

“Each life is precious. Each crash preventable.”

National Transportation Safety Board

*Reaching Zero:
Actions to Eliminate
Substance-Impaired
Driving*

FORUM SUMMARY

*Forum on Reaching Zero: Actions to Eliminate Substance-Impaired Driving,
May 15-16, 2012*

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Introduction

Substance-impaired driving kills over 10,000 Americans every year and injures many more. Over 90 percent of all transportation-related deaths occur on our nation's roads, and impairment from alcohol or drugs accounts for one-third of those fatalities.

Since the invention of the automobile, policymakers, law enforcement, safety activists, and communities have struggled with how to stop substance-impaired driving. It has been a major concern of the National Transportation Safety Board (NTSB) for more than 40 years. The agency has conducted special safety studies and produced dozens of accident reports, which have generated over 100 safety recommendations. However, the Board has not issued a new safety recommendation on substance-impaired driving in a decade—during which time the percentage of highway accident deaths caused by substance-impaired drivers has remained unchanged, though traffic deaths from all causes have dropped.

On May 15–16, 2012, the NTSB held a public forum to discuss substance-impaired driving. The objective of the forum was to identify the most effective data-driven, science-based actions needed to “reach zero” accidents resulting from substance-impaired driving. The forum was led by the NTSB Chairman, and all five Board Members participated. Expert panelists included representatives of Federal, state, and local governments, along with leading researchers, law enforcement officers, members of the judiciary, industry representatives, treatment experts, and advocacy groups.

Panel Discussions

The Substance, Panel 1

James Hedlund, Ph.D., Principal, Highway Safety North

Robert L. DuPont, M.D., President, Institute for Behavior and Health, Inc.

Comments of Dr. James Hedlund

- The use of alcohol dates back approximately 7,000 years. Wine jars dating to that time have been found in Turkey.
- Alcohol consumption is common and accepted in American society. According to the [National Institute on Alcohol Abuse and Alcoholism](#) (NIAAA), two-thirds of American adults drink.
- Driving is also engrained in American society, which creates an unfortunate “cultural conflict” with the consumption of alcohol.
- When consumed, alcohol is quickly absorbed into the body. Although the effects are evident within 15 minutes, they take much longer to wear off. Blood alcohol concentration (BAC) is a standard term used for the conversion of blood and breath alcohol concentrations.
- The only safe driving BAC is 0.0. Even low levels of BAC can affect performance, and the amount of impairment varies by sex and weight. Females and lighter weight individuals are more vulnerable.
- Alcohol affects how people process information, muscle control, memory, perception, and reaction time. Although it takes different levels to affect different outcomes, the effects of alcohol are “certain, they are swift, and their severity varies by BAC.”
- Crash risk also rises with BAC levels. For example, at 0.02–0.04 BAC, crash risk increases 40 percent compared with sober driving—at 0.05, crash risk is 11 times higher; at 0.10, 48 times higher; and at 0.15, 380 times higher.
- The median BAC of an impaired driver in the National Highway Traffic Safety Administration’s (NHTSA) [Fatality Analysis Reporting System](#) (FARS) is about 0.15, meaning that about one-half of impaired drivers have BACs higher than 0.15.
- There are two types of laws concerning impaired driving: 1) laws that prohibit any type of impaired driving, but rely on subjective measures of impairment; and 2) “per se” laws, in which a certain level of alcohol in one’s system alone is considered proof of impaired operation. All 50 states currently have a per se limit of 0.08 BAC using a blood test or a breath test equivalent.

- Hand-held screening devices, such as the preliminary breath tester (PBT) or passive alcohol sensor, may be used at roadside to determine whether alcohol is present. If yes, evidentiary blood or breath tests may be conducted.
- In 1982, the year FARS started tracking such data, there were over 20,000 fatalities from crashes involving a driver with a BAC of 0.08 or higher. In 2010, the total was just over 10,000. During this 28-year period, there was initially a steep drop, then a long plateau, and in the past 2–3 years a decrease. However, the recent drop may simply be attributable to an overall drop in all highway fatalities.
- There are several ways to address the problem of substance-impaired driving, including prevention, education, laws, enforcement, sanctions, and alcohol interlocks.
- The consequences for driving after drinking should be certain, swift, and severe, similar to the effects of alcohol on a driver’s metabolism. However, current estimates of the number of trips one can take as a driver with a BAC of 0.08 or above before being pulled over are at least 1 in 50, with some estimates as high as 1 in 1,000. There are also legitimate questions about the swiftness and severity of punishments meted by the judicial system.

