

**Prepared Testimony of Robert L. DuPont, MD**  
**Before the House Energy and Commerce Committee's**  
**Subcommittee on Digital Commerce and Consumer Protection Hearing**  
*Examining Drug-Impaired Driving*  
**July 11, 2018**

Thank you for the opportunity to present my testimony today. My name is Dr. Robert L. DuPont and I am President of the Institute for Behavior and Health, a non-profit organization that develops ideas to reduce illegal drug use. Since 1980 I also have been Clinical Professor of Psychiatry at the Georgetown University School of Medicine. Previously I served as first Director of the National Institute on Drug Abuse (NIDA) and the second White House Drug Chief. My full CV is enclosed.

Drug-impaired driving is a serious and growing threat to public safety on par with the better known problem of alcohol-impaired driving.

The National Roadside Survey (NRS) first conducted in 1973 has shown impressive declines in the prevalence of alcohol among drivers over the last several decades.<sup>1</sup> The NRS tested oral fluid and blood of drivers for the prevalence of drugs in addition to alcohol for the first time in 2007 and found that 16.3 percent of weekend nighttime drivers in the US were positive for potentially impairing drugs. In the most recent NRS conducted in 2013-2014, 22.5 percent of drivers were drug-positive, a dramatic 38 percent increase. Moreover, drugs were found at similar rates during both weekday days and weekend nights. Tetrahydrocannabinol (THC), the

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<sup>1</sup> Berning, A., Compton, R., & Wochinger, K. (2015, February). Results of the 2013–2014 National Roadside Survey of Alcohol and Drug Use by Drivers. *Traffic Safety Facts*, Research Note. DOT HS 812 118. Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration, Office of Behavioral Research. Available: [https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812118-roadside\\_survey\\_2014.pdf](https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812118-roadside_survey_2014.pdf)

primary psychoactive ingredient in marijuana, or its metabolite 11-hydroxy-THC (11-OH-THC) was found among 11.7 percent of drivers during weekday days and 12.6 percent of drivers during weekend nights. Concurrent testing for alcohol showed not only lower prevalence but also variation between weekday and weekend use: alcohol use was more prevalent among drivers during weekend nights (8.3 percent) than weekday days (1.1 percent).

Among fatally injured drivers, potentially impairing drugs were found recently at much higher rates than in years past. The most recent data from the Fatality Analysis Reporting System (FARS) showed that in 2016, 43.6 percent of drivers with known drug tests results were drug-positive.<sup>2</sup> In 2006, this figure was at 27.8 percent – a remarkable 57 percent increase over the course of ten years.

My core message to you today is this: Although progress has been made in recent years on the recognition of the problem of drugged driving, the current approaches – laws, programs and public education – are grossly inadequate in the context of the national drug epidemic and the expansion of state-based legalization of marijuana.

The primary conflicts over efforts to address drugged driving center around marijuana, an impairing drug that can adversely affect the skills needed for safe driving.<sup>3</sup> There is a natural

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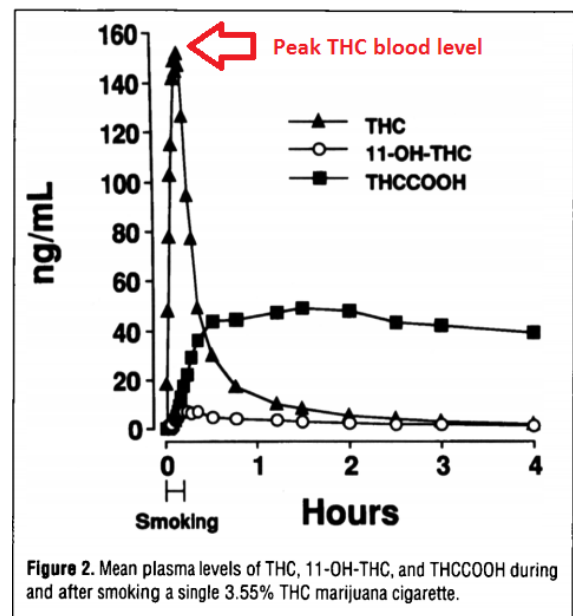
<sup>2</sup> Hedlund, J. (2018, May). *Drug-Impaired Driving: Marijuana and Opioids Raise Critical Issues for States*. Washington, DC: Governors Highway Safety Association. Available: <https://www.ghsa.org/resources/DUID18>

