

Signs point to sharp rise in drugged driving fatalities

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The prevalence of non-alcohol drugs detected in fatally injured drivers in the U.S. has been steadily rising and tripled from 1999 to 2010 for drivers who tested positive for marijuana—the most commonly detected non-alcohol drug—suggesting that drugged driving may be playing an increasing role in fatal motor vehicle crashes.

To assess these trends researchers at Columbia University's Mailman School of Public Health examined toxicological testing data from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System and found that of 23,591 [drivers](#) who were killed within one hour of a crash, 39.7% tested positive for alcohol and 24.8% for other drugs. While positive results for alcohol remained stable, the prevalence of non-alcohol drugs rose significantly from 16.6% in 1999 to 28.3% in 2010; for marijuana, rates rose from 4.2% to 12.2%. Findings are online in the *American Journal of Epidemiology*.

This study is based on data from six U.S. states that routinely performed toxicological testing on drivers involved in fatal car crashes—California, Hawaii, Illinois, New Hampshire, Rhode Island, and West Virginia.

The results showed that alcohol involvement was more prevalent in men (43.6%) than in women (26.1%), but trends were stable for both sexes. In contrast, the substantial increase in the prevalence of marijuana was reported for all age groups and both sexes.

"Although earlier research showed that drug use is associated with

impaired driving performance and increased crash risk, trends in narcotic involvement in driver fatalities have been understudied," said Guohua Li, MD, DrPH, professor of Epidemiology and Anesthesiology and director of the Center for Injury Epidemiology and Prevention. "Given the increasing availability of marijuana and the ongoing opioid overdose epidemic, understanding the role of controlled substances in [motor vehicle crashes](#) is of significant [public health](#) importance."

Joanne Brady, a PhD candidate in epidemiology and the lead author of the study, notes that research from 2007 to 2013 shows an increase in drivers testing positive for marijuana in roadside surveys, as well as drivers involved in fatal crashes in California and increased use by patients treated in Colorado healthcare settings. "The marked increase in its prevalence as reported in the present study is likely germane to the growing decriminalization of marijuana," noted Ms. Brady. Over the last 17 years, 20 states and Washington, D.C. have enacted legislation, and four more states have legislation pending, to decriminalize marijuana for medical use. "Although each of these states has laws that prohibit driving under the influence of marijuana, it is still conceivable that its decriminalization may result in increases in crashes involving marijuana."

While the study provides evidence that non-alcohol drugs in fatally injured drivers has increased significantly, the authors also note there are some limitations to consider. First, the study is based on data from only six states where this information is captured; secondly, the effects of drugs on driving performance and crash risk vary by drug type, dosage, and the driver's physiological response and tolerance level. Also, it is possible for a driver to test positive for [marijuana](#) in the blood up to one week after use.

Therefore, according to Dr. Li, "it is important to interpret the prevalence of non-alcohol drugs reported in this study as an indicator of

drug use but not necessarily as a measurement of drug impairment. To control the ongoing epidemic of drugged driving, it is imperative to strengthen and expand drug testing and intervention programs for drivers."

Provided by Columbia University's Mailman School of Public Health

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