) tested positive for alcohol, compared to 20.0% of those involved in multiple-vehicle collisions.

13.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in Newfoundland and Labrador. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 13-3 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 168 drivers were involved in crashes in which someone was seriously injured, and among these 14.3% were alcohol-related crashes.

13.3.1 Driver age. Of all the drivers involved in alcohol-related serious injury crashes, 20.8% were aged 20-25 and 36-45. Drivers aged 46-55 accounted for 16.7% of those involved in alcohol-related serious injury crashes.

One-third of the drivers aged 20-25 and 36-45 were involved in alcohol-related serious injury crashes (33.3%). The lowest incidence of involvement in alcohol-related crashes was found for those aged over 55 (2.9%).

13.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 66.7% were males. The incidence of involvement in alcohol-related serious injury crashes was also greater for males than for females (23.9% and 5.7%, respectively).

Table 13-3
Drivers* in Alcohol-Related Serious Injury Crashes:
Newfoundland and Labrador, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
16-19	7	1	14.3	4.2
20-25	15	5	33.3	20.8
26-35	15	2	13.3	8.3
36-45	15	5	33.3	20.8
46-55	15	4	26.7	16.7
>55	35	1	2.9	4.2
Unknown	66	6	9.1	25.0
Gender				
Male	67	16	23.9	66.7
Female	35	2	5.7	8.3
unknown	66	6	9.1	25.0
Vehicle Type				
Auto	85	12	14.1	50.0
Truck/Van	62	8	12.9	33.3
Motorcycle	13	2	15.4	8.3
Other Hwy. Vehicle	8	2	25.0	8.3
Collision Type				
Single-Vehicle	58	17	29.3	70.8
Multiple-Vehicle	110	7	6.4	29.2
TOTAL	168	24	14.3	100.0

* Excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

13.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 50.0% were automobile drivers; 33.3% were truck/van drivers; and 8.3% were motorcyclists and drivers of other highway vehicles.

The highest incidence of involvement in alcohol-related serious injury crashes was found for drivers of other highway vehicles (25.0%) and motorcyclists (15.4%), compared to 14.1% for automobile drivers; and 12.9% for truck/van drivers.

13.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 70.8% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in single-vehicle crashes (29.3%) compared to 6.4% for drivers involved in multiple-vehicle crashes.

13.4 Drug use among fatally injured drivers

This section presents information on the presence of drugs, exclusively among drivers fatally injured in Newfoundland and Labrador during 2015. A comparison of testing rates of fatally injured drivers for both alcohol and drugs can be found in Table 3-15 on p. 43. Table 13-4 shows the prevalence of drug use among fatally injured drivers of highway vehicles who died within 30 days of a crash which

occurred on a public roadway (see Section 2.2.5). The table also shows the number of drivers who tested positive for various categories of drugs. A brief description of the different drug categories is provided in Section 2.2.5.

As can be seen, Newfoundland and Labrador had a low testing rate in 2015, with 53.3% of fatally injured drivers being tested for drug use.

Among fatally injured tested drivers, six out of 16 (37.5%) were positive for drugs. The most common categories of drugs found within drivers testing positive for drug use were cannabis (100.0%), narcotic analgesics (50.0%), CNS depressants (33.3%), and CNS stimulants (16.7%).

Table 13-4
Drug Use Among Fatally Injured Drivers* of Highway Vehicles: Newfoundland and Labrador, 2015

Prevalence of Drug Use

Number of Drivers	Drivers Tested		Positive for Drugs	
	Number	% of total	Number	% of tested
30	16	(53.3)	6	(37.5)

Categories of Drugs Found Among Drivers Testing Positive

Drug Category	Positive for Drug Type	
	Number of Drivers	% of drivers testing positive**
Cannabis	6	(100.0)
Narcotic Analgesics	3	(50.0)
CNS Depressants	2	(33.3)
CNS Stimulants	1	(16.7)
Hallucinogens	0	(0.0)
Dissociative Anesthetics	0	(0.0)
Inhalants	0	(0.0)

* Dying within 30 days in collisions which occurred on public roadways.
** Percentages will not add up to 100% due to multiple drug types found in blood samples of some drivers.

13.5 Trends in alcohol and drug-impaired driving

Sections 13.1 through 13.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 13.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

13.5.1 Deaths involving drinking drivers: 1996-2015. Table 13-5 and Figure 13-2 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 13.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol- related deaths. The focus here is more

restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the table and the figure, the number of deaths in crashes that involved a drinking driver was 17 in 1996, decreased to four in 2000, peaked at 21 in 2008, fluctuated until 2013, decreased to 10 in 2014, and rose again to 11 in 2015. Between 1996 and 2000, the percentage of alcohol-related fatalities generally decreased from 39.5% to a low of 8.9%, peaked at 58.3% in 2008, decreased to 18.8% in 2009, rose to 39.5% in 2011, and generally decreased to 25.0% in 2015.

