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Advancing Drugged Driving Data at the State Level:

Synthesis of Barriers and Expert Panel Recommendations

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Title

Advancing Drugged Driving Data at the State Level: Synthesis of Barriers and Expert Panel Recommendations. *(March 2016)*

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About the Sponsor

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Founded in 1947, the AAA Foundation in Washington, D.C. is a not-for-profit, publicly supported charitable research and education organization dedicated to saving lives by preventing traffic crashes and reducing injuries when crashes occur. Funding for this report was provided by voluntary contributions from AAA/CAA and their affiliated motor clubs, from individual members, from AAA-affiliated insurance companies, as well as from other organizations or sources.

Introduction

Objective & Scope

The objective of this project is to identify and recommend strategies for improving state-level data on the nature and extent of drugged driving in the United States by addressing the most significant barriers that impede state efforts to collect and compile such data.

According to National Highway Traffic Safety Administration (NHTSA, 2012b) *Traffic Records Program Advisory Assessment*, states need accurate and reliable traffic records data to understand traffic safety problems, and to select and evaluate countermeasures to address the problems and ultimately improve traffic safety. Inadequate state data on drugged drivers limits understanding the extent and nature of the drugged driving problem, communicating it to the public, and measuring how it changes over time and in response to efforts to reduce it. (Berning & Smither, 2014; NHTSA, 2012a, *MMUCC Guideline Model Minimum Uniform Crash Criteria Fourth Edition* DOT HS 811 631; National Transportation Safety Board, 2012a, *Reaching Zero: Actions to Eliminate Substance-Impaired Driving Forum Summary*.)

While drugged driving is receiving increasing national attention, especially as a result of state legalization of marijuana for medical or recreational use, most state data on drugged driving in its current form is of limited use for measuring and tracking drugged driving incidents, evaluating the effects of changing laws regarding drug use and driving, or improving our knowledge about drug use and driving impairment. In addition to the limitations of existing data, the relationship between the presence and levels of drugs in a driver's body and their impairment or crash risk is further complicated by the number of potentially impairing drugs, the complexity of drug metabolism compared to that of alcohol, the variability of effects on individuals, and individuals using more than one drug or combining alcohol and drug use. Unlike with alcohol, drug concentrations do not necessarily relate to impairment, and drugs may be detectable after impairment has subsided. Threshold concentrations for drugs, similar to the 0.08 blood alcohol concentration (BAC), have not been agreed upon, and may not be feasible. (Government Accountability Office, 2015)

Drugged driving is commonly defined as driving under the influence of or impaired by drugs other than alcohol. Some states define drugged driving as drug-positive driving, though the drugs included vary by state. For the purpose of this effort, "drugged driving" refers generally to driving with any detectable amount of illegal or potentially impairing amounts of prescription or over-the counter medications in one's system, which includes driving while impaired by any of these drugs. "Drug-impaired driving" describes driving while impaired by a drug or drugs other than or in addition to alcohol, as differentiated from drugged driving, which includes drivers whose impairment is unknown (e.g., roadside

survey subjects). Drugged driving data of interest include data on the prevalence of drugged and drug-impaired driving, drug-impaired driving citation and adjudication data, and toxicology data for drivers arrested for driving under the influence of alcohol and/or other drugs and/or involved in serious injury and fatal crashes.

The focus of this project is on improving the quality of data related to drugged and drug-impaired driving. Efforts to enforce drugged driving laws generally, and barriers to such efforts, are outside the scope of this project. Improving our understanding of drug use and driving impairment, while important to combating drug-impaired driving and in need of additional research, is also outside the scope of this project. The improved data that would result from implementation of the recommendations in this report, however, should help guide drugged driving enforcement efforts and improve our understanding of drug presence/levels and crash risk. Issues not specific to collection of data on the presence and levels of drugs in drivers, e.g., funding of law enforcement generally, are clearly relevant to improving data on drugged driving and are important to this project, but are not the focus of this project and thus are only briefly mentioned and not discussed at length.

Methods

This project employed a synthesis of literature to identify barriers to state efforts to collect and compile data on drugged driving sufficient to quantify the nature and extent of the problem at the state level, and recommendations to address those barriers. The draft synthesis document was then distributed to a thirteen-member expert panel of invited toxicologists, prosecutors, law enforcement agency leaders, safety researchers, and other traffic safety professionals. As a group, the panel represented those who must detect and cite/arrest drug-impaired drivers, test the specimens collected during the arrest process, prosecute offenders, and use the resulting data to support decision making on laws, policies, and safety.

In order to identify barriers and recommendations, we searched for studies and reports on:

- the limitations of existing sources of state data on drugged driving among the general population, suspected-impaired drivers, and crash-involved drivers;
- challenges and issues in drugged driving enforcement;
- guidelines and recommendations for drugged driving research.

This effort was not intended to catalog barriers state-by-state, though examples and exceptions to barriers are included where appropriate.

The expert panel convened on July 9, 2015 to discuss the barriers and to evaluate, refine, and prioritize the recommendations. The meeting and prioritization was facilitated using a modified Delphi technique with the following components:

- **Discussion** of each section of the literature review including a read-through of the previously provided literature summary and recommendations. This resulted in refinement of recommendations in which some were edited, some new recommendations added, and some were dropped from further consideration. Discussion of the recommendations focused on two main factors: how easy or difficult would it be to implement the recommendation, and, if implemented, how large an improvement would be expected on data completeness, accuracy, and availability.
- **Prioritization preparation** including discussion of the process, review of all recommendations, and posting of the recommendations on paper sheets placed around the meeting room. At this stage, each panel member was given a set of stickers equal to approximately two-thirds of the number of recommendations upon which they were to vote. They were told they could apply their votes however they saw fit, including putting all votes on a single item; however, the facilitation team highly recommended avoiding too concentrated a voting strategy. The purpose and importance of the process and outcome were stressed at this point by reminding the panel members that the session was not aimed at unanimity, but at an expression of

consensus that each panel member could support in their own work and among their own colleagues.

