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States Eye Expanding Roadside Drug Tests as Law Enforcement Implements Oral Fluid Testing Pilots

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With the movement to legalize marijuana use for medical and/or recreational purposes gaining traction, states are calling for improved standards for marijuana testing, particularly as it relates to measuring drivers' drug-related impairment. But, the association between legal definitions of detection and the capabilities of tests to judge impairment is complex and not fully understood.

"New Legislation Under Consideration"

California All eyes are on California, the country's most populous state. California voters approved medical marijuana in 1996, and a measure to legalize recreational marijuana is likely to qualify for the Nov. 8 ballot. In anticipation of the possible legalization of recreational marijuana, legislators are working on regulations designed to crack down on drugged driving.

The California Senate Public Safety Committee will proceed with SB 1462, authored by Sen. Bob Huff (R-San Dimas), which would allow law enforcement officers to use roadside oral swab drug screening tests when there is probable cause that a driver is impaired because of suspicious or reckless driving and the driver has failed sobriety field tests. If the driver fails the test or refuses to take it, he or she would be taken to the police station for a blood test to measure the level and type of substances present in his or her system. Sen. Huff has said the legislation wouldn't mandate the use of oral swab tests, but it would set standards for law enforcement agencies and free up federal funding to help buy the equipment.

Vermont

In late April, the Vermont House passed H.228 allowing police to conduct roadside saliva-based test on drivers with suspected impairment. The bill, which is awaiting Senate action, also sets new limits above which a driver is considered intoxicated when the saliva test shows evidence of both alcohol and marijuana. The new blood-alcohol level would be 0.05, down from 0.08, when 1.5 ng of THC is also present. In addition to marijuana, the new saliva test would check for the presence of a half-dozen other drugs. Separately, lawmakers are exploring legislation legalizing possession of small amounts of marijuana.

test device can be developed."

Laws Expanding Use, Testing

According to the National Conference of State Legislatures, medical marijuana is

The Governors Highway Safety Association (GHSA) released its *Drug-Impaired Driving: A Guide for What States Can Do* report last fall. It provided recommendations that states focus on efforts to improve testing, including testing all fatally injured drivers, standardizing testing protocols and procedures for roadside testing and laboratory testing, and validating roadside testing devices. These efforts, GHSA says, will need to be informed by further research on the effects of drugs on driving; the effectiveness of drugged driving per se laws; the accuracy, reliability and cost-effectiveness of drug detection tests; and the feasibility of establishing national standards for various controlled substances involved in drug-impaired driving.

"An accurate, reliable, and inexpensive oral fluid test device that could be used at the roadside would be very useful. It should be quick and easy to use and should detect the most common drugs that impair drivers," writes GHSA in its report. "If an oral fluid test were of evidential quality for some drugs it might reduce the need for blood tests. Research is needed to continue refining, evaluating, and eventually establishing standards for oral fluid test devices. Continuing research is [also] needed to determine if a useful marijuana breath

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legal in 24 states in the United States, while recreational use of the drug is legal in Alaska, Colorado, Oregon, Washington, and Washington, D.C. An additional 16 other states have decriminalized possession of small amounts of marijuana, with legislation pending in additional state houses. This changing legal landscape, combined with recent studies assessing the prevalence of drivers with detectable drugs in their blood, indicates that an increasing number of drivers are using marijuana. But, local and state law enforcement departments don't have the necessary tools and standards to determine if drivers are impaired.

In response to growing drug use, states have implemented piecemeal regulation for impairment testing. GHSA says that:

- Nine states have zero tolerance for delta- 9-tetrahydrocannabinol (THC), the psychoactive ingredient in cannabis or metabolites.
- Three states have zero tolerance for THC but no restriction on metabolites.
- Five states have specific per se limits for THC

Top Oral Fluid Devices Used in Roadside Pilots

The two most frequently piloted roadside oral fluid drug tests are made by Alere (Waltham, Mass.) and Dräger (Germany).

Dräger DrugTest 5000

The Dräger DrugTest 5000 was first commercially introduced in 2008 and consists of a sampling system and analyzer. The suspected impaired driver moves the top part of the collector briefly back and forth between his/her cheek and gums until the integrated indicator signals that enough of a sample has been collected, the company says. The officer then inserts the test cassette and cartridge directly into the analyzer. The Dräger DrugTest 5000 tests for commonly abused drugs including THC (the psychoactive chemical compound found in marijuana), amphetamine, methamphetamine, opiates, benzodiazepines, cocaine, and methadone. The company says the device is used currently by law enforcement in more than a dozen states.

Alere DDS2

The Alere DDS2 device consists of a test cartridge and 1.5 pound-electronic analyzer. The company says actionable screening results for six drugs (amphetamines, benzodiazepines, cannabis [THC detectable at 25ng/mL], cocaine, opiates, methamphetamine, and methadone) are available in five minutes. Minimal training is required due to the three-button user interface that provides on-screen feedback. Additionally, the analyzer can store 10,000 results, which can be printed at the end of each test or reprinted from the memory card. Test data also can be downloaded to the optional Alere Software Application Suite for enhanced data management capabilities. Barcode recognition enables identification of test panel, lot number, and expiration date of the test cartridge.