<sup>3</sup> Examples include: Hartman, R. L., Brown, T. L., Milavetz, G., Spurgin, A., Pierce, R. S., . . . , Huestis, M. A. (2015). Cannabis effects on driving lateral control with and without alcohol. *Drug and Alcohol Dependence*, 154, 25-47. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4536116/>; Lenne, M. G., Dietz, P. M., Triggs, T. J., Walmsley, S., Murphy, B., & Redman, J. R. (2010). The effects of cannabis and alcohol on simulated arterial driving: influences of driving experience and task demand. *Accident; Analysis and Prevention*, 42(3), 859-866; Hartman, R. L., & Huestis, M. A. (2013). Cannabis effects on driving skills. *Clinical Chemistry*, 59(3),478-492 Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3836260/>

instinct to manage the problem of marijuana-impaired driving in the same way as alcohol-impaired driving by identifying a scientifically valid tissue level for marijuana impairment that is analogous to the blood alcohol concentration (BAC) of 0.08 g/dL. Under such a scheme, any driver suspected of impaired driving with a specific level of THC, would be “impaired”. This proposal sounds sensible. It is impossible.

No amount of additional research can determine a tissue level associated with impairment for marijuana (or any other drug) analogous to the BAC limit.<sup>4</sup> This is because alcohol is an unusual drug: it is water-soluble. That means that brain levels and impairment are closely correlated with blood levels. As intake of alcohol increases, impairment increases and blood alcohol levels increase correspondingly; likewise, as blood alcohol level decreases, impairment decreases.

Unlike alcohol, THC is not water soluble, only fat soluble, so after marijuana is smoked, THC is quickly eliminated from the blood – 90% in the first hour after smoking – and moves to fatty tissues in the body including, crucially, the brain. Almost immediately after smoking marijuana, blood levels of THC peak, then dramatically fall (see figure at right).<sup>5</sup>



<sup>4</sup> Reisfield, G. M., Goldberger, B. A., Gold, M. S. & DuPont, R. L. (2012). The mirage of impairing drug concentration thresholds: A rationale for zero tolerance *per se* driving under the influence of drugs laws. *Journal of Analytical Toxicology*, 36(5), 353-356; Huestis, M. A. (2015). Cannabis-impaired driving: a public health and safety concern. *Clinical Chemistry*, 61(10), 1223-1225. Available: <http://clinchem.aaccjnls.org/content/61/10/1223>

<sup>5</sup> Huestis, M. A., Henningfield, J. E., & Cone, E. J. (1992). Blood cannabinoids. I. Absorption of THC and formation of THC and of 11-OH-THC and THCCOOH during and after smoking marijuana. *Journal of Analytical Toxicology*, 16(5), 276-282.

Further complicating the picture is the metabolism of marijuana “edibles”. When marijuana is ingested orally as an “edible”, the THC is absorbed and sent to the liver where it is partially metabolized and then circulated to the brain and other fatty tissues. This delay in absorption and distribution to the brain means a person who eats marijuana will not be immediately impaired and likely will feel confident about driving. However, an hour later that individual behind the wheel could be severely impaired with THC blood – and brain – levels peaking up to four hours after consumption.

The contrast between metabolism of alcohol and marijuana (and other drugs) is only one of many reasons there will never be BAC equivalents for marijuana and other drugs. Other key factors include but are not limited to tolerance and drug-to-drug and drug-to-alcohol interactions.

Simultaneous use of multiple impairing drugs is deeply concerning, particularly the simultaneous use of alcohol and marijuana, which is the most common drug combination among drivers. The use by drivers of prescription drugs is an added concern for impaired driving. There is no interest in hindering medical care of patients; however, even when drivers have valid prescriptions for potentially impairing drugs, it is illegal for these individuals to drive impaired by these drugs alone or in combination with alcohol and other drugs. Nationally, half (50.5 percent) of all deceased drug-positive drivers in 2016 were positive for two or more drugs and 40.7 percent were positive for alcohol. Drug-impaired driving is by no means limited only to marijuana-impaired driving and yet the largely singular focus on marijuana and driving severely hinders progress in reducing all drug-impaired driving.

