TEENS AND DRUG-IMPAIRED DRIVING

Traffic Injury Research Foundation, October 2014

Introduction

The effects of alcohol use on a person's driving abilities are well-documented. Likewise, many studies about trends in alcohol use among fatally injured drivers are also available. On the other hand, less is known about the effects of drug use on driving ability and the prevalence of drug use among persons involved in fatal and serious injury collisions (Pashley et al. 2014).

In recent years, there has been growing concern about drug-impaired driving, particularly among younger drivers. In a student survey conducted in Ontario by the Centre for Addictions and Mental Health (CAMH), 4% of respondents in Grades 10 through 12 who were licensed to drive admitted to driving within an hour of consuming two or more alcoholic drinks within the past year. By comparison, 10% of respondents admitted that they drove within one hour of using cannabis (Boak et al. 2013). More recently, the Traffic Injury Research Foundation (TIRF) reported in its Road Safety Monitor 2013 (RSM) on drugs and driving, that 7.9% of 16-24 year old respondents admitted to driving within two hours of consuming prescription drugs (Pashley et al. 2014). In light of this pressing need, the goal of this fact sheet is to provide more information about drug use among fatally injured 16-19 year old drivers in Canada.

This fact sheet, sponsored by State Farm, examines the role of drug use among fatally injured 16-19 year old drivers in Canada. Fatally injured drug-impaired drivers include those who test positive for:

- cannabis;
- other illicit drugs such as cocaine, ecstasy (MDMA); or,
- either over-the-counter or prescription drugs that affect one's driving.

Magnitude of drug use among fatally injured drivers aged 16-19

A brief analysis of drug use among fatally injured 16-19 year old drivers was undertaken by examining the number of drivers in this age range who tested positive for drugs over several years. These results can be compared with those for fatally injured drivers aged 20 and older. Figure 1 compares the number of fatally injured drivers aged 16-19 as opposed to those drivers aged 20 and older who tested positive for drugs from 2000 to 2010. The number of victims aged 16-19 is plotted with blue bars and measured on the axis on the left. The number of victims aged 20 and older is plotted with a line and measured on the axis on the right. In 2000, 17 fatally injured 16-19 year old drivers tested positive for drugs, with the number of fatally injured drivers in this age group testing positive for drugs reaching a peak of 52 in 2006. Subsequently, the number of fatally injured drivers aged 16-19 generally

decreased until 2010 when 29 drivers tested positive for drugs.

Among fatally injured drivers aged 20 and older, 212 tested positive for drugs in 2000. There was a general increase in fatally injured drivers testing positive for drugs until 2007 when this number reached 405. Since then, there has been a decrease in fatally injured drivers aged 20 and older testing positive for drugs with 307 cases in 2010.

Figure 1
Number of fatally injured drivers aged 16-19 and 20 and older that were positive for drugs: Canada, 2000-2010

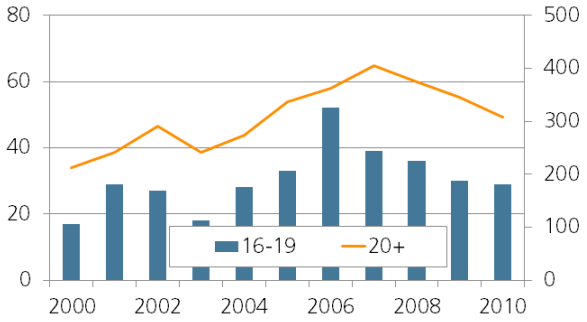
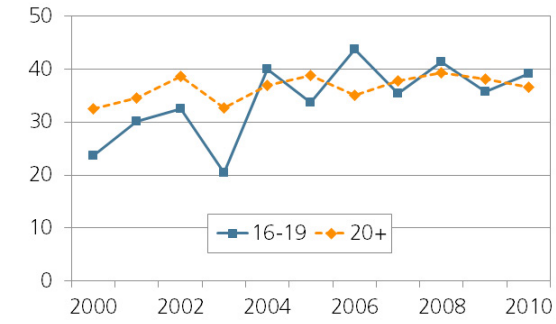


Figure 2 compares the percentage of all tested fatally injured drivers aged 16-19 and 20 and older who were positive for drugs from 2000 to 2010. The percentage of drivers aged 16-19 is plotted with a solid line and the percentage of drivers aged 20 and older is plotted with a dotted line. In 2000, 23.6% of fatally injured 16-19 year old drivers tested positive for drugs, decreasing to 20.4% in 2003, and peaking at 43.7% in 2006. Subsequently, the percentage of fatally injured drivers aged 16-19 fluctuated until 2010 when 39.2% of drivers tested positive for drugs. Among fatally injured drivers aged 20 and older, 32.6% tested positive for drugs in 2000. The percentage of fatally injured drivers aged 20 and older testing positive for drugs has been relatively stable, peaking at 39.3% in 2008. Since then, there has been a slight decrease to 36.7% in 2010.