Table 13-5

Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Newfoundland and Labrador, 1996-2015**

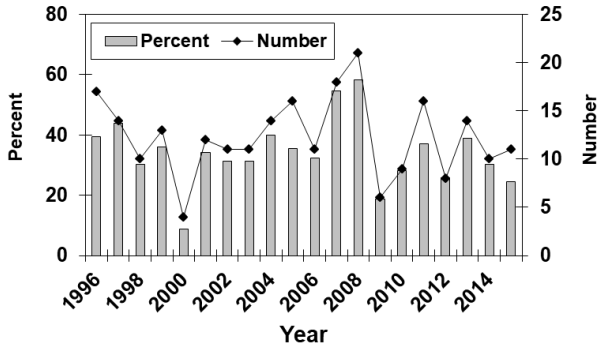
Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	43	17	39.5
1997	32	14	43.8
1998	33	10	30.3
1999	36	13	36.1
2000	45	4	8.9
2001	35	12	34.3
2002	35	11	31.4
2003	35	11	31.4
2004	35	14	40.0
2005	45	16	35.6
2006	34	11	32.4
2007	33	18	54.5
2008	36	21	58.3
2009	32	6	18.8
2010	32	9	28.1
2011	43	16	37.2
2012	31	8	25.8
2013	36	14	38.9
2014	33	10	30.3
2015	45	11	24.4
2006-2010 baseline	33	13	39.4
2011-2015 period	38	12	31.6

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

As shown at the bottom of the table, during the 2006-2010 baseline period there was an average of 13 fatalities involving a drinking driver and they accounted for 39.4% of all fatalities. This means that the percent of fatalities involving a drinking driver decreased by 17.8% from 39.4% in the baseline period (2006-2010) to 32.4% in the 2011-2015 period. And, in terms of the number of persons killed in crashes involving a drinking driver, there has been a 7.7% decrease from an average of 13 in the baseline period (2006-2010) to 12 in the 2011-2015 period.

Figure 13-2
Number and Percent of Deaths Involving a Drinking Driver: Newfoundland and Labrador, 1996-2015



13.5.2 Alcohol use among fatally injured drivers. Data on alcohol use among fatally injured drivers of highway vehicles over the 20-year period from 1996-2015 are shown in Table 13-6. Trends are illustrated in Figure 13-3 which shows changes in the percent of fatally injured drivers who: (1) showed no evidence of alcohol (represented by the white area); (2) had BACs below the legal limit (shown by the light grey area); and (3) had BACs over the legal limit (the dark grey area). The data reported here are restricted to drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2).

As can be seen, the percentage of fatally injured drivers with BACs over the legal limit decreased from 1996 (50.0%) to 1998 (31.3%), peaked in 1999 (57.1%), fell to a low in 2009 (14.3%), and generally increased until 2014 (31.6%), then decreased in 2015 (24.1%). The percent of fatally injured drivers with zero BACs increased from 1996 (41.7%) until 2000 (85.7%), fell to 13.3% in 2007, rose until 2009 (85.7%), decreased until 2013 (59.1%), and rose in 2015 (72.4%). The percentage of fatally injured drivers with BACs from 1-80 mg% was 8.3% in 1996, peaked in 2007 (40.0%), decreased to 0.0% from 2009 until 2011, rose to 9.1% in 2013, and decreased until 2015 (3.4%).

When compared to the 2006-2010 baseline period, the percentage of fatally injured drivers with zero BACs in the 2011-2015 period increased by 32.3% (from 52.6% to 69.6%). Among drivers with BACs from 1-80 mg%, there was a 59.0% decrease (from 10.5% to 4.3%). And among drivers with BACs over 80 mg%, there was a 29.1% decrease (from 36.8% to 26.1%).

Table 13-6

Alcohol Use Among Fatally Injured Drivers of Highway Vehicles:
Newfoundland and Labrador, 1996-2015

Year	Number of Drivers*	Drivers Tested		Drivers Grouped by BAC (mg%)					
		No.	(% Total)	Zero	(% Tested)	1-80	(% Tested)	>80	(% Tested)
1996	17	12	70.6	5	41.7	1	8.3	6	50.0
1997	17	17	100.0	8	47.1	3	17.6	6	35.3
1998	19	16	84.2	9	56.3	2	12.5	5	31.3
1999	18	14	77.8	5	35.7	1	7.1	8	57.1
2000	24	21	87.5	18	85.7	0	0.0	3	14.3
2001	17	15	88.2	8	53.3	3	20.0	4	26.7
2002	20	18	90.0	12	66.7	2	11.1	4	22.2
2003	18	18	100.0	11	61.1	3	16.7	4	22.2
2004	16	14	87.5	8	57.1	1	7.1	5	35.7
2005	18	16	88.9	7	43.8	4	25.0	5	31.3
2006	22	19	86.4	13	68.4	0	0.0	6	31.6
2007	18	15	83.3	2	13.3	6	40.0	7	46.7
2008	23	22	95.7	6	27.3	6	27.3	10	45.5
2009	23	21	91.3	18	85.7	0	0.0	3	14.3
2010	18	18	100.0	12	66.7	0	0.0	6	33.3
2011	29	25	86.2	20	80.0	0	0.0	5	20.0
2012	25	23	92.0	16	69.6	1	4.3	6	26.1
2013	22	22	100.0	13	59.1	2	9.1	7	31.8
2014	21	19	90.5	12	63.2	1	5.3	6	31.6
2015	30	29	96.7	21	72.4	1	3.4	7	24.1
2006-2010 baseline	21	19	(90.5)	10	(52.6)	2	(10.5)	7	(36.8)
2011-2015 period	25	23	(92.0)	16	(69.6)	1	(4.3)	6	(26.1)

* Dying within 30 days in collisions which occurred on public roadways.