Marijuana advocates fear action on drugged driving because they fear that drivers who are not impaired will test positive for marijuana use that occurred long (weeks or months) before the test. While it is possible to detect THC in some chronic daily marijuana users following a period of sustained abstinence,<sup>6</sup> many chronic marijuana users show significant psychomotor impairment three weeks after last marijuana use.<sup>7</sup>

Most importantly, however, drivers are asked to submit to laboratory tests for drugs *after* law enforcement officers determine they are impaired and arrest them, or alternatively, if they are involved in serious or fatal crashes and are required to submit to testing under state law. No matter the circumstances under which drug testing of drivers takes place, the testing typically occurs between 90 and 120 minutes – or longer – after driving in non-crash cases while drug testing may not occur for 2 to 4 hours in crash cases, further highlighting the need for effective action to address this public safety threat.

With this background, I present the following proposals for action to reduce drugged driving:

1. Use reliable field testing technology for every driver arrested for impaired driving to test for alcohol *and* potentially impairing drugs, including marijuana.

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<sup>6</sup> Bergamaschi, M., Larschner, E. L., Goodwin, R. S., Scheidweiler, K. B., Hirvonen, J., ..., Huestis, M. A. (2013). Impact of prolonged cannabinoid excretion in chronic daily cannabis smokers' blood on per se drugged driving laws. *Clinical Chemistry*, 59(3), 519-526. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3717350/>

<sup>7</sup> Bosker, W. M., Karschner, E. L., Lee, D., Goodwin, R. S., Hirvonen, J., Innis, R. B., Theunissen, E. L., Kuypers, K. P., Huestis, M. A., & Ramaekers, J. G. (2013). Psychomotor function in chronic daily cannabis smokers during sustained abstinence. *PLoS One*, 8(1):e53127.

2. Apply to every driver under 21 years old who tests positive for any illicit or impairing drug, including marijuana and impairing prescription drugs without a valid prescription, the same zero-tolerance standard specified for alcohol, the use of which in this age group is illegal.
3. Apply to every driver found to have been impaired and positive for drugs, including marijuana, the same remedies and penalties that are specified for alcohol-impaired drivers, including administrative or judicial license revocation.
4. Apply additional penalties to impaired drivers that are positive for multiple drugs, including alcohol.
5. Require every driver involved in a crash which results in a fatality or significant injury, including injury to pedestrians, who could be charged with a moving violation to provide a sample for testing. Test those samples for alcohol and impairing drugs, including marijuana, a panel of opioids, and other prescription drugs.
6. Ask the National Highway Traffic Safety Administration (NHTSA) to report FARS drug test data annually as is presently done for alcohol. Reporting rates of drug test results to the national FARS database vary dramatically from state to state, with further variation in testing technology. Systemic changes are needed across states for improved collection among both fatally injured drivers and impaired driving suspects.

7. Develop sentinel studies of seriously injured drivers treated at half a dozen major shock trauma centers to provide near real-time data about the prevalence of drugs and alcohol in crashes that produce serious injuries. A useful model for this can be found in the well-known study of seriously injured drivers admitted to a Maryland level-1 shock-trauma center.<sup>8</sup>

While most laws and programs related to drugs, including alcohol, and driving are developed at the state and local level, there is a long history of federal leadership focused on reducing impaired driving including identifying best practices, piloting innovative programs and encouraging their widespread adoption. Two widely recognized examples of state-based changes directed by the federal government are increasing the minimum drinking age to 21 and setting the 0.08 BAC limit for alcohol. States were incentivized by the federal government by withholding a small portion of federal highway funds if these essential public health and safety changes were not made. It is no surprise that today all 50 states have set 21 as the legal drinking age and a BAC limit of 0.08 g/dL.

Any policy actions taken to reduce drugged driving must include the essential element of public education. The impressive strides our country has made in reducing alcohol-impaired driving have been in part because of the strong public messaging of “Don’t Drink and Drive” that has been coupled with effective enforcement. Public education efforts reinforce the laws, and the laws reinforce public education efforts. The analogous message for drugged driving that must be

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<sup>8</sup> Walsh, J. M., Flegel, R., Atkins, R., Cangianelli, L. A., Cooper, C., ..., & Kerns, T. J. (2005). Drug and alcohol use among drivers admitted to a Level-1 trauma center. *Accident Analysis & Prevention*, 37(5), 894–901.

conveyed in a clear and comprehensive way backed by policies and active enforcement is “Don’t Use Drugs and Drive.”