- **First vote** in which panel members (with exception of those who abstained from voting as noted in Appendix) placed their stickers on the pages beneath the recommendations they believed were the highest priority. There was no discussion during this stage as the experts walked around the room indicating their preferences. The votes were tallied and the total number of votes was written on the sheet for each recommendation.
- **Post vote discussion** in which the panel members reviewed each of the recommendations in order from highest to lowest vote tally. At this stage, the facilitator invited the panel members to make a case for (or against) any recommendation that they felt had received too few (or too many) votes, and to make proposals for combining recommendations which the panel could then either approve or deny. This process resulted in a final set of recommendations on which the panel could indicate their final priorities.
- **Electronic final vote** in which panel members who participated in voting completed an additional voting process. Each panel member was allotted 13 votes to distribute among the recommendations and permitted to apply more than one vote to any given recommendation. Panel members provided their votes via email and the project team tallied the results, and rank-ordered the recommendations as reflected in this document. Recommendations with 10 or 11 votes were designated high priority, those with 6-9 votes as medium priority, and those with 2 or 3 votes as low priority.
- **Final review and approval** in which each panel member was asked to "sign off" on the document and the indicated priorities of the recommendations. In the submittal email, the project team stressed that their approval was to indicate that they could support the documented priorities as reflective of the *group's* discussion and conclusions. In this manner, this final report has been vetted by the group of experts assembled as a panel even while, individually, each may hold a different opinion on the precise order of the priorities.

This Report

This document presents the revised synthesis of barriers and prioritized recommendations based on the discussion and voting by the expert panel, the members of which are listed in the Appendix.

This document is organized into two main sections: ***Synthesis of Barriers*** and ***Expert Panel Recommendations***. The barriers are organized into three broad categories of drugged driving data: (I) toxicology data from drivers who have been arrested and/or involved in crashes, (II) arrest/adjudication and crash data, and (III) data on the prevalence of drugged driving in the population generally (not limited to arrested and/or crash-

involved drivers). The recommendations are presented in rank order and broken out into high, medium, and low priority based on the panel's final vote.

Synthesis of Barriers

I. Barriers to toxicological data on the presence and amount of drugs in drivers arrested for driving under the influence of alcohol and/or other drugs (DUI) and/or involved in crashes

The cost of drug testing as well as state laws, policies, or protocols may limit specimen collection.

The state of the practice in most U.S. states is to test for drugs only if the officer does not suspect alcohol-impairment or the breath test for alcohol returns a value that is insufficient to explain the level of apparent impairment (and, incidentally, is below the per se limit of .08 BAC). This is largely because drug testing is much more expensive than testing for alcohol only: a typical drug panel costs $100 - $300 as compared to $25 - $35 for a blood test for alcohol. (Colorado Association of Chiefs of Police, 2015; Government Accountability Office, 2015; Talpins, DuPont, Chip Walls, Sabet, & Wallace, 2015) Departmental budgets are insufficient to test all drivers suspected of drug impairment and because so many of the drugged drivers are also driving while impaired by alcohol, the prosecutor does not need the additional charge of a drugged driving offense to secure a DUI conviction. There are other disincentives as well, as it is more difficult to prosecute a drugged driving case requiring additional expert testimony. Prosecutors may drop or reduce the drug-related charge as part of a plea deal in order to secure a conviction quickly on the alcohol-related DUI charge. This is especially likely in cases of poly-drug use (including alcohol), and suspected abuse of prescription drugs, or in states where the driving under the influence of drugs (DUID) charges are more difficult to prove in court.

The literature confirms that drug tests are administered much less frequently than blood alcohol concentration (BAC) tests. States have typically codified DUI alcohol, drugs, or a combination of both under a single impaired driving statute. Thus, a suspected impaired driver with a BAC of 0.08 or greater is unlikely to be tested for other drugs, especially if the state's impaired driving law combines alcohol and drug impaired driving into a single offense with no additional penalties for drugs detected. (Berning & Smither, 2014; Verstraete & Walsh, 2006)

All states have implied consent laws which assert that, by virtue of driving on public roads in that state, a driver consents to chemical testing for alcohol, typically when a law enforcement officer has probable cause that the person was driving while alcohol-impaired (the states cannot impose a lower standard without running afoul of the Federal

Constitution); all states but Alabama, Alaska, Massachusetts, and New Jersey extend implied consent to chemical tests for other drugs as well. The scope of drugs included varies among states, and some courts have ruled that an officer must believe that the driver was impaired by drugs other than or in addition to alcohol, in order to request a sample to test for drugs. (NHTSA, 2015; NMS Labs, 2014; S. K. Talpins, personal communication, December 23, 2015; Walsh, 2009) Alabama has a separate provision that allows drug tests for drivers involved in serious or fatal injury crashes given sufficient evidence of DUI alcohol, amphetamines, opiates, or cannabis. (Ala. Code § 32-5-200) Alaska has a similar provision that allows drug tests of drivers without consent if that person has been arrested for a DUI offense where there has been a crash involving death or physical injury. (Alaska Stat. § 28.35.035(a)) Massachusetts and New Jersey do not have any provisions that require a drug test, so a specimen may only be collected voluntarily. (Mass. Gen. Laws Ann. ch. 90 §24(1)(f); NHTSA, 2015; N.J. Stat. Ann. § 39:4-50; Walsh, 2009) In Maryland, a drug test may only be requested by an officer who is in training or certified as Drug Recognition Expert (DRE) through the Drug Evaluation and Classification (DEC) program, unless the driver was in a crash involving "life threatening injury" or death. (Md. Code Transportation § 16-205.1) Absent consent, Oregon requires that either (1) a police officer is certified by the Department of Public Safety Standards and Training as having completed at least 8 hours of training in recognition of drug impaired driving and the driver has a 0.08 BAC or the driver is involved in a crash resulting in injury or property damage; or (2) a police officer has probable cause and the driver is unconscious or incapable of expressly consenting to the test. (Or. Rev. Stat. §§ 813.131, 813.140) A majority of implied consent laws specify the specimen(s) permitted for collection, with most including blood and urine, while some states also include "other bodily substances" or oral fluid. (NMS Labs, 2014; Walsh, 2009) All states except Connecticut have laws that authorize collection of a sample or samples for more than one evidentiary test. (Conn. Gen. Stat. Ann. §14-227b; DuPont, Logan, Shea, Talpins, & Voas, 2011)

