



# ALCOHOL AND DRUG USE AMONG FATALLY INJURED TEEN DRIVERS, 2000-2012

Traffic Injury Research Foundation, October 2015

## Introduction

Motor vehicle collisions are the leading cause of death in Canada for persons aged 15-24 (Public Health Agency of Canada 2012, p.10). Of concern, a significant number of fatally injured drivers aged 16-19 test positive for either alcohol or drugs. To increase understanding of this problem, Desjardins Insurance has sponsored this fact sheet that contains the latest data about trends as well as the characteristics of drivers and crashes involving fatally injured drivers aged 16-19 who test positive for alcohol or other drugs.

The data that were analyzed to inform this 2015 fact sheet and the previous 2014 fact sheet are based upon the Traffic Injury Research Foundation's (TIRF) National Fatality Database (TIRF 2014). There are some differences in the data in this 2015 fact sheet compared to the 2014 edition. The 2011 and 2012 fatality data from British Columbia were not available at the time the 2015 fact sheet was prepared. As a result, Canadian data presented in this fact sheet have been re-calculated to exclude this jurisdiction and make equitable comparisons.

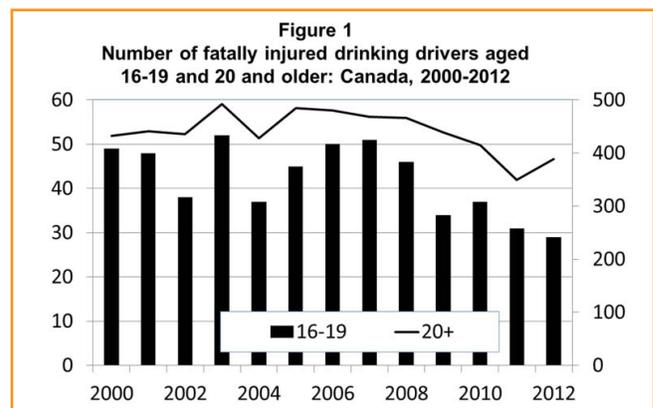
This fact sheet summarizes the number and percent of fatal crashes with drivers who are positive for alcohol and drugs. It also examines fatal crash and driver characteristics in accordance with sex, age and temporal factors. Trends and characteristics examined in this fact sheet span a 13-year period

(2000 to 2012). Fatally injured drinking drivers are defined as individuals who test positive for alcohol as measured by blood alcohol concentration (BAC). Fatally injured drivers include drivers who test positive for drugs which may include:

- > cannabis;
- > other illicit drugs such as cocaine, ecstasy (MDMA); or,
- > over-the-counter or prescription drugs.

## Trends in Alcohol and Drug-Involved Fatal Crashes

Trends in both alcohol and drug use among drivers are examined in this section by comparing fatally injured drivers aged 16-19 versus those aged 20 and older in Canada from 2000-2012<sup>1</sup> (Figure 1).

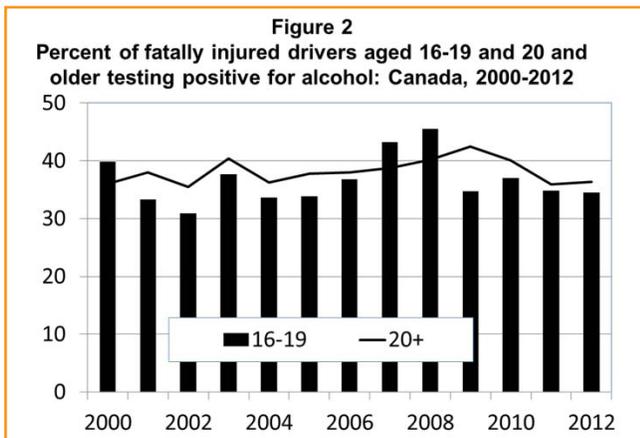


<sup>1</sup> Data from British Columbia are excluded from the analyses in this fact sheet since fatality data from this jurisdiction were not available for 2011 and 2012 at the time of publication.