Comments of Dr. Robert L. DuPont

- A common misconception is that drugs have been around for a long time. But the modern drug epidemic started in the late 1960s. Not until then were people exposed to so many drugs with potent routes of administration, such as smoking and injecting.
- Last year, for the first time, more American youth smoked marijuana than smoked cigarettes.
- The crash of an Amtrak and a Conrail train on January 4, 1987, in which 17 people were killed, created the modern response to transportation and drugs.
- One study conducted in Maryland involving drivers seriously injured in automobile accidents showed that only 34 percent of them did *not* have either drugs or alcohol in their systems. Thirty-one percent were positive for alcohol, and 51 percent were positive for drugs. Two-thirds of the drivers with alcohol were positive for drugs, and one-third of those with drugs were positive for alcohol.
- There is a public expectation that we will find a “0.08 equivalent” test for drugs of abuse.¹ However, such an equivalent for drugs is not possible or productive; this position has been known since the 1970s when the National Institute on Drug Abuse (of which Dr. DuPont was the first director) issued a report on the topic.

¹ A paper on this topic was submitted to the docket.

- To illustrate the challenges of setting cutoff thresholds for drugs, though a 100-milligram-per-day (mg/day) dosage of methadone is standard treatment for opioid addictions, 40 mg/day would be lethal to a nontolerant individual.
- The per se standard has been adopted by 17 states and is used extensively in Western Europe. Since 1988, it has been used successfully with commercial drivers. From a safety standpoint, any standard for commercial drivers should be applied to all drivers.
- Prescription drugs present a challenge in that many drugs that have useful health benefits are also potentially impairing. This fact can complicate the issue of establishing and enforcing a per se standard for drugs. However, though a doctor's prescription is a fair defense against a per se standard, it is illegal to drive impaired regardless of whether the drug was prescribed or purchased over the counter.
- The [Office of National Drug Control Policy](#) (ONDCP) encourages state per se laws for drugged driving. Drug testing should be required of all impaired drivers, in addition to alcohol testing, to provide information on the prevalence of drugged driving. Having drugs on board should be a separate offense.
- The simultaneous use of multiple impairing substances is one reason that it may not be feasible to set appropriate per se thresholds for drugs. The solution is to have a separate charge for drug impairment.
- Education is also important because many young drivers do not understand the risk of drugged driving in terms of either being arrested or being involved in a crash.

General Panel 1 Discussion

- **Developing tolerance to alcohol:** Dr. Hedlund stated that tolerance does not affect actual impairment; however, practiced drinkers may not believe they are impaired, and bystanders may not perceive them as being impaired. Dr. DuPont suggested that practice on a given task may influence how much impairment affects task performance.
- **Combined effects of alcohol and fatigue:** Dr. Hedlund stated that fatigue does not affect the metabolism of alcohol, but that a “tired drunk driver” would be “even more dangerous than a wide awake drunk driver.”
- **Joint effects of drugs and alcohol on driving:** The panelists agreed that there is little known about the combined effects of drugs and alcohol on driving.
- **Types of impairment by drug type:** Dr. DuPont stated that levels of impairment are highly variable. Additionally, for many drugs, the blood level peaks long before the impairment does, and impairment may be quite high even after blood levels have decreased.