Figure 2
Percent of fatally injured drivers aged 16-19 and 20 and older that were positive for drugs: Canada, 2000-2010



Characteristics of fatally injured teen drivers testing positive for drugs

In this section, demographic characteristics of fatally injured 16-19 year old drivers are presented. This analysis is performed to determine whether these factors affect the number of fatally injured 16-19 year old drivers that test positive for drugs. Given that the relative number of cases is small and the data are only for 2008, 2009 and 2010 combined, caution should be taken in interpreting these results.

Figure 3 shows the number and percent of fatally injured 16, 17, 18 and 19 year old drivers who tested positive for drugs from 2008-2010. Generally speaking, the number of fatally injured drivers testing positive for drugs increases with age as there were only three fatally injured 16 year old drivers compared to 41 drivers that were 18 years of age and 42 that were 19 years of age. The age group with the highest percentage of fatally injured drivers who were positive for drugs was 18 year olds at 54.7%. Among fatally injured 17 and 19 year old drivers, 35.2% and 32.7% tested positive for drugs. A smaller percentage of 16 year old fatally injured drivers tested positive for drugs (16.7%).

Figure 3
Number and percent of fatally injured 16-19 year old drivers testing positive for drugs by age: Canada, 2008-2010

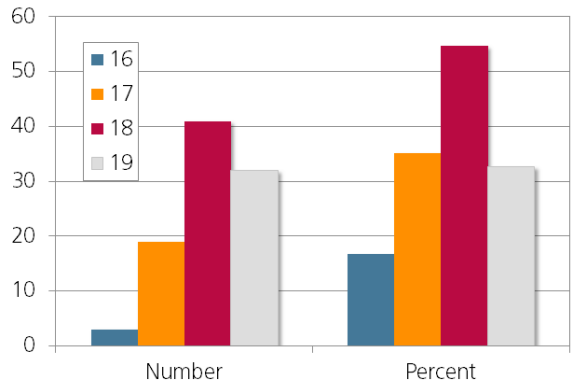
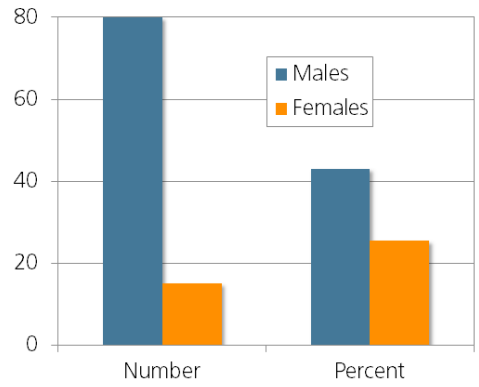


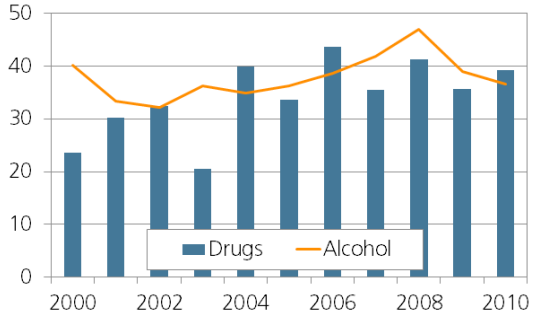
Figure 4 compares the number and percent of fatally injured 16-19 year old male drivers who tested positive for drugs from 2008 to 2010 as opposed to the number of female drivers in this age group. As can be seen, there are more fatally injured 16-19 year old male drivers than female drivers who tested positive for drugs (80 versus 15) during this three-year period. In terms of percentage, however, the difference is less pronounced. Among fatally injured 16-19 year old male drivers, 43.0% were positive for drugs as opposed to 25.4% of fatally injured 16-19 year old female drivers.