Generally speaking, the number of fatally injured drinking drivers in both age groups has decreased overall between 2000 and 2012. To illustrate, 49 fatally injured drivers aged 16-19 had been drinking in 2000. This number rose to 52 in 2003 and then declined to 29 in 2012, reaching its lowest level. Among drivers aged 20 and older, the number of fatally injured drivers increased from 432 in 2000 to 492 in 2003 before decreasing to 349 in 2011. However the number of fatally injured drinking drivers aged 20 and older recently increased again to 389 in 2012.

The percentage of fatally injured drivers aged 16-19 and 20 and older testing positive for alcohol from 2000 to 2012 is presented in Figure 2. Slightly more than one-third (39.8%) of fatally injured 16-19 year old drivers had been drinking in 2000, and this percentage declined to less than one-third (30.9%) in 2002. The percentage of fatally injured drivers testing positive for alcohol then peaked dramatically at 45.5% in 2008 before once again declining to approximately one-third (34.5%) in 2012. A similar pattern emerged for fatally injured drivers aged 20 and older with slightly more than one-third (36.1%) testing positive for alcohol in 2000. This percentage increased dramatically to 42.5% in 2009. More recently, the percentage of fatally injured drivers aged 20 and older who tested positive for alcohol again declined to previous levels (36.4%) in 2012.



The number of fatally injured drivers aged 16-19 and 20 and older who tested positive for drugs between 2000 and 2012 has fluctuated and is shown in Figure 3. For example, just 14 of these teen drivers tested positive for drugs in 2000 and this number escalated to 38 in 2006 before decreasing to 23 in 2009. More recently the number of fatally injured drivers age 16-19 who were positive for drugs increased again to 32 in

2012, suggesting that these young drivers may not understand the effects of drugs on driving behaviour or that they under-estimate the risks. Conversely, there has been a general increase in the number of fatally injured drivers aged 20 and older who tested positive for drugs. Whereas 178 fatally injured drivers in this age group tested positive for drugs in 2000, the number has risen over the past decade and reached a peak at 378 fatally injured drivers aged 20 and older testing positive for drugs in 2012.

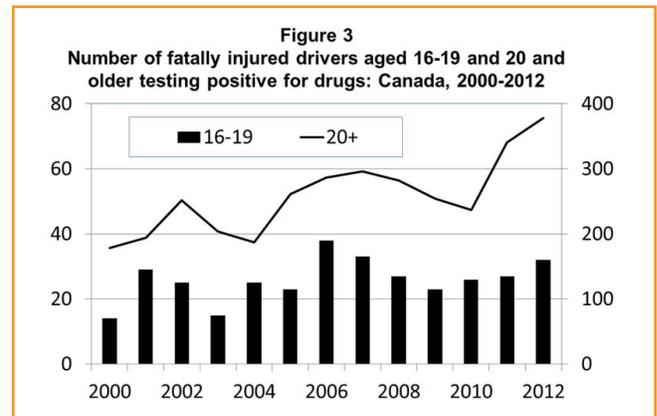
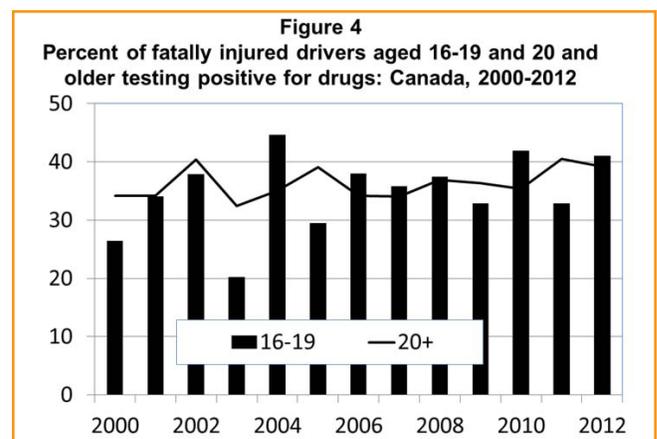


Figure 4 presents the percentage of fatally injured drivers aged 16-19 and 20 and older who tested positive for drugs between 2000 and 2012. Approximately one-quarter (26.4%) of fatally injured 16-19 year old drivers tested positive for drugs in 2000, and by 2003 the percentage had declined further to 20.3%. This low among 16-19 year old drivers testing positive for drugs was followed by a peak of 44.6% in 2004. Since then, the percentage has continued to fluctuate and in 2012, 41.0% of fatally injured drivers aged 16-19 tested positive for drugs.