Figure 13-3

Trends in Alcohol Use Among Driver Fatalities:
Newfoundland and Labrador, 1996-2015

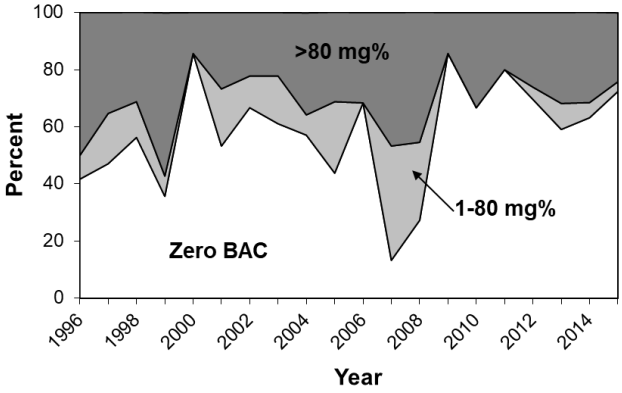


Table 13-7 and Figure 13-4 also show data on alcohol use among fatally injured drivers from 1996 to 2015. Once again, these data are for drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.2). However, these results differ from those reported above for two reasons. First, the number of drivers is extrapolated to reflect the BAC

distribution of drivers tested for alcohol (see Figure 13-1). Second, drivers are grouped in only two BAC categories: zero and positive.

As can be seen at the bottom of Table 13-7, the percentage of fatally injured drivers testing positive for alcohol from 2006-2010, the baseline period, is 47.6%. In the 2011-2015 period, 32.0% of fatally injured drivers tested positive for alcohol, a 32.8% decrease from the baseline period.

Table 13-7

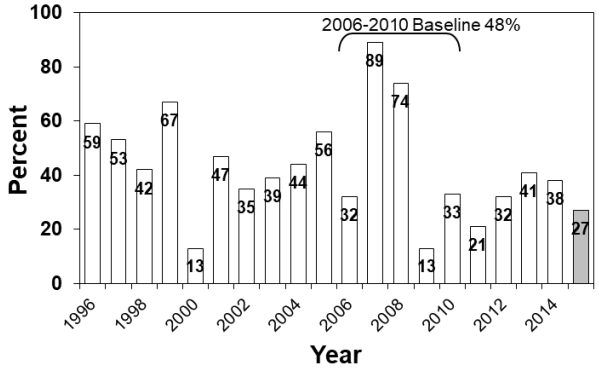
Alcohol Use* Among Fatally Injured Drivers of Highway Vehicles: Newfoundland and Labrador, 1996-2015

Year	Number of Drivers**	Drivers Grouped by BAC (mg%)			
		Zero	(% Tested)	Positive	(% Tested)
1996	17	7	(41.2)	10	(58.8)
1997	17	8	(47.1)	9	(52.9)
1998	19	11	(57.9)	8	(42.1)
1999	18	6	(33.3)	12	(66.7)
2000	24	21	(87.5)	3	(12.5)
2001	17	9	(52.9)	8	(47.1)
2002	20	13	(65.0)	7	(35.0)
2003	18	11	(61.1)	7	(38.9)
2004	16	9	(56.3)	7	(43.8)
2005	18	8	(44.4)	10	(55.6)
2006	22	15	(68.2)	7	(31.8)
2007	18	2	(11.1)	16	(88.9)
2008	23	6	(26.1)	17	(73.9)
2009	23	20	(87.0)	3	(13.0)
2010	18	12	(66.7)	6	(33.3)
2011	29	23	(79.3)	6	(20.7)
2012	25	17	(68.0)	8	(32.0)
2013	22	13	(59.1)	9	(40.9)
2014	21	13	(61.9)	8	(38.1)
2015	30	22	(73.3)	8	(26.7)
2006-2010 baseline	21	11	(52.4)	10	(47.6)
2011-2015 period	25	17	(68.0)	8	(32.0)

* Numbers are estimates based on the BAC distribution of drivers tested for alcohol.

** Dying within 30 days in collisions which occurred on public roadways.

Figure 13-4
Percent of Fatally Injured Drivers* Positive for Alcohol: Newfoundland and Labrador, 1996-2015



13.5.3 Drivers in serious injury crashes. Collision data from 2009 to 2011 for Newfoundland and Labrador were not available at the time this report was being prepared. Thus, the comparative baseline in the serious-injury trend tables and figures in this sub-section will only report data from 2006 to 2008. These data will be compared with the 2012-2015 period. Table 13-8 and Figure 13-5 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. The percentage of drivers in serious-injury crashes that involved alcohol generally increased from 1996 (20.9%) to 1999 (25.2%), dropped to 15.7% in 2000, generally rose to 23.3% in 2004, remained relatively stable until 2008 (21.7%), decreased to a low of 7.4% in 2014, and rose again in 2015 (14.3%).

As shown in Table 13-8, in the baseline period (2006-2008), an average of 22.3% of drivers in serious injury crashes were in an alcohol-involved crash. In the 2012-2015 period, the incidence of drivers in alcohol-involved crashes was 14.7%, representing a 34.1% decrease.