Additionally, DUID.org, a coalition to combat drugged driving, says that 15 states have statutes permitting forensic oral fluid testing. While the political will is growing to tackle impaired driving, the technology of testing is lagging.

Challenge to Testing

Alcohol spreads throughout the body from saliva and breath, eventually moving into the lungs and bloodstream. So a breathalyzer or blood test can say how much alcohol is present in the body.

Marijuana, however, works differently than alcohol. High THC blood levels do not necessarily correlate with the "highest" or most impaired point. Eating marijuana, as opposed to smoking it, also makes it less likely to show up in the blood. And since THC is fat soluble, it can quickly leave the bloodstream, while being stored in the body's fat. This stored THC can leak out, and a blood test might show elevated THC levels—even if a driver didn't smoke that day and is completely sober.

Many long for the marijuana analogy to a blood-alcohol level, but evidence suggests this may be impossible. Compared to alcohol, defining and identifying impairment due to drugs is more complicated. In experimental settings, marijuana has been shown to impair psychomotor skills and cognitive functions associated with driving,

including vigilance, time and distance perception, lane tracking, motor coordination, divided attention tasks, and reaction time. However, detection of the drug's presence in the body, its concentration, and its impairing effects are not well understood and can vary by person due to frequency of use and individual differences in metabolism.

The federal government classifies marijuana as a Schedule 1 drug, meaning that it has no accepted medical use and possesses a high potential for abuse. This categorization impairs the ability of scientists to obtain federally sanctioned marijuana for research. But given the lack of research and the growing national use of the drug (both for medical purposes and recreationally) due to permissive state laws, the federal government is under pressure to reclassify marijuana and enable

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new research that will inform understanding of impairment and validate testing technologies.

“An ideal test would be one using saliva or breath THC concentration that accurately signifies impairment in all impaired individuals and does not falsely capture unimpaired, chronic frequent cannabis users (i.e., people using medical marijuana legally) due to residual THC. Unfortunately, the feasibility of this has not been established,” Barth Wilsey M.D., from the University of California Center for Medicinal Cannabis Research, tells *DTE*. “We are thus working on methods that, in the aggregate, will inform officers of the likelihood of cannabis-related driving impairment (i.e., information garnered from fluid THC levels and performance-based testing).”

The Center for Medicinal Cannabis Research was recently awarded a \$1.8 million project, commissioned by the California legislature, to improve methods for spotting drivers impaired by marijuana. Wilsey says the combination of oral or breath THC tests plus a performance-based field test will be the most expedient way to detect drug-impaired driving.

“In all probability, saliva will probably become the most prevalent bodily fluid for roadside screening,” Wilsey’s colleague Thomas Marcotte, Ph.D., adds. “There are currently commercial products that provide a readout (either positive or negative for defined levels of THC) within minutes. The rationale is that legislators and police officers will desire rapid analysis of driving under the influence of cannabis testing at the roadside, eliminating transport of detainees to hospitals or police stations for a blood draw to determine a blood level.”

The researchers say that breath testing currently requires sending the absorbent material that collects the cannabinoids to the lab for analysis, limiting its utility as a roadside device.

Pilot Cases

Beginning in March 2015, Colorado State Patrol (CSP) troopers began piloting five oral fluid testing devices. The CSP declined to disclose the companies or specific devices being used while the pilot is ongoing, but preliminary results are expected soon. It was reported that the Colorado attorney general’s office kicked in \$233,747 to help purchase the devices statewide.

Participation in the pilot is voluntary and drivers have to consent. Currently, the swab is being used for research and only used after a suspect is arrested and blood is drawn, the current standard procedure for testing THC. The oral fluid testing devices are currently in CSP field offices.

While Colorado’s roadside testing pilot is being closely watched nationally because of the state’s legalization of recreational marijuana, pilot testing programs are occurring throughout the country, including in California.

In February, Dräger’s oral fluid drug test results from its DrugTest 5000 (DT5000) mobile drug screening system were found to be scientifically reliable in a hearing for a vehicular manslaughter case in California. The judge’s decision, which is the first scientific-reliability ruling for an oral roadside testing device in the United States, allowed for the defendant’s DT5000 results to be presented to the jury. Legal experts say this is a landmark case for the use of admissible oral fluid drug test results in the court of law.

While an appeal is possible, if an appellate court upholds the decision regarding the scientific reliability of the oral testing device, the ruling on the admissibility of test results will be made binding throughout California.

“Due to its broad reach, the DT5000 screening system has undergone extensive, independent, scientific validation and been utilized in approximately one million tests worldwide,” said Michael Willis, president of Dräger Safety Diagnostics, in a statement. “This first Kelly-Frye hearing, as well as the push by the Kern County District Attorney’s Office for oral fluid result admissibility in the case, is confirmation that the DT5000 is on its way to becoming a standard screening method for DUI investigations and prosecutions.”

The company says its DT5000 system is broadly used across Europe and Australia and is currently in field use or pilot programs by law enforcement agencies and Drug

Recognition Expert (DRE) trained officers in more than a dozen states in the United States.

Takeaway: Roadside testing for marijuana is needed at a time when driving under the influence is increasing. Yet, development of these tests and adoption is hampered by non-uniform testing standards and legal thresholds, as well as the current inability to differentiate the presence of a drug from impairment.

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