Among fatally injured drivers aged 20 and older, there has been less variability in the percentage of drivers who tested positive for drugs, and this may be due to a much larger number of cases which

result in less volatile fluctuations. In 2000, 34.2% of fatally injured drivers in this age group tested positive for drugs, decreasing slightly to 32.5% in 2003. In 2011, the percentage of fatally injured drivers aged 20 and older with positive drug results peaked at 40.5% before decreasing to 39.2% in 2012. At the end of 2012, there appeared to be a comparable proportion of fatally injured drivers age 16-19 versus aged 20 and older who tested positive for drugs.

Collectively, these data reveal a decreasing trend of alcohol involvement among 16-19 year old drivers in terms of absolute numbers, and this trend is similar among drivers aged 20 and older as well (with the exception of the year 2012). However, this decreasing trend is not evident in relation to the percentage of fatally injured drivers aged 16-19 years. In addition, both the absolute number as well as the percentage of fatally injured young drivers testing positive for drugs appears to be on the rise. While this increasing trend is less pronounced in relation to the percent of fatally injured drivers aged 16-19 who tested positive for drugs, compared to the corresponding absolute number, the data certainly do not suggest that progress is being made in deterring drug use among drivers aged 16-19, nor among drivers aged 20 and older.

### Characteristics of Fatally Injured Teen Drivers

This section describes the demographic characteristics of fatally injured 16-19 year old drivers in relation to sex, age and temporal factors. These analyses were performed to determine whether these factors affect the number of fatally injured 16-19 year old drivers who tested positive for alcohol or drugs. Given that the relative number of cases is small and the data span just five years (2008 to 2012), caution is warranted in the interpretation of these results.

The number and percent of fatally injured 16-19 year old male drivers who tested positive for alcohol from 2008 to 2012 is compared to the number of female drivers in this age group in Figure 5. It reveals that there were more fatally injured 16-19 year old male drivers than female drivers who tested positive for alcohol (154 versus 23) during this five-year period. However, this difference is less pronounced when examining percentages with 41.8% of fatally injured 16-19 year old male drivers who tested positive for alcohol compared to 22.1% of fatally injured 16-19 year old female drivers.

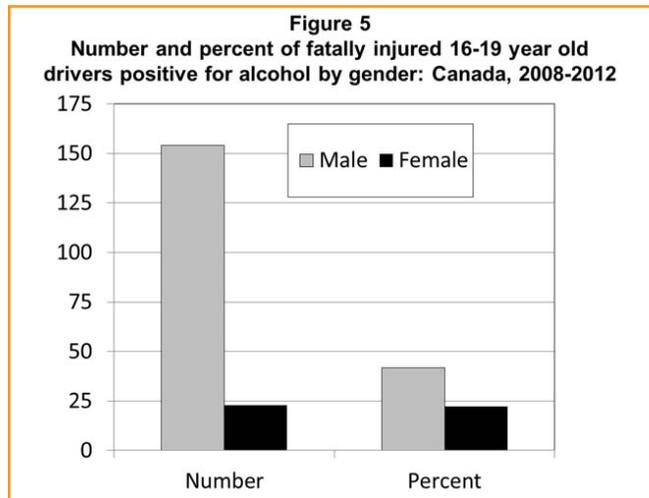


Figure 6 compares the number and percent of fatally injured 16-19 year old drivers who tested positive for drugs from 2008 to 2012 on the basis of sex. Similar to alcohol, there were more fatally injured 16-19 year old male drivers than female drivers who tested positive for drugs (120 versus 15) during this five-year period. Again, an examination of percentages revealed that differences were less pronounced with 42% of fatally injured 16-19 year old male drivers who tested positive for drugs as opposed to 19.2% of fatally injured 16-19 year old female drivers.