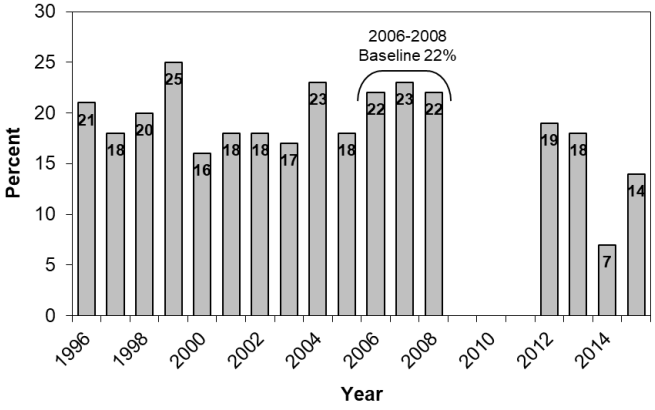
Table 13-8

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Newfoundland and Labrador, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	296	62	(20.9)
1997	262	46	(17.6)
1998	243	48	(19.8)
1999	230	58	(25.2)
2000	249	39	(15.7)
2001	223	40	(17.9)
2002	191	34	(17.8)
2003	197	34	(17.3)
2004	163	38	(23.3)
2005	136	25	(18.4)
2006	131	29	(22.1)
2007	129	29	(22.5)
2008	129	28	(21.7)
2009			
2010			
2011			
2012	156	29	(18.6)
2013	151	27	(17.9)
2014	149	11	(7.4)
2015	168	24	(14.3)
2006-2008 baseline	130	29	(22.3)
2012-2015 period	156	23	(14.7)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 13-5
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Newfoundland and Labrador, 1996-2015



13.5.4 Drug use among fatally injured drivers. Table 13-9 and Figure 13-6 show data on drug use among fatally injured drivers of highway vehicles over a 16-year period (2000-2015). Similar to Table 13-6, these results are based on fatally injured drivers of highway vehicles who died within 30 days in collisions which occurred on public roadways (see Section 2.2.5).

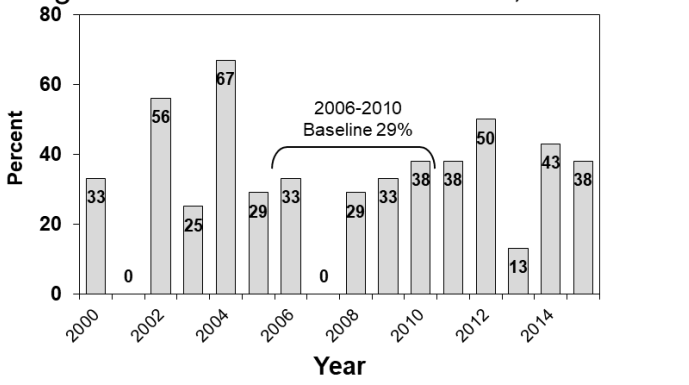
As can be seen at the bottom of Table 13-9, the percentage of fatally injured drivers testing positive for drugs from 2006-2010, the baseline period, is 28.6%. The percentage of fatally injured drivers testing positive for drugs rose to 50.0% in 2012, decreased to 12.5% in 2013, rose to 42.9% in 2014, and decreased again to 37.5% in 2015. From 2011 to 2015, the average percentage of fatally injured drivers testing positive for drugs was 40.0%, a 39.9% increase from the baseline period.

Table 13-9
Drug Use Among Fatally Injured Drivers of Highway Vehicles:
Newfoundland and Labrador, 2000-2015

YEAR	Number of Drivers*	Drivers Tested	(% Total)	Drivers Tested for Drugs			
				Negative	(% Tested)	Positive	(% Tested)
2000	24	6	25.0	4	66.7	2	33.3
2001	17	6	35.3	6	100.0	0	0.0
2002	20	9	45.0	4	44.4	5	55.6
2003	18	4	22.2	3	75.0	1	25.0
2004	16	6	37.5	2	33.3	4	66.7
2005	18	7	38.9	5	71.4	2	28.6
2006	22	9	40.9	6	66.7	3	33.3
2007	18	4	22.2	4	100.0	0	0.0
2008	23	7	30.4	5	71.4	2	28.6
2009	23	9	39.1	6	66.7	3	33.3
2010	18	8	44.4	5	62.5	3	37.5
2011	29	8	27.6	5	62.5	3	37.5
2012	25	12	48.0	6	50.0	6	50.0
2013	22	8	36.4	7	87.5	1	12.5
2014	21	7	33.3	4	57.1	3	42.9
2015	30	16	53.3	10	62.5	6	37.5
2006-2010 baseline	21	7	33.3	5	71.4	2	28.6
2011-2015 period	25	10	40.0	6	60.0	4	40.0

* Dying within 30 days in collisions which occurred on public roadways.

Figure 13-6
Percent of Fatally Injured Drivers Positive for Drugs: Newfoundland and Labrador, 2000-2015



14.0 YUKON

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in the Yukon during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 14.1);
- alcohol use among fatally injured drivers (Section 14.2);
- drivers involved in alcohol-related serious injury crashes (Section 14.3);
- drug use among fatally injured drivers (Section 14.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 14.5).

Detailed results are not provided in Sections 14.1, 14.2 and 14.4 because the small number of deaths – only three – and drivers fatally injured – only three – makes the results unreliable.

14.1 Deaths in alcohol-related crashes

This section specifically reports upon persons who died within 30 days of a motor vehicle collision which occurred on a public road that involved at least one highway vehicle. A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.

During 2015, three persons died in motor vehicle crashes in the Yukon. And, in all of these cases (100.0%), it was possible to determine if alcohol was a factor in the crash. Of these cases, two (66.7%) involved alcohol.

14.2 Alcohol in fatally injured drivers

This section presents information on the presence of alcohol, exclusively among drivers fatally injured in the Yukon during 2015. It reports upon drivers of highway vehicles who died within 30 days of a crash which occurred on a public roadway (see Section 2.2.2).

The Yukon had only three fatally injured drivers in 2015. They were all tested for alcohol and two (66.7%) had positive BACs.

14.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2014 in the Yukon. At the time this report was being prepared, collision data from 2015 for the Yukon were not available. For this reason, 2014 data will be reported in this section. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because

drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 14-1 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol are shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol- related serious injury crashes.