Many states allow use of force to collect a specimen subsequent to a refusal by a suspected impaired driver under certain circumstances, typically in serious or fatal injury crashes, though a warrant may be required. (NHTSA, 2015; Walsh, 2009) The 2012 U.S. Supreme Court ruling of McNeely v. Missouri established that the natural dissipation of blood alcohol, by itself, does not establish exigent circumstances to collect a specimen without a warrant, and that exigency must be assessed case-by-case. (Nelson, Olson, Abbott, & Wittman, 2015)

Penalties for refusal to submit to a drug test vary among states: while all states except Kentucky, Massachusetts, New Jersey, Rhode Island, Tennessee, and Wyoming apply administrative license suspension or revocation for refusing a drug test, some apply additional criminal sanctions and/or enhanced penalties to further discourage refusal. In Alabama and Alaska, administrative license suspension is applied only to drivers who refuse and were involved in serious injury crashes. (Ala. §32-5-200; AS §§28.35.031(g), 28.35.032(a), (e)-(g), and 28.15.165; NHTSA, 2015; NMS Labs, 2014)

States vary widely in their policies, practices, and laws regarding toxicology testing for drivers involved in serious and fatal injury crashes. Several states require drug tests for all surviving drivers involved in fatal crashes and some extend this requirement to those involved in serious injury crashes as well. High testing and reporting rates can be achieved by states through laws, policies, and/or practices, though a law or policy is not required, nor does enacting one ensure increased testing rates. (Casanova, T., Hedlund, J., & Tison, J., 2012) Among fatally-injured drivers, even when state law requires BAC and/or toxicology tests for fatally injured drivers, the tests may not be conducted, for example, if an autopsy is not performed or a specimen is not collected during an autopsy. Additionally, available test results may not be reported appropriately. (Berning & Smither, 2014; DuPont, Logan, Shea, Talpins, & Voas, 2011) Nationwide, in 2013, 20% of all surviving drivers in fatal crashes, and 60% of fatally-injured drivers were tested for drugs. Fewer than half of all surviving drivers were tested for drugs in all but 3 states, whereas only 19 states tested more than three-quarters of all fatally-injured drivers for drugs. (FARS 2013, analysis by AAA Foundation)

Some states have insurance laws that allow health insurers to deny reimbursement for treatment of injuries sustained while under the influence of alcohol or any drug (excluding prescription medications which are used as directed), which may result in medical professionals being reluctant to test injured drivers because their payments might be affected.

Law enforcement may not accurately identify drug impairment in drivers due to insufficient training.

In the absence of statutory provisions authorizing testing, law enforcement officers are generally required to establish probable cause that a driver is impaired, and in some states impaired by drugs other than or in addition to alcohol, to request a sample for toxicology testing. (NHTSA, 2007; S. K. Talpins, personal communication, December 23, 2015; Verstraete & Walsh, 2006) Unfortunately, many law enforcement officers' ability to recognize and document drug impairment in drivers may be limited by insufficient training, with training varying widely among states. Officers who have not had specialized training, such as "Drugs that Impair Driving," Advanced Roadside Impaired Driving Enforcement (ARIDE), or DRE training, may miss signs of drug impairment in suspected impaired drivers they evaluate using the Standardized Field Sobriety Tests (SFST), particularly when alcohol is also present. This leads to underreporting the presence of other drugs in drivers arrested for DUI alcohol, and may also result in the inadvertent release of a dangerous driver. (DuPont et al., 2011)

More sensitive field tests are needed for law enforcement to assess impairment by drugs.

Law enforcement officers typically use the SFST to establish evidence of impairment in suspected-impaired drivers. Various recreational drugs impair performance on the SFST,

which has high specificity for drug and alcohol impairment, yielding virtually no false positives, however the sensitivity is not very high and some drug-impaired drivers are able to pass detection. (Bosker et al., 2012; Downey et al., 2012; Papafotiou, Carter, & Stough, 2005; Porath-Waller & Beirness, 2014) A more sensitive test battery would improve law enforcement identification of drug-impaired drivers.

State DEC programs may not be implemented as effectively as possible.

If an officer is aware of the resource, he or she may request a DRE to conduct a more thorough investigation, depending on DRE availability. (Lacey, Brainard, & Snitow, 2010) State DEC programs may be hampered by inadequate resources and support, limited DRE availability and proficiency, and inefficient deployment of DREs. (NHTSA, 2007) The average annual number of evaluations completed per DRE officers varies widely among states, with an average of only 5.3 enforcement evaluations per DRE officer per year among those reported to the NHTSA Data Collection Tracking System, though due to voluntary reporting the data are incomplete. (International Association of Chiefs of Police, 2014) The evaluation data recorded do not include the signs and symptoms observed by the DRE, valuable data that could also be collected by the system. (DuPont et al., 2011)

Specimen collection may be excessively delayed.

Portable breath alcohol test devices enable law enforcement to rapidly obtain estimates of drivers' BAC at the roadside, but equivalent on-site drug test technology is less advanced and its use in the U.S has been limited. (DuPont et al., 2011) Blood and urine, the matrices most commonly used in drug-impaired driving investigations, typically cannot be collected at the roadside and must be sent away for laboratory analysis. (The utility of urine testing in drug-impaired driving investigations is also limited because a drug detected in urine only reflects exposure to that drug, rather than blood levels or impairment at the time of driving. (Logan et al., 2013; Moeller, Lee, & Kissack, 2008) Several hours may transpire by the time an officer has gathered enough evidence to request a test from a suspected-impaired driver, obtain a warrant for the test if necessary, and transport the suspect to a facility where the sample is then collected. Drug levels may dissipate significantly during this time. (Government Accountability Office, 2015) Oral fluid is the most accessible alternative matrix for drug tests, making it ideal for use at the roadside in impaired driving investigations. On-site oral fluid test devices have proven valuable for screening, and although there are no such devices approved for law enforcement in the U.S., states are increasingly interested in using oral fluid testing. On-site tests require confirmatory testing, their scope is typically limited to the most commonly used illicit drugs, and their sensitivity is still relatively low despite significant improvements in technology. (Bosker & Huestis, 2009; DuPont et al., 2011; Vanstechelman et al., 2012)

Toxicology laboratories may be limited in their capacity to provide accurate test results in a timely fashion.