There is widespread public support for the limits set on drug use and alcohol for commercial drivers, commercial pilots, train operators and others in safety sensitive positions. That is because the public recognizes that safety is a priority for highways, trains and aircraft. It is difficult to argue that these well-established standards should not be used for every driver on the nation’s roads and highways given the life-and-death consequences of impairment. In 2017 there were zero commercial airline fatalities. That same year there over 40,000 people lost their lives on our nation’s roads and highways.

As a physician who has worked for five decades to reduce the adverse health effects of drug abuse, including alcohol- and drug-impaired driving, I call your attention to the unique role of the criminal justice system in not only reducing drug abuse but also in promoting recovery. Arrests for alcohol- and drug-impaired driving are commonly positive turning points in the lives of the people who are arrested.

As you continue to gather information about drugged driving and consider proposals for action, remember that driving on the nation’s roads and highway is a privilege, that driving impaired is illegal, and that we must protect the public from drugged drivers who put not only themselves at risk but all others on the road – drivers, passengers, cyclists and pedestrians. Again, no one wants to board a plane that is operated by an alcohol- or drug-impaired pilot. Who wants to share the road with a drug-impaired person driving a two-ton vehicle at 65 miles per hour?



Remember also that while your deliberations take place, people are dying on the nation's roads at unacceptable rates. I submit that the time for action is now.

I would like to conclude my testimony by recognizing the leadership of Heidi King, Administrator of the long-leading National Highway Traffic Safety Administration (NHTSA) who is passionately committed to reducing the threat of drug-impaired driving.

Finally, thank you for *your* leadership. This hearing is an essential public expression of the importance of the drugged driving issue and serves as a vital milestone on our nation's path to making progress in reducing this serious public safety problem.

**Enclosures:**

- Curriculum Vitae of Robert L. DuPont, MD
- GHSA Report *Drug-Impaired Driving: Marijuana and Opioids Raise Critical Issues for States*
- DUID Model Laws from Institute for Behavior and Health (IBH) and National Partnership on Alcohol Misuse and Crime (NPAMC)
- "License revocation as a tool for combatting drugged driving" by Talpins, et al., 2014
- Heritage Working Paper DUID

**Recommended Websites:**

- [www.StopDruggedDriving.org](http://www.StopDruggedDriving.org)
- [www.DUIDVictimVoices.org](http://www.DUIDVictimVoices.org)

## Testimony Summary of Robert L. DuPont, MD

- Drug-impaired driving is serious as alcohol-impaired driving.
- Marijuana use can impair driving and is the most widely identified drug among impaired drivers and fatally injured drivers.
- There will never be a 0.08 g/dL BAC equivalent for THC (marijuana) or any other drug.
- Current efforts to combat drugged driving are not enough. Seven proposals are offered:
  1. Use reliable field testing technology for every driver arrested for impaired driving to test for alcohol and impairing drugs, including marijuana.
  2. Apply to every driver under 21 years old who tests positive for any illicit or impairing drug, including marijuana and impairing prescription drugs without a valid prescription, the same zero-tolerance standard specified for alcohol, the use of which in this age group is illegal.
  3. Apply to every driver found to have been impaired and positive for drugs, including marijuana, the same remedies and penalties that are specified for alcohol-impaired drivers, including administrative or judicial license revocation.
  4. Apply additional penalties to impaired drivers that are positive for multiple drugs, including alcohol.
  5. Require every driver involved in a crash which results in a fatality or significant injury who could be charged with a moving violation to provide a sample for testing.
  6. Ask NHTSA to report FARS drug test data annually as is presently done for alcohol. Make systemic changes across states for improved collection among both fatally injured drivers and impaired driving suspects.
  7. Develop sentinel studies of seriously injured drivers treated at major shock trauma centers to provide near real-time data about the prevalence of drugs and alcohol on the nation's roads.