As shown, by the totals at the bottom of the table, 27 drivers were involved in crashes in which someone was seriously injured, and among these 25.9% were alcohol-related crashes.

Table 14-1
Drivers* in Alcohol-Related Serious Injury Crashes:
Yukon, 2014

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
16-25**	4	3	75.0	42.9
26-35	5	1	20.0	14.3
36-45	3	1	33.3	14.3
46-55	4	1	25.0	14.3
>55	11	1	9.1	14.3
Gender				
Male	15	2	13.3	28.6
Female	12	5	41.7	71.4
Vehicle Type				
Auto	14	3	21.4	42.9
Truck/Van	12	4	33.3	57.1
Motorcycle	1	0	0.0	0.0
Collision Type				
Single-Vehicle	18	7	38.9	100.0
Multiple-Vehicle	9	0	0.0	0.0
TOTAL	27	7	25.9	100.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.
** Drivers in two age groups have been aggregated to ensure that an individual will not be identified.

14.3.1 Driver age. Drivers aged 16-19 and 20-25 have been regrouped (16-25 age group) to ensure that individuals cannot be identified. Of all the drivers involved in alcohol-related serious injury crashes, 42.9% were aged 16-25; and 14.3% were aged 26-35, 36-45, 46-55 and over 55.

Within each of the age groups, 75.0% of the drivers aged 16-25 were involved in alcohol-related serious injury crashes. The lowest incidence of involvement in alcohol-related crashes was found for those aged over 55 (9.1%).

14.3.2 Driver gender. Of all the drivers involved in alcohol-related serious injury crashes, 71.4% were females. The incidence of involvement in alcohol-related serious injury crashes was greater for females than for males (41.7% and 13.3%, respectively).

14.3.3 Type of vehicle driven. Of all the drivers involved in alcohol-related serious injury crashes, 57.1% were truck/van drivers and 42.9% were automobile drivers.

The highest incidence of involvement in alcohol-related serious injury crashes was found for truck/van drivers – 33.3% of these drivers were in crashes that involved alcohol, compared to 21.4% for automobile drivers and 0.0% for motorcyclists.

14.3.4 Type of collision. Of all the drivers involved in alcohol-related serious injury crashes, 100.0% of them were in single-vehicle crashes. The highest incidence of involvement in alcohol-related serious injury crashes was also found among drivers in multiple-vehicle crashes (38.9%), compared to 0.0% for drivers involved in single-vehicle crashes.

14.4 Drug use among fatally injured drivers

The Yukon had only one three fatally injured drivers of a highway vehicle in 2015. They were all tested for the presence of drugs and two (66.7%) tested positive.

14.5 Trends in alcohol and drug-impaired driving

Sections 14.1 through 14.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 14.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

14.5.1 Deaths involving drinking drivers: 1996-2015. Table 14-2 and Figure 14-1 show the number and percent of people who died in crashes involving a drinking driver from 1996 to 2015. These results differ slightly from those in Section 14.1. In this section, deaths that occur in crashes that involve a drinking pedestrian are not necessarily classified as alcohol-related deaths. The focus here is more restrictive, on deaths that occur in crashes involving at least one drinking driver (see Section 2.2.1 for types of vehicles that are included).

As shown in the figure, the number of deaths in crashes that involved a drinking driver generally increased from four to seven between 1996 and 1998, fell to zero in 2001, rose to six in 2002, remained relatively stable until 2013, rose to two in 2014 and remained at this level in 2015. The percentage of

alcohol-related fatalities generally decreased from 1996 (66.7%) to 2001 (0.0%), peaked in 2010 (75.0%), decreased to 25.0% in 2013, and rose again in 2015 (66.7%).

It can be seen that during the 2006-2010 baseline period that there was an average of three fatalities involving a drinking driver and they accounted for 42.9% of all fatalities. This means that the percent of fatalities involving a drinking driver increased by 16.6% from 42.9% in the baseline period (2006-2010) to 50.0% in the 2011-2015 period. In terms of the number of persons killed in crashes involving a drinking driver, there was a 33.3% decrease from an average of three in the baseline period (2006-2010) to two in the 2011-2015 period.

Table 14-2

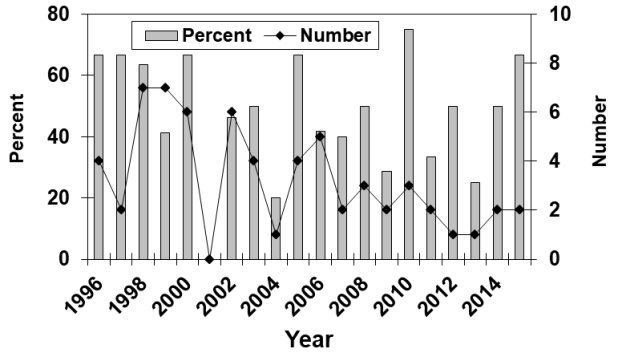
Number* and Percent of Motor Vehicle Deaths Involving a Drinking Driver: Yukon, 1996-2015**

Year of Death	Number of Deaths	Alcohol-Related Deaths	
		Number	% of total
1996	6	4	66.7
1997	3	2	66.7
1998	11	7	63.6
1999	17	7	41.2
2000	9	6	66.7
2001	4	0	0.0
2002	13	6	46.2
2003	8	4	50.0
2004	5	1	20.0
2005	6	4	66.7
2006	12	5	41.7
2007	5	2	40.0
2008	6	3	50.0
2009	7	2	28.6
2010	4	3	75.0
2011	6	2	33.3
2012	2	1	50.0
2013	4	1	25.0
2014	4	2	50.0
2015	3	2	66.7
2006-2010 baseline	7	3	42.9
2011-2015 period	4	2	50.0

* numbers are estimates based on the percent of deaths for which information was available to determine alcohol use.