As discussed earlier, drug toxicology testing is much more expensive than alcohol testing, as is the required laboratory equipment. Drug testing is also much more time consuming, requiring screening and confirmatory tests for each of the drugs on the panel. (Colorado Association of Chiefs of Police, 2015; Government Accountability Office, 2015) Toxicology labs may not be adequately equipped, staffed, or funded for their caseloads, and therefore unable to provide toxicology results within the time constraints for prosecution. Some drugs further degrade after collection and may no longer be detectable by the time the test is run. (DuPont & Shea, 2014; Government Accountability Office, 2015)

Toxicology results may not be comparable due to inconsistencies in toxicology practices, the frequent failure to test for the amount of drugs present, and the lack of agreement on the thresholds for impairment for many drugs.

The lack of national standards or certification requirements for toxicology testing in impaired driving investigations has resulted in substantial variation in practices, which limits the comparability of results across states, as well as within some states. Laboratories may vary in terms of their drug test panels; specimen matrices; the types, methods, and sensitivities of screening and confirmatory tests; thresholds and procedures for reporting; and quality control procedures. (Berning & Smither, 2014; DuPont et al., 2011; Government Accountability Office, 2015; NHTSA, 2007) In some states, such as Washington and Vermont, statewide toxicology tests are conducted by a single laboratory; in other states tests may be conducted by multiple private laboratories and/or local or state public laboratories, which may limit the availability of consistent statewide data. (Government Accountability Office, 2015)

The National Safety Council's (NSC) Alcohol, Drugs and Impairment Division provided updated recommendations for toxicological investigation of suspected-impaired and/or fatal crash-involved drivers, including preferred matrices (blood and oral fluid), and scope and cutoff levels for screening and confirmatory tests in blood, oral fluid, and urine, although these recommendations have not yet been widely implemented. (Logan et al., 2013)

The National Transportation Safety Board has issued a recommendation (H-12-33) to NHTSA to "Develop and disseminate to appropriate state officials a common standard of practice for drug toxicology testing, including (1) the circumstances under which tests should be conducted, (2) a minimum set of drugs for which to test, and (3) cutoff values for reporting the results." (National Transportation Safety Board, 2012b) NHTSA has since worked with the Office of National Drug Control Policy (ONDCP) and the Substance Abuse and Mental Health Services Administration (SAMHSA) to address this recommendation and avoid duplicative efforts. NHTSA is using the U.S. Department of Health and Human Services (HHS) Mandatory Guidelines as a framework for its driver testing program and

waiting to develop guidance until the oral fluid drug-testing standards that SAMHSA has proposed are further advanced. (94 FR 28054; Government Accountability Office, 2015)

II. Barriers to drugged driving arrest, adjudication, and crash data

Most states do not distinguish between driving under the influence (DUI) of alcohol, DUI drugs, or DUI alcohol and drugs offenses.

Arrests for DUID are frequently indistinguishable from those for DUI alcohol in state data. States have typically codified DUI alcohol, drugs, or a combination of both under a single impaired driving statute, and combined such violations in arrest, driver records, and court data systems. Or states may have separate and distinct reportable offenses but not separate them accordingly in their data. Alternatively, states without distinct offenses may track them separately. (Government Accountability Office, 2015; Lacey et al., 2010; NMS Labs, 2014)

DUI drugs in addition to alcohol may be underreported in arrest and citation data.

Most states do not apply enhanced penalties for DUID in addition to DUI alcohol, which along with the time and expenses incurred to collect and process toxicology tests, may create disincentives for law enforcement to further investigate drug use in drivers with blood alcohol concentrations (BAC) of 0.08 or greater. (Government Accountability Office, 2015; Lacey et al., 2010; Verstraete & Walsh, 2006)

Most states do not have a system sufficient for tracking statewide impaired driving arrests through adjudication and disposition.

Tracking state DUI citations from arrest through adjudication depends on the availability of aggregated, uniform, and complete data, as well as a comprehensive integrated system for managing and accessing the data. NHTSA has provided guidance on the components and implementation of a statewide DUI tracking system through the *Driving While Intoxicated Tracking Systems* and *Model Impaired Driver Records Information System* (MIDRIS) project, with states implementing the guidance to varying degrees. (Greer, 2011) Arrest and court records may vary in format, content, and coverage within a state, and states may not have statewide records for each. (Compton, R., Vegega, M., & Smither, D., 2009; Government Accountability Office, 2015; Greer, 2011) States may have some components of a comprehensive impaired driver records system, but they may not be fully integrated, and may not include toxicology test results. In the absence of a fully integrated comprehensive system, tracking DUI and DUID data will be limited, as will the ultimate effectiveness of the DUI enforcement system. (Greer, 2011; NHTSA, 2012b)

Crash databases may have limited capacity for capturing toxicology test results.

State crash databases typically include some data elements related to drugged driving, such as drug impairment and DUI violations charged, though they may not reflect toxicology tests. The Model Minimum Uniform Crash Criteria (MMUCC) includes data elements to capture whether a drug test was given, the type of test given (blood/urine/other), the result (positive/negative/unknown), and specific drugs detected (up to 4). (NHTSA, 2012a) However, the MMUCC data elements do not indicate what specific drugs were tested for in the case of negative results. Thus it is not possible to determine whether or not a driver was tested for a specific drug or whether the driver tested negative for that drug. It is also not possible to record quantitative results of toxicology tests in the case of a positive test using the MMUCC data elements.