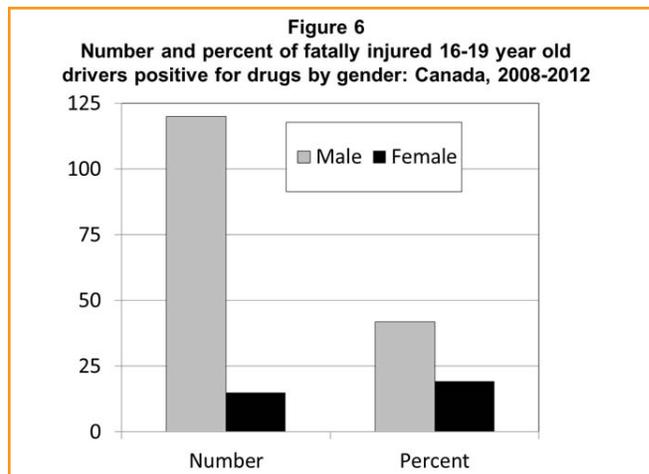
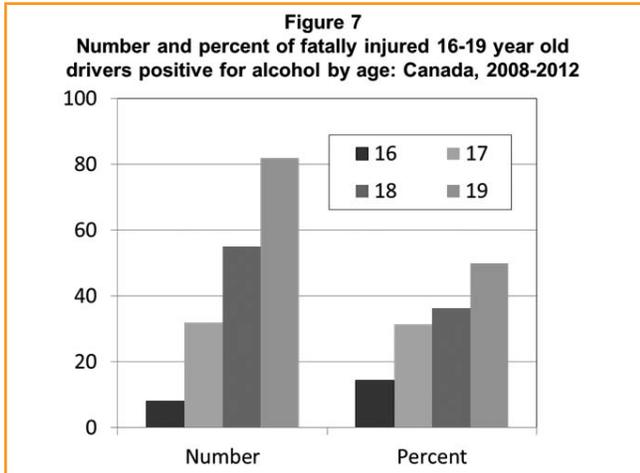
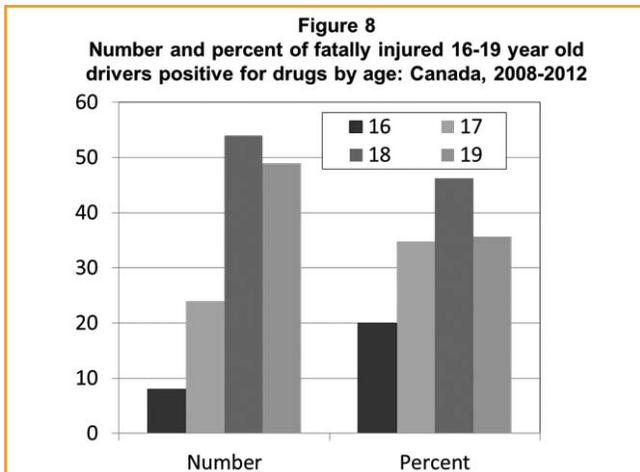


Figure 7 illustrates the number and percent of fatally injured teen drivers according to individual year of age who tested positive for alcohol between 2008 and 2012. Generally speaking, the number of fatally injured drivers who tested positive for alcohol increases with age as there were just eight fatally injured 16 year old drivers compared to 32 drivers aged 17, 55 who were age 18, and 82 who were 19 years old. Similarly, the age group with the highest percentage of fatally

injured drivers who tested positive for alcohol was 19 year olds at 50.0%. Among fatally injured drivers aged 18, 36.4% tested positive for alcohol compared to 31.4% of 17 year olds. An even smaller percentage (14.5%) of 16 year old fatally injured drivers tested positive for alcohol.