** persons dying within 30 days of collisions which occur on public roadways involving at least one principal vehicle type.

Figure 14-1
Number and Percent of Deaths Involving a Drinking Driver: Yukon, 1996-2015



14.5.2 Alcohol use among fatally injured drivers. Due to the small number of cases – e.g., three fatally injured drivers in 2015 – any trends would be unreliable, and therefore, are not presented in tables and figures.

14.5.3 Drivers in serious injury crashes. In the Yukon, data are only available since 1998 to indicate the degree of injury severity for collision victims. In addition, as mentioned in Section 11.3, collision data from 2015 for the Yukon were not available at the time this report was being prepared. For this reason, this subsection will only report data from 1996 to 2014. Thus trend tables in this section include data from 1998 to 2014, as opposed to the 1996-2015 period reported for serious injury collisions in most other jurisdictions. Table 14-3 and Figure 14-2 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1998 (40.0%) and 2003 (24.1%) the percentage of all drivers in injury crashes that involved alcohol fluctuated, peaked in 2005 (51.2%), dropped to a low of 15.8% in 2012, rose in 2013 (26.1%), and decreased slightly in 2014 (25.9%).

As shown in Table 14-3, in the baseline period (2006-2010), an average of 29.6% of drivers in injury crashes were in an alcohol-involved crash. In the 2011-2015 period, the incidence of drivers in alcohol-involved crashes was 25.0%, representing a 15.5% decrease.

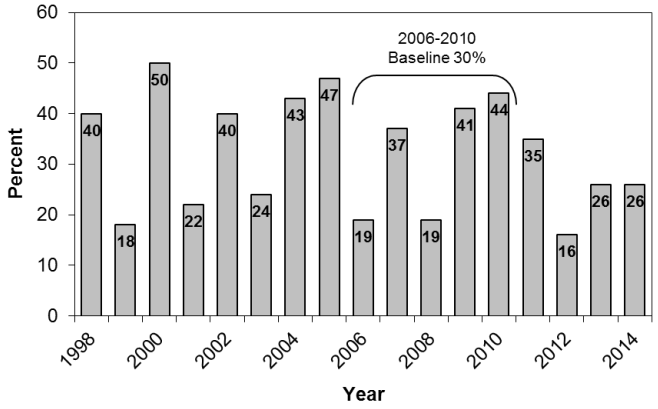
Table 14-3

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Yukon, 1998-2014

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1998	35	14	(40.0)
1999	57	10	(17.5)
2000	34	17	(50.0)
2001	36	8	(22.2)
2002	43	17	(39.5)
2003	29	7	(24.1)
2004	21	9	(42.9)
2005	36	17	(47.2)
2006	27	5	(18.5)
2007	27	10	(37.0)
2008	27	5	(18.5)
2009	27	11	(40.7)
2010	25	11	(44.0)
2011	26	9	(34.6)
2012	19	3	(15.8)
2013	23	6	(26.1)
2014	27	7	(25.9)
2006-2010 baseline	27	8	(29.6)
2011-2014 period	24	6	(25.0)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 14-2
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Yukon, 1998-2014



14.5.4 Drug use among fatally injured drivers. Due to the small number of cases – e.g., three fatally injured drivers in 2015 – any trends would be unreliable, and therefore, are not presented in tables and figures.

15.0 NORTHWEST TERRITORIES

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in the Northwest Territories during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 15.1);
- alcohol use among fatally injured drivers (Section 15.2);
- drivers involved in alcohol-related serious injury crashes (Section 15.3);
- drug use among fatally injured drivers (Section 15.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 15.5).

Detailed results are not provided in Sections 15.1, 15.2 and 15.4 because the small number of deaths – only three – and drivers fatally injured – one – makes the results unreliable.

15.1 Deaths in alcohol-related crashes

This section specifically reports upon persons who died within 30 days of a motor vehicle collision which occurred on a public road that involved at least one highway vehicle. A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash.

During 2015, three persons died in motor vehicle crashes in the Northwest Territories. And, in all of these cases (100.0%), it was possible to determine if alcohol was a factor in the crash. Of these cases, two (66.7%) involved alcohol.

15.2 Alcohol use among fatally injured drivers

The Northwest Territories had one fatally injured driver in 2015. This driver was tested for alcohol and had a negative BAC.

15.3 Drivers involved in alcohol-related serious injury crashes

This section presents information on drivers of highway vehicles involved in alcohol-related crashes in which someone was seriously injured in 2015 in the Northwest Territories. A "surrogate" or "indirect" measure is used to estimate alcohol involvement because drivers in serious injury crashes are seldom tested for alcohol. A driver is identified as having been involved in an alcohol-related serious injury crash if the crash in which someone was seriously injured involved a single vehicle at night (SVN), or if, in the case of a non-SVN serious injury crash, the police reported alcohol involvement – i.e., at least one drinking driver in the crash (see Section 2.2.4).

The results are shown in Table 15-1 for drivers grouped in terms of age, gender, type of vehicle driven (see Section 2.2.1 for types of vehicles that are included), and type of collision. The first column shows the number of drivers of highway vehicles involved in serious injury crashes. The number and percent of drivers in such crashes that involved alcohol is shown in the next two columns. The final column expresses the number of drivers involved in alcohol-related serious injury crashes in any row as a percent of all drivers involved in alcohol-related serious injury crashes.