The Fatality Analysis Reporting System (FARS), a national fatal crash database maintained by NHTSA and populated by data submitted by states, has limitations similar to those for the MMUCC data elements: FARS can capture whether a drug test was given, the type of specimen tested, whether the test was positive or not, and up to 3 specific drugs detected, but cannot capture what drugs were tested for if the results were negative, or quantitative toxicology results for positive tests. (NHTSA, 2014)

III. Barriers to data on the prevalence of drugged driving

Roadside toxicology surveys are costly and challenging to implement.

Roadside surveys using the National Roadside Survey (NRS) methodology can provide more objective information on drugged driving than self-report surveys by using toxicology tests to measure the presence and amount of drugs in a representative sample of drivers on the road. While NRS data is not sufficient for generating state-level estimates of drugged driving, states may administer statewide roadside surveys, such as those conducted in California and Washington. (Lacey, Kelley-Baker, Romano, Brainard, & Ramirez, 2012; Pacific Institute for Research and Evaluation, 2014) Barriers to conducting roadside surveys include high costs, methodological and logistical considerations, and challenges in coordination with law enforcement. The study design, including sampling and weighting, may impact the results and their comparability with other roadside surveys. (Lacey, Kelley-Baker, Furr-Holden, Brainard, & Moore, 2007; Raes, Van de Neste, & Verstraete, 2008)

The Consolidated and Further Continuing Appropriations Act of 2015, which expired December 22, 2015, prohibited the use of federal funds for the implementation of the NRS. (2014) The Consolidated Appropriations Act of 2016, which was signed December 18, 2015, also prohibits use of federal funds for the NRS, however Congress could reauthorize such funding in a future appropriations bill. (2015)

Expert Panel Recommendations

Presented in order of prioritization by the Panel as described in Methods. References are noted for recommendations that originated from consideration of existing recommendations in published literature.

High Priority Recommendations (10-11 votes):

All law enforcement officers should be trained in administering the Standardized Field Sobriety Tests (SFST) and should be trained in the NHTSA "Drugs that Impair Driving" curriculum.

Rank: 1st (tied)	*Votes:* 11	*Implementation:* Easy	*Improvement:* Large

This recommendation, which originated from consideration of prior recommendations by NHTSA (2007) and the Governors Highway Safety Association (2013), aims to improve law enforcement identification and reporting of drug impairment among drivers by ensuring all law enforcement officers have a minimum level of awareness about drug use by drivers and proficiency in identifying drug impairment in drivers using the SFST. Training requires support and funding, which should be provided by state and federal agencies, or as a panel member noted, funding could come from marijuana sales tax revenue (where applicable) as it has in some states. Law enforcement training levels vary widely among states and some may not need additional training.

Implementation was rated as easy because the recommended training is available and effective, and many officers are already trained accordingly. The panel recognized that there would be a cost associated with delivering this training and making sure that officers retained currency of their certification, but the SFST is a standard that is easily taught.

The improvement that would result was rated large because, if arresting officers can more accurately and efficiently identify drug impairment based on this training and knowledge, enforcement agencies can more effectively use their DREs and budget for testing.

States should authorize and encourage law enforcement to collect and test samples for drugs and alcohol for all DUI arrestees.

Rank: 1st (tied)	*Votes:* 11	*Implementation:* Difficult	*Improvement:* Large

This recommendation, which originated from consideration of a prior recommendation by DuPont et al. (2012), aims to increase drug testing for DUI arrestees regardless of BAC,

which would increase the amount of data collected regarding the prevalence of drugs in DUI arrestees, and help reduce underreporting of drug use by drivers arrested for DUI alcohol. Panel members expressed concern about the cost of increased testing and the excessive burden that would be imposed on small agencies if such testing were required, but agreed that authorizing and encouraging rather than requiring such testing would help minimize the burden. An additional sample for drug testing is not required if a sample is available on which multiple tests can be performed. An additional benefit of testing all DUI arrestees for drugs and alcohol, as noted by the panel, is better targeted treatment.

Implementation was rated as difficult because of the added cost of testing for drugs, and because there are few incentives for law enforcement to take on this burden.

The improvement that would result was rated large based on the information that would be gained about the prevalence of drug use, which drugs are detected, and at what concentrations, in the DUI arrestee population, and the additional benefit of better targeted treatment for drug-related issues.

National model specifications should be developed for oral fluid drug test devices.

Rank: 3rd (tied)	*Votes:* 10	*Implementation:* Easy	*Improvement:* Large

The appropriate federal agency or agencies should develop model specifications for oral fluid drug test devices and publish a list of conforming products, similar to NHTSA's *Model Specifications for Devices to Measure Breath Alcohol* and *Conforming Products List of Evidential Breath Alcohol Measurement Devices.* (58 FR 48705; 77 FR 35747) The model specifications developed for oral fluid drug test devices should address device efficiency, portability, quantification of results, provision of a sample for confirmatory testing, the range of drugs detected (which should include the most commonly used potentially impairing prescription drugs), and the accuracy, reliability, sensitivity, and specificity at which each drug is detected. In addition to guiding state and local law enforcement agencies' purchasing of oral fluid drug test devices and potentially increasing their use, model specifications and the corresponding conforming products list for such devices would likely incentivize product improvement among manufacturers.

Implementation was rated as easy based on the existence of models such as the documents listed, and the U.S. Department of Transportation's experience developing such model specifications.

The improvement that would result was rated large because of the expected increases in acceptance and use of oral fluid tests in the field and in the courtroom, and the potential for improved products.

Law enforcement use of point of contact oral fluid drug test technology should be optimized.