The number and percent of fatally injured 16, 17, 18 and 19 year old drivers who tested positive for drugs between 2008 and 2012 are presented in Figure 8. Similar to the alcohol results described above, generally speaking, the number of fatally injured drivers who tested positive for drugs increased with age. Compared to just eight fatally injured 16 year old drivers, there were 24 drivers aged 17, 54 drivers aged 18 and 49 drivers who were 19 years of age who tested positive for drugs.

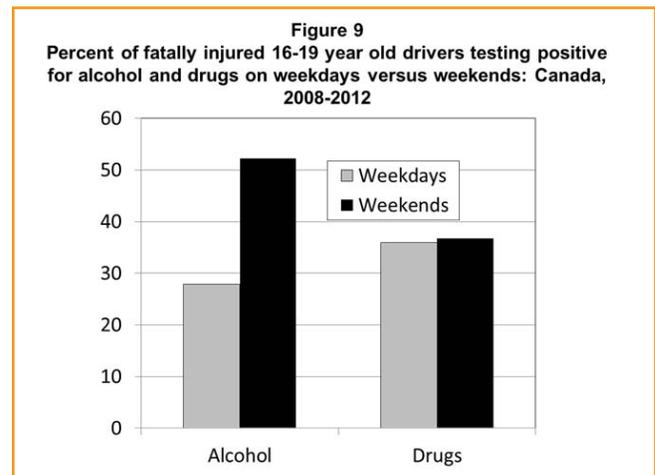


Fatally injured 18 year old drivers accounted for the largest age category of fatally injured drivers who were positive for drugs (46.2%). An almost identical percentage of fatally injured 19 year old and 17 year old drivers tested positive for drugs (35.6% and 34.8%, respectively), whereas 16 year

old drivers accounted for the smallest percentage (20.0%) of fatally injured drivers who tested positive for drugs. However, these results underscore that the use of drugs among teen drivers of all ages is a problem that warrants attention and concern.

### Characteristics of Collisions Involving Teen Drivers Testing Positive for Alcohol or Drugs

A comparison of the role of alcohol and drugs among 16-19 year old drivers who were killed in weekend collisions (from 6 p.m. Friday to 5:59 pm on Sunday) versus weekday collisions (from 6 p.m. Sunday to 5:59 p.m. on Friday) was also conducted. Figure 9 shows that a much larger percentage of fatally injured 16-19 year old drivers tested positive for alcohol in weekend crashes (52.2%) compared to those who died in weekday crashes (27.9%). However, a different picture emerges when comparing drug use among 16-19 year old fatally injured drivers. The percentage of those killed in weekend crashes who tested positive for drugs (36.7%) was only slightly greater than the percentage of those who were killed in weekday crashes (35.9%) who tested positive.



### Conclusions

In sum, trend data analysed in this fact sheet reveal that both alcohol and drugs are factors in fatal crashes involving teen drivers. While some progress has been made with respect to alcohol during the past decade, more recent data suggest that this progress has halted. An examination of the presence of drugs among fatally injured teen drivers, by comparison, appears to suggest that the problem is increasing. Collectively, these results

underscore the need for continued action to reduce the usage of alcohol and drugs among drivers of all ages generally, and young drivers specifically, and to increase awareness about the risks associated with using alcohol and drugs prior to driving. The knowledge and insight shared in this fact sheet can help to increase awareness about the characteristics of teens killed in crashes, as well as the crashes themselves to inform strategies to tackle this problem. For example, while the problem may be more pronounced for teen male drivers in absolute numbers, proportionally speaking many teen female drivers are also affected by this health risk. There is also evidence that especially 18 and 19 year old drivers are at the highest risk of being killed in alcohol and drug-involved crashes. Finally, while alcohol-involved crashes are most likely to occur on weekends, drug-involved crashes are equally likely to occur on weekdays and weekends, suggesting different strategies are needed to better target these problems.

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## Traffic Injury Research Foundation

The mission of the Traffic Injury Research Foundation (TIRF) is to reduce traffic-related deaths and injuries. TIRF is a national, independent, charitable road safety institute. Since its inception in 1964, TIRF has become internationally recognized for its accomplishments in a wide range of subject areas related to identifying the causes of road crashes and developing programs and policies to address them effectively.

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