

Drugged Driving

What Is Drugged Driving?

"Have one [drink] for the road" was once a commonly used phrase in American culture. It has only been within the past 25 years that as a Nation, we have begun to recognize the dangers associated with drunk driving. And through a multipronged and concerted effort involving many stakeholders—including educators, media, legislators, law enforcement, and community organizations such as Mothers Against Drunk Driving—the Nation has seen a decline in the numbers of people killed or injured as a result of drunk driving. But it is now time that we recognize and address the similar dangers that can occur with drugged driving.

The principal concern regarding drugged driving is that driving under the influence of any drug that acts on the brain could impair one's motor skills, reaction time, and judgment. Drugged driving is a public health concern because it puts not only the driver at risk but also passengers and others who share the road.

However, despite the knowledge about a drug's potentially lethal effects on driving performance and other concerns that have been acknowledged by some public health officials,

policy officials, and constituent groups, drugged driving laws have lagged behind alcohol-related driving legislation, in part because of limitations in the current technology for determining drug levels and resulting impairment. For alcohol, detection of its blood concentration (BAC) is relatively simple, and concentrations greater than 0.08 percent have been shown to impair driving performance; thus, 0.08 percent is the legal limit in this country. But for illicit drugs, there is no agreed-upon limit for which impairment has been reliably demonstrated. Furthermore, determining current drug levels can be difficult, since some drugs linger in the body for a period of days or weeks after initial ingestion.

Some States (Arizona, Georgia, Indiana, Illinois, Iowa, Michigan, Minnesota, Nevada, North Carolina, Ohio, Pennsylvania, Rhode Island, Utah, Virginia, and Wisconsin) have passed "per se" laws, in which it is illegal to operate a motor vehicle if there is *any* detectable level of a prohibited drug, or its metabolites, in the driver's blood. Other State laws define "drugged driving" as driving when a drug "renders the driver incapable of driving safely" or "causes the driver to be impaired."

In addition, 44 States and the District of Columbia have implemented Drug Evaluation and Classification Programs, designed to train police officers as Drug Recognition Experts. Officers learn to detect characteristics in a person's behavior and appearance that may be associated with drug intoxication. If the officer suspects drug intoxication, a blood or urine sample is submitted to a laboratory for confirmation.

How Many People Take Drugs and Drive?

According to the National Highway Traffic Safety Administration's (NHTSA) 2007 National Roadside Survey, more than 16 percent of weekend, nighttime drivers tested positive for illegal, prescription, or over-the-counter medications. More than 11 percent tested positive for illicit drugs, a sign that continued substance abuse education, prevention, and law enforcement efforts are critical to public health and safety.¹

According to the 2008 National Survey on Drug Use and Health (NSDUH), an estimated 10 million people aged 12 and older reported driving under the influence of illicit drugs during the year prior to being surveyed.² This corresponds to 4 percent of the population aged 12 and older, similar to the rate in 2007 (4.2 percent) but lower than the rate in 2002 (4.7 percent). In 2008, the rate was highest among young adults aged 18 to 25 (12.3 percent). In addition, NSDUH reported the following:

- In 2008, an estimated 12.4 percent of persons aged 12 and older (30.9 million persons) drove under the influence of alcohol at least once in the past year. This percentage has dropped since 2002, when it was 14.2 percent.
- Driving under the influence of an illicit drug or alcohol was associated with age. In 2008, an estimated 7.2 percent of youth aged 16 or 17 drove under the influence. This percentage steadily increased with age to reach a peak of 26.1 percent among young adults aged 21 to 25. Beyond the age of 25, these rates showed a general decline with increasing age.
- Also in 2008, among persons aged 12 and older, males were nearly twice as likely as females (16 percent versus 9 percent, respectively) to drive under the influence of an illicit drug or alcohol in the past year.

In recent years, more attention has been given to drugs other than alcohol that have increasingly been recognized as hazards to road traffic safety. Some of this research has been done in other countries or in specific regions within the United States, and the prevalence rates for different drugs used vary accordingly. Overall, marijuana is the most prevalent illegal drug detected in impaired drivers, fatally injured drivers, and motor vehicle crash victims. Other drugs also implicated include benzodiazepines, cocaine, opiates, and amphetamines.³

A number of studies have examined illicit drug use in drivers involved in motor vehicle crashes, reckless driving, or fatal accidents. For example—

- One study found that about 34 percent of motor vehicle crash victims admitted to a Maryland trauma center tested positive for “drugs only”; about 16 percent tested positive for “alcohol only.” Approximately 9.9 percent (or 1 in 10) tested positive for alcohol and drugs, and within this group, 50 percent were younger than age 18.⁴ Although it is interesting that more people in this study tested positive for “drugs only” compared with “alcohol only,” it should be noted that this represents one geographic location, so findings cannot be generalized. In fact, the majority of studies among similar populations have found higher prevalence rates of alcohol use compared with drug use.⁵
- Studies conducted in several localities have found that approximately 4 to 14 percent of drivers who sustained injury or died in traffic accidents tested positive for delta-9-tetrahydrocannabinol (THC), the active ingredient in marijuana.⁶
- In a large study of almost 3,400 fatally injured drivers from three Australian states (Victoria, New South Wales, and Western Australia) between 1990 and 1999, drugs other than alcohol were present in 26.7 percent of the cases.⁷ These included

cannabis (13.5 percent), opioids (4.9 percent), stimulants (4.1 percent), benzodiazepines (4.1 percent), and other psychotropic drugs (2.7 percent). Almost 10 percent of the cases involved both alcohol and other drugs.