Rank: 3rd (tied)	*Votes:* 10	*Implementation:* Easy	*Improvement:* Large

This recommendation, which originated from consideration of a prior recommendation by DuPont et al. (2011), calls for increasing use of oral fluid drug test devices by law enforcement officers at the roadside, which would minimize delay in collecting a specimen for drug testing from the time of traffic stop or crash. Devices that provide preliminary results at the roadside may improve identification of drug-impaired drivers as well as help target toxicology testing, potentially reducing sample collection and testing costs, more efficiently using the officers' time, and reducing the cost of litigating the cases. This recommendation is closely related to two others, the implementation of which would likely result in increased law enforcement use of oral fluid testing: the recommendation to develop model specifications for oral fluid drug test devices, and the implied consent law recommendation with regard to authorizing oral fluid collection.

Implementation was rated as easy because oral fluid test kits are available and being used in some states, and samples can be collected by officers, without the need for a phlebotomist and/or transporting a suspected impaired driver to a specialized facility.

The improvement that would result was rated large because, given the potential to reduce the cost of drug testing, a major barrier to expanded testing of suspected impaired drivers, which would likely increase the rate of such testing and thus improve the completeness of data on drug use among suspected impaired drivers.

States should update their data collection and reporting systems to distinguish among impaired-driving offenses in all relevant data.

Rank: 3rd (tied)	*Votes:* 10	*Implementation:* Difficult	*Improvement:* Large

Implementation of this recommendation, which originated from consideration of a prior recommendation by Compton et al. (2009), would allow for distinct reporting and tracking of DUI alcohol, DUID, or DUI alcohol and drugs, which are combined in most state citation, adjudication, driver, and crash data systems. Updates should allow for recording which drug or drugs are detected in toxicology testing and the concentrations. States may create separate offenses for DUID and DUI alcohol, which may be charged in combination, however separate offenses are neither sufficient nor necessary to separate the offenses in data, and as the panel acknowledged, changing DUI statutes is extraordinarily difficult.

Implementation was rated as difficult because even without changing statutes, it will be time-consuming and challenging for states to ramp up collection of this new data, which depends largely on testing many more suspected impaired drivers for drugs. Altering the systems to handle the increase in data, however, will be relatively easy.

The improvement that would result was rated large because the resulting data would largely improve states' capacity to quantify DUID offenses, with and without alcohol, and track them over time.

Implied consent laws should extend to drugs other than alcohol and support collection of blood or oral fluid for drug testing, law enforcement should be authorized to collect multiple tests from suspected-impaired drivers, and suspects should not be permitted to choose the test(s).

Rank: 3rd (tied)	*Votes:* 10	*Implementation:* Difficult	*Improvement:* Large

Extending implied consent laws to drugs other than alcohol and authorizing the collection of blood and/or oral fluid, while difficult to implement, would improve state data on the drugs present in suspected-impaired drivers, including those who are positive for alcohol. This recommendation originated from consideration of prior recommendations by Cafaro (2010), the International Association of Chiefs of Police (n.d.), and NHTSA (2006). Authorization to collect specimen(s) to test for drugs rather than just alcohol, and prohibiting suspects from choosing the test(s) prevents suspects from avoiding blood or oral fluid collection by satisfying required testing by submitting to breath alcohol testing.

Implementation was rated as difficult because it requires changing statutes, and may also require acquisition of new equipment and law enforcement training.

The improvement that would result was rated large primarily because of the potential increase in testing suspected impaired drivers for drugs that would result from authorization of oral fluid collection among a much greater proportion of states. More uniformity among implied consent laws would also improve comparability of data between states.

Medium Priority Recommendations (6-9 votes):

Congress should reauthorize use of federal funds for roadside surveys.

Rank: 7th	*Votes:* 9	*Implementation:* Easy	*Improvement:* Large

This recommendation would reverse the prohibition on using federal funds to conduct the NRS that was included in the Consolidated Appropriations Act, 2016, thereby allowing NHTSA to award funds for future iterations of the roadside survey. It would yield a large benefit in terms of continued collection of longitudinal data on alcohol and other drug use by drivers that would be collected in future iterations of the NRS.

Panel members noted that this recommendation would be easy for Congress to implement in a future appropriations bill if Congress decided that this is a priority and allocated funding for this purpose.

The improvement that would result was rated large because the survey provides comprehensive, objective data on alcohol and other drug use by drivers on U.S. roadways. This data can be compared longitudinally to that from prior and subsequent iterations of the survey to help better understand the problem of substance-impaired driving and its trajectory, which would help allocate sufficient resources to address it. The data can also be used in combination with data from other sources to study crash risk.

NHTSA should endorse and encourage the use of the NSC's recommendations for toxicology testing in drug-impaired driving and crash investigations.

Rank: 8th (tied)	*Votes:* 8	*Implementation:* Easy	*Improvement:* Large

Panel members generally agreed that to help increase the consistency and comparability of toxicology results for drivers, NHTSA should endorse the NSC's best practice guidelines for toxicology testing and reporting, and encourage laboratories to comply with the guidelines. (Logan et al., 2013) Panelists noted that one mechanism by which NHTSA could encourage compliance with the NSC guidelines is to require compliance by laboratories receiving federal highway funding for instrumentation and training.

The existence of best practice guidelines from the National Safety Council helps to make this an easy recommendation to implement. Imposing a compliance requirement on federally funded labs is also relatively simple as it is an administrative rather than legislative change.

This recommendation would yield a large improvement in the consistency and comparability of toxicology data from drug-impaired driving and crash investigations within and between states, and allow for development of a national picture from standardized data, a large improvement upon existing data.

Research to develop additional, more sensitive behavioral tests for identifying drug-impaired drivers should be supported and conducted.

Rank: 8th (tied)	*Votes:* 8	*Implementation:* Difficult	*Improvement:* Large

While the SFST is useful for identifying drug-impaired drivers, a more sensitive test or battery of tests would improve the accuracy of identification. Panel members acknowledged that a development of a behavioral test sensitive to multiple drugs and poly-drug use or driving impairment will be very difficult, but agreed such tests should be pursued due to the potential benefits. This recommendation originated from consideration of a prior recommendation by Shinar et al. (2006).

Implementation was rated as difficult because of the cost of the research needed to support development of such tests, the large number of potentially impairing drugs and the prevalence of poly-drug use, potential legal challenges in court, and necessary training.