- **Per se laws and drugs:** Under such laws, Dr. DuPont clarified that if a driver tests positive for any level of the drug, it is a violation.
- **Societal acceptance of impaired driving:** When asked whether society has accepted a certain level of impaired driving fatalities as “normal,” the panelists stated that to some extent, we have. Both panelists agreed that improved enforcement is key.
- **Differences between the United States and Western Europe:** Dr. DuPont noted that the legally impaired BAC levels are 0.05 throughout Europe and 0.02 in Scandinavia. The message there is “don’t drive after drinking” rather than “don’t drive drunk.”
- **“Sobering up”:** The panelists both confirmed that there is no possible way for individuals to quickly sober up.
- **Objective standards for performance impairment:** Law enforcement judgment is currently subjective. Objective measures of performance impairment are difficult to develop because of inherent differences among drivers. Standard roadside sobriety tests are used to build evidence to make an arrest and to subject drivers to evidentiary tests for impairment. Dr. DuPont noted that of those drivers deemed impaired whose BACs are 0.08 or higher, 20 percent will test positive for drugs; but for those whose BACs are lower than 0.08, 50 percent will test positive for drugs.
- **Impairing effects of over-the-counter drugs:** Dr. DuPont noted that many over-the-counter drugs are sedating, with antihistamines being a classic example.
- **Data needs:** Dr. Hedlund noted that currently, two-thirds of fatally injured drivers and 25 percent of surviving drivers are tested for alcohol. He maintains that all drivers in fatal crashes should be tested for alcohol and drugs. Dr. DuPont concurred and added that he would like to see testing in accidents with serious injuries as well. Dr. DuPont also suggested that if five or six shock trauma centers conducted tailored studies on drug and alcohol use by drivers, the data could be available sooner than currently allowed by FARS.
- **Applicability of commercial operator requirements:** Dr. DuPont considers it unlikely that the limits set on commercial operators (e.g., pre-employment drug screening, random drug/alcohol testing, BAC limit of 0.04) could serve as a model for the general public. Although pre-employment testing is now widespread in many industries, random testing of commercial operators is mainly limited to safety-sensitive positions.
- **Warnings on drug use:** Dr. DuPont agreed that drug label warnings (e.g., “Do not operate heavy machinery.”) should be more explicit in stating that the user should not drive while taking the medicine.

- **Drug screening tests:** Dr. DuPont called out controlled substances for identification in drug screening tests because they are subject to abuse by both drug addicts and alcoholics. He also stated that it would be reasonable to include sedating drugs.
- **Drug tolerance and effects on impairment:** According to Dr. DuPont, some individuals may adapt to drugs such as benzodiazepines and opioids, such that they show fewer signs of impairment. The greatest risk is when people first use the drugs, or if they use them with alcohol. A balance should be struck whereby a person is not discouraged from seeking appropriate medical treatment in an effort to avoid impaired driving.

The Problem, Panel 2

Jan Withers, National President, Mothers Against Drunk Driving (MADD)

Anne T. McCartt, Ph.D., Senior Vice President for Research, Insurance Institute for Highway Safety (IIHS)

Terry Shelton, Associate Administrator, National Center for Statistics and Analysis, National Highway Traffic Safety Administration (NHTSA)

Darlene Schwartz, Information System Supervisor, Division of Motor Vehicles, Wisconsin Department of Transportation

Comments of Jan Withers

- May 14, 2012, was the 24th anniversary of the Kentucky school bus crash that killed 27 people. A mother who lost a child in that accident said that it continues to hurt.
- Ms. Withers's daughter, Alisa Joy, was killed by a drunk driver when she was 15 years old.
- Over the years, MADD has supported the 21 minimum drinking age law, the 0.08 national BAC standard, zero tolerance for youth, and high-visibility enforcement campaigns.
- The current campaign to eliminate drunk driving began 6 years ago and has three tenets: Supporting sobriety checkpoints in conjunction with high-visibility law enforcement, requiring all convicted drunk drivers to use alcohol interlocks, and developing advanced alcohol detection technology such as the driver alcohol detection system for safety or [DADSS](#).
- Sixteen states have passed all-offender interlock laws since the MADD campaign began (before that, only one state had such a law).