Figure 4
Number and percent of fatally injured 16-19 year old drivers testing positive for drugs by gender: Canada, 2008-2010



Trends in the relationship between drug use and alcohol use among fatally injured drivers aged 16-19 from 2000 to 2010 are shown in Figure 5. The percentage of fatally injured drivers who tested positive for drugs is plotted with blue bars while the percentage of fatally injured drivers who tested positive for alcohol is plotted with a solid line. The yearly variations in the percentage of drivers testing positive for drugs are more volatile than those for the percentage of drivers who tested positive for alcohol. Given that fewer drivers are tested for drugs other than alcohol, part of this unstable trend can be explained by a smaller sample size. In 2000, a greater percentage of fatally injured 16-19 year old drivers tested positive for alcohol than for drugs (40.3% versus 23.6%). However, in 2010, a larger percentage of fatally injured 16-19 year old drivers tested positive for drugs (39.2%) than for alcohol (36.6%).

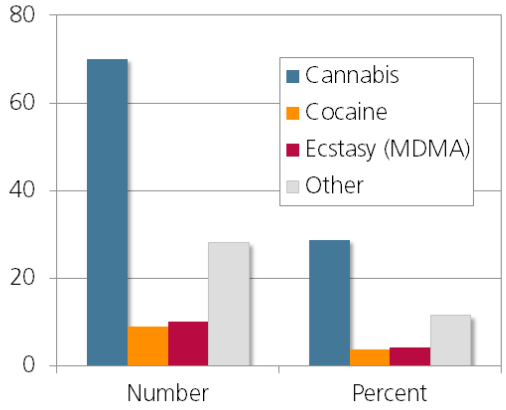
Figure 5
Percent of fatally injured drivers aged 16-19 testing positive for drugs and alcohol: Canada, 2000-2010



Types of drugs used by fatally injured teen drivers

Fatally injured drivers can be tested for, and as a result test positive for, a wide variety of different types of drugs. As mentioned in the introduction, these can include illicit drugs, over the counter drugs and prescription drugs. Figure 6 shows the number and percent of fatally injured 16-19 year old drivers who tested positive for cannabis, cocaine, ectasy (MDMA) and other drugs from 2008 to 2010. During this three-year period, 95 of the 245 fatally injured 16-19 year old drivers who were tested for drugs had positive results. Among these 95 drivers, 75 tested positive for cannabis. Ecstasy and cocaine were found among 10 and nine fatally injured drivers, respectively. And 28 fatally injured drivers tested positive for other drugs which include amphetamines, benzodiazepines, anti-psychotic drugs, and cold remedy medications. It should be noted that some of the drivers tested positive for more than one type of drug and that these numbers do not add to 95.

Figure 6
Number and percent of fatally injured 16-19 year old drivers testing positive for drugs by drug type: Canada, 2008-2010



Among those 245 fatally injured 16-19 year old drivers who were tested for drugs from 2008-2010, 28.6% tested positive for cannabis, 4.1% tested positive for ecstasy, and 3.7% tested positive for cocaine. The presence of other drugs was found among 11.4% of fatally injured drivers in this age group.

Conclusions

Among both fatally injured drivers aged 16-19 and 20 and older, more drivers tested positive for drugs in 2010 than in 2000. However, since 2006-2007, there has been a general downward trend in the number of fatally injured drivers in each group that have tested positive for drugs. The percentage of fatally injured drivers aged 16-19 who tested positive for drugs has generally increased whereas among fatally injured drivers aged 20 and older, the percentage has not varied as greatly.

It appears that the frequency of fatally injured teen drivers testing positive for drugs increases with age as there were substantially more 18 and 19 year old fatally

injured drivers who tested positive for drugs than there were 16 year olds. And the percentage of fatally injured drivers testing positive for drugs is higher among 18 year olds than 16 year olds.

In terms of variability in positive drug test results among fatally injured 16-19 year old drivers based on gender, there are almost six times more males than females. The percentage of fatally injured 16-19 year old male drivers testing positive for drugs is also greater than females, albeit to a more modest degree.

Among fatally injured 16-19 year old drivers, there have been differences in the percentage who test positive for alcohol compared to those testing positive for drugs between 2000 and 2010. While a greater percentage of fatally injured 16-19 year old drivers tested positive for alcohol than for drugs in 2000, the opposite was true in 2010 when a larger percentage tested positive for drugs than for alcohol.

Lastly, among all of the different types of illicit drugs, prescription drugs and over-the-counter medications that can be detected in drug tests of fatally injured drivers, cannabis is by far the most common drug detected in fatally injured 16-19 year old drivers who test positive for drugs. Other commonly found drugs include MDMA (ecstasy) and cocaine.

References

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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 research 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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