The improvement that would result from implementing this recommendation was rated large because a more sensitive test battery would increase the effectiveness and efficiency of identifying and testing drug-impaired drivers, allowing for better allocation of limited funding.

States should authorize and encourage alcohol and drug testing for all surviving drivers involved in fatal and serious injury crashes.

Rank: 10th (tied)	*Votes:* 7	*Implementation:* Difficult	*Improvement:* Large

This recommendation, which originated from consideration of prior recommendations by the Governor's Highway Safety Association (2013) and Lightner & Wood (2015), would increase testing of surviving drivers involved in serious injury or fatal crashes. Panel members agreed that states should strive to test as many surviving drivers involved in fatal and serious injury crashes as possible and ensure tests are performed and results reported. Panel members acknowledged that state laws that create a disincentive to test for drugs, the lack of laws requiring testing, funding constraints, and limited laboratory capacity may limit some states or agencies from testing all drivers in serious and fatal injury crashes, and agreed that such testing should not be required, but rather authorized and encouraged.

Implementation was rated as difficult mostly for those states that have a strong tradition of requiring probable cause for drug or alcohol testing crash-involved drivers. They may never actually get to the point of testing all drivers in fatal crashes, let alone serious injury crashes.

The improvement to our estimates of drug and alcohol levels in serious crash involved drivers that would result from implementing this recommendation was rated relatively large because with sufficiently high rates of testing, we could have reliable national and state-level estimates of the size of the problem and its link to serious crash consequences.

States should enact laws and/or the appropriate agencies should implement policies mandating alcohol and other drug testing and reporting of the results for all fatally injured drivers.

Rank: 10th (tied)	*Votes:* 7	*Implementation:* Difficult	*Improvement:* Large

This recommendation, which originated from consideration of a prior recommendation by Dr. Anne McCartt (in National Transportation Safety Board, 2012a), aims to increase rates of alcohol and drug testing and reporting to state databases and FARS for fatally injured drivers. States have a variety of policies and practices regarding testing fatally injured drivers, some which mandate testing by law, and rates of testing vary, with some states already achieving high testing rates, even for drugs. A law is not necessary to increase testing, nor is it a means by itself, and is likely to be much more difficult to implement or change than a policy or practice., along with the large improvement to data on drugged driving and fatal crashes that would result.

Implementation was rated as difficult because of the challenges of changing a law, if a policy could not accomplish the desired testing, and the cost and time requirements of increased testing.

The improvement that would result was rated large because reliable national estimates could be derived from reliable state-level data, whereas current data for fatally injured drivers makes it difficult to conduct reliable analyses that generalize beyond the state where the data originate.

MMUCC and FARS data elements pertaining to drug tests should be revised to indicate each specific drug for which a test was performed and the result of each test, including quantitative results and the type of specimen tested.

Rank: 10th (tied)	*Votes:* 7	*Implementation:* Difficult	*Improvement:* Large

This recommendation addresses the limitations of MMUCC and FARS data elements, which are not designed to capture which drugs a driver was tested for in cases of negative tests or the quantitative results of positive toxicology tests, therefore limiting the utility of

MMUCC-compliant state crash data and FARS data for assessing and evaluating drugged driving.

Implementation was rated as difficult primarily with regard to states' transitioning to collecting and reporting different and additional information, more so than the actual revisions to the data elements, though the latter are not trivial. It may also be difficult to convince the MMUCC review panel that new attributes are need since MMUCC is considered a "minimum" dataset. It is less difficult for NHTSA to add or change FARS attributes. At the time of this study, changes to FARS in line with this recommendation are being considered.

The improvement that would result was rated as potentially quite large, assuming that states update their data systems with the revised elements, and are able to collect the data to complete the drug test data element and attributes. Being able to discern whether a driver tested negative for a drug or was not tested for that drug, and having quantitative test results, would greatly increase the utility of state and FARS crash data.

Improve implementation and utilization of DEC programs, including testing surviving drivers in fatal crash investigations.

Rank: 10th (tied)	*Votes:* 7	*Implementation:* Difficult	*Improvement:* Large

Panel members recommended that federal and state officials provide support and funding for DEC programs to increase the efficient and effective deployment of DREs, particularly in fatal crash investigations with surviving drivers. This recommendation originated from consideration of a prior recommendation by NHTSA (2007). Improving DEC programs would likely yield largely improved data on drug-impairment among drivers examined by DREs.

Implementation was rated as difficult because of the cost and time requirements for initial training as well as maintenance of training. It is difficult for officers to maintain certification and their own reliability if they do not get sufficient practice by being called upon regularly to assess suspected drug-impaired drivers. For most DREs, this is not a full-time duty, so it generally takes them away from other assignments, also adding to the cost.

The improvement that would result was rated large because expansion of DEC programs would help with identifying likely impairment, and thus may help fill the gap when universal testing of serious crash-involved drivers is not possible.

Sanctions for refusing to provide a sample for alcohol and/or drug testing, whether criminal or administrative, should be at least as severe as those for testing positive.[1]

Rank: 14th	*Votes:* 6	*Implementation:* Difficult	*Improvement:* Small

To discourage suspected-impaired drivers from refusing to submit a specimen for toxicology testing, states should apply sanctions for test refusals that are at least equivalent, if not more severe, than those for a positive test result. This recommendation originated from consideration of a prior recommendation by Cafaro (2010). Most states apply license revocation or suspension for refusals, while some states also apply criminal and/or administrative sanctions.

Implementation was rated as difficult because this would require changing a law: some states in which implied consent applies to drugs would need to strengthen the sanctions for refusal, while other states would have to change their implied consent laws to include drugs in addition to strengthening sanctions. One state, Wyoming, would have to add sanctions for refusal, since there currently are none.

The improvement that would result was rated small because test refusals are low in many states. There have been states where habitual offenders, and defense attorneys, have learned to refuse tests in order to avoid some penalties and make the case more difficult to prove. Other than those states, however, refusal rates are generally low, so this change would affect a small proportion of offenders.