As shown, by the totals at the bottom of the table, seven drivers were involved in crashes in which someone was seriously injured, and among these three (42.9%) were involved in an alcohol-related crash.

Table 15-1
Drivers* in Alcohol-Related Serious Injury Crashes:
Northwest Territories, 2015

Category of Drivers	Number of Drivers	Alcohol-Related		
		Number	% of total	% of all drivers in alcohol-related crashes
Age				
16-25**	3	2	66.7	66.7
26-35	2	1	50.0	33.3
46-55	1	0	0.0	0.0
>55	1	0	0.0	0.0
Gender				
Male	4	2	50.0	66.7
Female	3	1	33.3	33.3
Vehicle Type				
Truck/Van	6	3	50.0	100.0
Motorcycle	1	0	0.0	0.0
Collision Type				
Single-Vehicle	7	3	42.9	100.0
TOTAL	7	3	42.9	0.0

* excludes operators of bicycles, snowmobiles, farm tractors, and other non-highway vehicles.

** Drivers in two age groups have been aggregated to ensure that an individual will not be identified.

15.3.1 Driver age. Drivers aged 16-19 and 20-25 have been regrouped (16-25) to ensure that individuals cannot be identified. Among drivers aged 16-25, 66.7% were involved in an alcohol-related serious injury crash compared to 33.3% of 26-35 year old drivers.

Two-thirds (66.7%) of drivers aged 16-25 and 50.0% of those aged 26-35 were involved in an alcohol-related serious injury crash.

15.3.2 Driver gender. Among those drivers who were involved in an alcohol-related serious injury crash, 66.7% were male and 33.3% were female.

Among male drivers, 50.0% were involved in an alcohol-related serious injury crash compared to 33.3% of female drivers.

15.3.3 Type of vehicle driven. Truck/van drivers accounted for 100.0% of drivers who were involved in alcohol-related serious injury crash.

Among truck/van drivers, one-half (50.0%) were involved in alcohol-related serious injury crash compared to 0.0% of motorcyclists.

15.3.4 Type of collision. All serious injury crashes involved a single vehicle, and among these, 42.9% of drivers were involved in an alcohol-related serious injury crash.

15.4 Drug use among fatally injured drivers

The Northwest Territories had one fatally injured driver in 2015.

15.5 Trends in alcohol and drug-impaired driving

Sections 15.1 through 15.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 15.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

15.5.1 Deaths involving drinking drivers: 1996-2015. Due to the small number of fatalities in crashes on public roadways involving highway vehicles (e.g., three in 2015) any trends would be unreliable, and therefore are not reported.

15.5.2 Alcohol use among fatally injured drivers. Due to the small number of cases – e.g., one fatally injured driver in 2015 – any trends would be unreliable, and therefore are not reported.

15.5.3 Drivers in serious injury crashes. Table 15-2 and Figure 15-1 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 2000 the percentage of all drivers in serious injury crashes that involved alcohol generally increased from 25.0% to its highest level (66.7%), fluctuated until 2010, decreased to 0.0% in 2011 and 2012, rose in 2013 (37.5%), decreased in 2014 (0.0%), and rose again in 2015 (42.9%).

In the baseline period (2006-2010), an average of 33.3% of highway vehicle drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2015, the average percentage of drivers in alcohol-involved crashes declined to 25.0%, a 24.9% decrease from the baseline period.

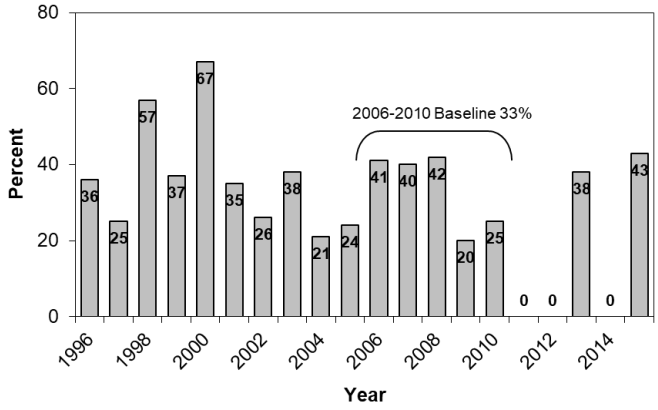
Table 15-2

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Northwest Territories, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	14	5	(35.7)
1997	12	3	(25.0)
1998	14	8	(57.1)
1999	19	7	(36.8)
2000	6	4	(66.7)
2001	20	7	(35.0)
2002	19	5	(26.3)
2003	16	6	(37.5)
2004	14	3	(21.4)
2005	21	5	(23.8)
2006	17	7	(41.2)
2007	10	4	(40.0)
2008	12	5	(41.7)
2009	10	2	(20.0)
2010	12	3	(25.0)
2011	3	0	(0.0)
2012	8	0	(0.0)
2013	16	6	(37.5)
2014	7	0	(0.0)
2015	7	3	(42.9)
2006-2010 baseline	12	4	(33.3)
2011-2015 period	8	2	(25.0)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 15-1
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Northwest Territories, 1996-2015



15.5.4 Drug use among fatally injured drivers. Due to the small number of cases – e.g., one fatally injured driver in 2015 – any trends would be unreliable, and therefore are not reported.