Teens and Drugged Driving

- According to the Centers for Disease Control and Prevention, vehicle accidents are the leading cause of death among young people aged 16 to 19.⁸ It is generally accepted that because teens are the least experienced drivers as a group, they have a higher risk of being involved in an accident compared with more experienced drivers. When this lack of experience is combined with the use of marijuana or other substances that impact cognitive and motor abilities, the results can be tragic.
- Results from NIDA’s Monitoring the Future survey indicate that in 2008, more than 12 percent of high school seniors admitted to driving under the influence of marijuana in the 2 weeks prior to the survey.⁹
- The 2007 State of Maryland Adolescent Survey indicates that 11.1 percent of the State’s licensed adolescent drivers reported driving under the influence of marijuana on three or more occasions, and 10 percent reported driving while using a drug other than marijuana (not including alcohol).¹⁰

Why Is Drugged Driving Hazardous?

Drugs acting on the brain can alter perception, cognition, attention, balance, coordination, reaction time, and other faculties required for safe driving. The effects of specific drugs of abuse differ depending on their mechanisms of action, the amount consumed, the history of the user, and other factors.

Marijuana

THC affects areas of the brain that control the body's movements, balance, coordination, memory, and judgment, as well as sensations. Because these effects are multifaceted, more research is required to understand marijuana's impact on the ability of drivers to react to complex and unpredictable situations. However, we do know that—

- A meta-analysis of approximately 60 experimental studies—including laboratory, driving simulator, and on-road experiments—found that behavioral and cognitive skills related to driving performance were impaired in a dose-dependent fashion with increasing THC blood levels.¹¹
- Evidence from both real and simulated driving studies indicates that marijuana can negatively affect a driver's attentiveness, perception of time and speed, and ability to draw on information obtained from past experiences.

- A study of over 3,000 fatally injured drivers in Australia showed that when marijuana was present in the blood of the driver, he or she was much more likely to be at fault for the accident. Additionally, the higher the THC concentration, the more likely the driver was to be culpable.¹²
- Research shows that impairment increases significantly when marijuana use is combined with alcohol.¹³ Studies have found that many drivers who test positive for alcohol also test positive for THC, making it clear that drinking and drugged driving are often linked behaviors.

Other Drugs

- **Prescription drugs:** Many medications (e.g., benzodiazepines and opiate analgesics) act on systems in the brain that could impair driving ability. In fact, many prescription drugs come with warnings against the operation of machinery—including motor vehicles—for a specified period of time after use. When prescription drugs are taken without medical supervision (i.e., when abused), impaired driving and other harmful reactions can also result.

In short, drugged driving is a dangerous activity that puts us all at risk.

References

- ¹ National Highway Traffic Safety Administration. *Results of the 2007 National Roadside Survey of Alcohol and Drug Use by Drivers*. U.S. Department of Transportation Report No. DOT HS 811 175. Washington, DC: National Highway Traffic Safety Administration, 2007.
- ² Substance Abuse and Mental Health Services Administration. 2008 National Survey on Drug Use and Health. Rockville, MD: Office of Applied Studies, 2009.
- ³ Soderstrom CA, Dischinger PC, Kerns TJ, Kufera JA, Scalea TM. Epidemic increases in cocaine and opiate use by trauma center patients: Documentation with a large clinical toxicology database. *J Trauma* 51:557–564, 2001.
- ⁴ Walsh JM, Flegel R, Cangianelli LA, Atkins R, Soderstrom CA, Kerns TJ. Epidemiology of alcohol and other drug use among motor vehicle crash victims admitted to a trauma center. *Traffic Inj Prev* 5(3):254–260, 2004.
- ⁵ Kelly E, Darke S, Ross J. A review of drug use and driving: Epidemiology, impairment, risk factors, and risk perceptions. *Drug Alcohol Rev* 23(3):319–344, 2004.
- ⁶ Ramaekers JG, Berghaus G, van Laar M, Drummer OH. Dose related risk of motor vehicle crashes after cannabis use. *Drug Alcohol Depend* 73(2):109–119, 2004.
- ⁷ Drummer OH, Gerostamoulos J, Batziris H, et al. The incidence of drugs in drivers killed in Australian road traffic crashes. *Forensic Sci Int* 134:154–162, 2003.
- ⁸ Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). Atlanta, GA: National Center for Injury Prevention and Control, 2008. Available at: www.cdc.gov/ncipc/wisqars and http://www.cdc.gov/motorvehiclesafety/teen_drivers/teendrivers_factsheet.html.
- ⁹ Personal communication with Monitoring the Future staff. August 31, 2009.
- ¹⁰ Maryland State Department of Education. 2007 Maryland Adolescent Survey. Available at: http://www.marylandpublicschools.org/MSDE/newsroom/special_reports/adolescent_survey.htm.
- ¹¹ Berghaus G, Sheer N, Schmidt P. Effects of cannabis on psychomotor skills and driving performance—A meta-analysis of experimental studies. In CN Kloeden and AJ McLean (eds.), *Proceedings of the 13th International Conference on Alcohol, Drugs and Traffic Safety*. Adelaide, Australia: The University of Adelaide, NHMRC Road Accident Research Unit, pp. 403–409, 1995.
- ¹² Drummer OH, Gerostamoulos J, Batziris H, Chu M, Caplehorn J, Robertson MD, Swann P. The involvement of drugs in drivers of motor vehicles killed in Australian road traffic crashes. *Accid Anal Prev* 36(2):239–248, 2004.
- ¹³ National Highway Traffic Safety Administration. Marijuana and alcohol combined severely impede driving performance. *Ann Emer Med* 35(4):398–399, 2000.