Low Priority Recommendations (2-3 votes):

Electronic warrants should be used to reduce delays in collecting samples when a warrant is necessary.

Rank: 15th	*Votes:* 3	*Implementation:* Easy	*Improvement:* Small

Electronic warrants eliminate the logistical hurdles to obtaining a paper search warrant, greatly reducing the time between a traffic incident and sample collection in cases when a warrant is necessary, reducing the chances that drugs will be metabolized and levels will

[1] At the time this report was finalized, the Supreme Court of the United States had granted review of three cases, the results of which may impact implementation of this recommendation. The cases, *Birchfield v. North Dakota*, *Bernard v. Minnesota*, and *Beylund v. North Dakota*, will be consolidated and heard together to determine whether criminalizing refusal of a blood or breath test for alcohol, in the absence of a warrant, is unconstitutional. (Denniston, 2015)

drop, possibly below detectable levels. This recommendation originated from consideration of a prior recommendation by Lightner & Wood (2015).

Implementation was rated as easy: electronic warrants are already being issued in many jurisdictions in the U.S., and the technology exists and is readily accessible to any court system that agrees to adopt it.

The improvement that would result was rated small because it would only apply to a subset of all cases—those in which the time from initial stop to time of testing is critical, and the requirement for a signed paper warrant causes delay.

The federal government should support and incentivize implementation of state automated DUI information systems that are consistent with the Model Impaired Driver Records Information System (MIDRIS) guidelines to the maximum extent possible.[2]

Rank: 16th (tied)	*Votes:* 2	*Implementation:* Difficult	*Improvement:* Large

This recommendation, adapted from a prior recommendation by the Governors Highway Safety Association (2013), aims to improve states' tracking of DUI offenders and their citations from arrest through adjudication by implementing and/or improving their DUI information systems. The panel supported implementation consistent with the MIDRIS guidelines to "the maximum extent possible," acknowledging the difficulty and cost of implementing a comprehensive, integrated statewide DUI information system, and the various challenges states may experience.

Implementation was rated as difficult because such tracking systems are expensive to implement and maintain. As automation spreads to more enforcement agencies and courts, the difficulty should drop, but there are still concerns about the ongoing need for manual updates from laboratories and treatment centers.

The improvement that would result was rated large because the MIDRIS model is a very complete database on DUI offenders and offenses from initial citation/arrest through to final disposition and completion of treatment and other requirements. The data are complete and thus support a variety of analyses that we cannot do today except in those few

[2] The Governors Highway Safety Association included the following in their 2014-2015 Policies and Priorities: *"GHSA supports the [MIDRIS] guidelines and urges the federal government to provide adequate funding for implementation of state automated DUI information systems that are consistent with the model guidelines to the maximum extent practicable. Additionally, NHTSA should provide the necessary leadership to promote DUI information systems, convey their importance to states, collaborate with other federal agencies to link DUI-related databases, provide technical assistance and promote best practices."* (Governors Highway Safety Association, 2013)

states with robust data collection and reporting. If more states had such systems, that would support comparisons among the states as well as development of a national picture of the drug and alcohol problem.

Enhance reporting of observed behavioral impairment among surviving drivers in fatal crashes.

Rank: 16th (tied)	*Votes:* 2	*Implementation:* Difficult	*Improvement:* Large

This recommendation aims to increase collection of observational behavioral data for drivers investigated for impaired driving. The National DRE Tracking System could be expanded to record data on the behavioral signs and symptoms observed in each evaluation. Panelists noted that this behavioral data is also not systematically collected for non-DRE impaired driving investigations but could be.

Implementation was rated as difficult because it imposes new reporting requirements on law enforcement and there are few incentives for the agencies to comply.

The improvement that would result was rated large from a data analysis standpoint as well as, potentially, for revising and expanding both the DRE and SFST programs. Data on behavioral indices of impairment, and their specificity to each class of drug, would enhance training of DREs and SFST procedures. The data would also be useful as a shared resource among law enforcement agencies to help standardize the DRE efforts.

DREs should be encouraged to utilize the National DRE Tracking System.

Rank: 16th (tied)	*Votes:* 2	*Implementation:* Easy	*Improvement:* Large

This recommendation aims to increase the proportion of DREs entering data on their drug evaluations into the National DRE Tracking System in order to increase the comprehensiveness and utility of the data collected. States and agencies should highlight to DREs the importance of entering drug evaluation data into the System and encourage DREs to enter their evaluation data, which could involve incentivizing data entry.

Implementation was rated as easy because the system already exists, though compliance is voluntary. Providing an incentive to enter the data is likely to be the most effective way of increasing participation.

The improvement to the DRE database that would result was rated large since it would be more valuable if more complete participation were achieved. The data would greatly benefit

the DREs themselves, as well as provide information on drug prevalence, poly-drug use, and case outcomes.

Recommendation with no votes:

States should amend their insurance laws to prohibit denial of insurance payment on the basis of alcohol or drug use.

Rank: 19th	*Votes:* 0	*Implementation:* Difficult	*Improvement:* Small

This recommendation, which originated from consideration of prior recommendations by the American Public Health Association (2004), the American Society of Addiction Medicine (2005), and the Governors Highway Safety Association (2013), addresses insurance laws that allow health insurers to deny reimbursement for treatment of injuries sustained while under the influence of alcohol or drugs, which may create a disincentive for hospitals to test injured drivers. The potential benefit of increased drug and alcohol test data for drivers treated in hospitals would depend on reporting of the test results.

Implementation was rated as difficult because laws (or policy requirements) would have to be changed in each state where the practice already exists. Insurers will resist such changes, and it is important to recognize that the original regulations allowing these limits were viewed as a "law-and-order" provision where offenders could not expect financial support if they were driving under the influence.

The improvement that would result was rated small as there are relatively few states that allow these limits by insurers, and the resulting data improvement would be minimal. The removal of these limits might encourage hospitals to test more drivers, but that would not be an automatic result.

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Appendix - Expert Panel

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*Panelist participated in the discussion but abstained from votes on the recommendations.