16.0 NUNAVUT

This section of the report reviews the major findings on alcohol involvement in fatal and serious injury motor vehicle collisions as well as drug involvement in fatal motor vehicle collisions in Nunavut during 2015. It describes data on:

- people who were killed in alcohol-related crashes (Section 16.1);
- alcohol use among fatally injured drivers (Section 16.2);
- drivers involved in alcohol-related serious injury crashes (Section 16.3);
- drug use among fatally injured drivers (Section 16.4); and,
- trends in the alcohol-crash and drug-crash problems (Section 16.5).

Detailed results are not provided in Sections 16.1, 16.2 and 16.4 because the small number of deaths and drivers fatally injured – none – makes the results unreliable.

16.1 Deaths in alcohol-related crashes

A motor vehicle fatality was considered to be alcohol involved if there was at least one drinking driver or drinking pedestrian in the fatal crash. During 2015, there were no fatally injured victims of motor vehicle collisions which occurred on public roadways.

16.2 Alcohol in fatally injured drivers

Nunavut had no fatally injured drivers of highway vehicles in 2015.

16.3 Drivers involved in alcohol-related serious injury crashes

Nunavut had one driver of a highway vehicle involved in in a serious injury crash in 2015. It was an alcohol-related crash and there were multiple vehicles involved.

16.4 Drug use among fatally injured drivers

Nunavut had no fatally injured drivers of highway vehicles in 2015.

16.5 Trends in alcohol and drug-impaired driving

Sections 16.1 through 16.3 examined three indicators of the alcohol-crash problem: (1) the number and percent of people who died in crashes that involved alcohol; (2) the number and percent of fatally injured drivers who had been drinking; and (3) the number and percent of drivers in serious injury crashes that involved alcohol. Section 16.4 examined drug use among fatally injured drivers in 2015. This section examines changes in these four indicators over time.

16.5.1 Deaths involving drinking drivers: 1996-2015. Due to the small number of crashes on public roadways involving highway vehicles (e.g., no deaths in 2015) any trends would be unreliable, and therefore are not reported.

16.5.2 Alcohol use among fatally injured drivers. Due to the small number of cases – e.g., no fatally injured drivers in 2015 – any trends would be unreliable, and therefore are not reported.

16.5.3 Drivers in serious injury crashes. Table 16-1 and Figure 16-1 show information on drivers of highway vehicles involved in alcohol-related serious injury crashes. Between 1996 and 1997 the percentage of all drivers in serious injury crashes that involved alcohol decreased from 50.0% to 0.0%. Since then, the incidence peaked at 75.0% in 1998, generally decreased to 0.0% in 2005, rose to 33.3% in 2006 and 2007, and dropped again to 0.0% from 2008 to 2010. Serious injury collision data were not available in 2011. In 2012 and 2013, none of the drivers involved in serious injury collisions were in an alcohol-related crash. And in 2014, there were no drivers of highway vehicles involved in serious injury crashes. In 2015, the lone driver of a highway vehicle was involved in an alcohol-related serious injury crash.

As shown in Table 16-1, in the baseline period (2006-2010), an average of 25.0% of drivers in serious injury crashes were in an alcohol-involved crash. From 2011 to 2015, the average percentage of drivers in alcohol-related serious injury collisions was 0.0%.

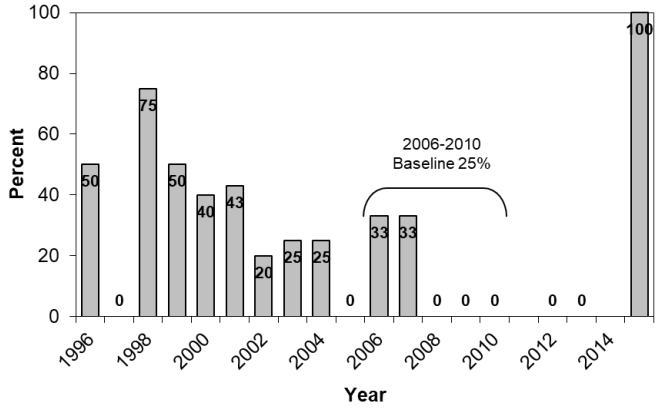
Table 16-1

Number and Percent of Drivers of Highway Vehicles in Serious Injury Crashes* that Involved Alcohol: Nunavut, 1996-2015

Year	Number of Drivers	Number in Alcohol-Involved Crashes	Percent
1996	2	1	(50.0)
1997	2	0	(0.0)
1998	4	3	(75.0)
1999	2	1	(50.0)
2000	5	2	(40.0)
2001	7	3	(42.9)
2002	5	1	(20.0)
2003	4	1	(25.0)
2004	4	1	(25.0)
2005	6	0	(0.0)
2006	9	3	(33.3)
2007	3	1	(33.3)
2008	2	0	(0.0)
2009	4	0	(0.0)
2010	1	0	(0.0)
2011			
2012	1	0	(0.0)
2013	2	0	(0.0)
2014	0	0	(0.0)
2015	1	1	(100.0)
2006-2010 baseline	4	1	(25.0)
2011-2015 period	1	0	(0.0)

* single-vehicle nighttime crashes (SVN) as well as non-SVN crashes that have police-reported alcohol involvement

Figure 16-1
Percent of Drivers of Highway Vehicles in Serious Injury Crashes that Involved Alcohol: Nunavut, 1996-2015



16.5.4 Drug use among fatally injured drivers. Due to the small number of cases – e.g., no fatally injured drivers in 2015 – any trends would be unreliable, and therefore are not reported.

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