Comments of Dr. Anne T. McCartt

- Comprehensive national data are not available on drug-impaired drivers or arrests/convictions for driving under the influence (DUI). The focus of this discussion is drivers in fatal crashes with a BAC of 0.08 or higher.
- There was a decline in impaired passenger vehicle drivers through the mid-1990s, but progress has stalled. Interestingly, though motorcyclists have higher rates of impairment, their decline in impaired driving lasted longer, and their numbers have been flat for the past decade. Drivers of large trucks, by contrast, have very low rates of impairment, largely because they are regulated and required to have BACs no higher than 0.04. Pedestrians show high rates of impairment and have shown little improvement.
- Overall, little has changed in the past 15 years. In general, impairment is associated with other risk factors for fatal crash involvement. For example, male drivers are more likely to be impaired in fatal crashes than female drivers. Impairment rates are highest between the ages of 21–30, followed by 31–40. With respect to age, between 1982 and the mid-1990s, there was a large decline in impairment among young drivers due to changes in minimum drinking age and zero tolerance laws.
- Unrestrained drivers are more likely to be impaired than belted drivers. Similarly, drivers without a valid license are more likely to be impaired than licensed drivers. Drivers with a prior DUI conviction or with any prior conviction in the past 3 years also show higher rates of impairment compared to their nonconvicted counterparts.
- Driver impairment is also associated with single vehicle crashes and nighttime crashes.
- State-by-state differences in impairment data may be attributed to differences in laws, socio-demographics, the vehicle fleet, and reporting variability.
- National roadside surveys provide good data on impairment—though they suggest a continuous decline in impairment, which is inconsistent with FARS data.
- Historically, it has been suggested that “hardcore” users, or those who drink and drive repeatedly and are resistant to change, are the biggest problem. However, IIHS data show that, up until the mid-1990s, the countermeasures that led to reductions in impaired driving fatalities were equally effective at reducing high- and low-BAC level involvement. It was noted that drivers with BAC levels from 0.08–0.14, who are not characterized as hardcore, represent about one-third of all drivers in fatal crashes. Repeat offenders also represent a relatively small proportion of impaired drivers in fatal crashes. The IIHS maintains that focusing on hardcore drivers may overlook a large population of drivers who contribute to the problem.

- Top priority countermeasures should include expanding requirements for alcohol ignition interlocks to all DUI offenders, not just repeat offenders. The IIHS found, for example, that in the state of Washington just one-third of all offenders required to have interlocks installed actually did so.
- “Huge loopholes” in most state laws allow people arrested for DUI to “plead out” of alcohol to a traffic offense without DUI penalties.
- Another priority should be high-visibility sobriety checkpoints and expanded enforcement, including advanced alcohol detection technology.
- If we prevented all drivers from driving impaired, we could save about 7,000 lives per year.

Comments of Terry Shelton

- FARS data on alcohol-impaired driving crashes include all fatalities (i.e., drivers, occupants, and pedestrians). FARS data on drugs are limited; the forms allow for recording up to three drugs. But there are over 1,000 drugs of concern, and testing for them varies greatly from state to state.
- In 1982, there were 43,945 traffic fatalities nationwide—compared to 32,885 in 2010. Overall, fatalities have dropped significantly and alcohol-impaired fatalities even more so; however, for several years, the proportion of fatalities linked to alcohol has flattened out at about 31 percent of total fatalities.
- Reporting rates depend on whether a driver was fatally injured. For fatally injured drivers, state BAC reporting rates to FARS range from 15–90 percent. Although there have been increases in reporting rates, this issue remains a challenge. In 2009, BAC rates were reported for just over 50 percent of drivers in fatal accidents.
- Although impaired drivers are the ones most likely to be killed in impaired driving crashes, this assertion is based on the contribution of single-vehicle crashes. In multivehicle crashes, it is actually the occupants of the other vehicles who are more likely to be killed.
- Although alcohol-impaired drivers in fatal crashes are four times more likely to have had prior convictions compared to drivers who are not alcohol impaired, the majority (71 percent) of impaired drivers in fatal crashes had no prior convictions.
- In FARS, the documented BAC levels range from 0–0.45, with the median concentration at 0.16—which is to say, 50 percent of drivers in fatal crashes who have a BAC over 0 are tested at 0.16 or above, or double the illegal per se limit.

- There is no silver bullet for improving the data on alcohol-impaired driving crashes. Some states have seen improvements with mandatory testing laws. Other states have insurance issues that prohibit or impede testing. NHTSA is hopeful that technology solutions, such as electronic data transfer, may help solve this problem.
- To account for those cases without BAC levels, NHTSA uses imputation, a statistical method to replace missing data. This process involves using related variables, such as vehicle type and 10 other factors, to estimate unknown BAC levels.

Comments of Darlene Schwartz

- Fatal crashes, fatalities, and alcohol-related crashes have all declined in Wisconsin since 2007, though alcohol-related fatalities have decreased by only 6 percent. The number of drug-related crashes has not changed, but drug-related fatalities have risen.
- Wisconsin has about 4.1 million licensed drivers, and close to 590,000 have at least one operating while intoxicated (OWI) on their record. In 2010, the state had 35,000 OWI convictions, with 21,000 first offenses and 759 drugged driving convictions.
- To improve its crash-related data, Wisconsin adopted the Traffic and Criminal Software ([TraCS](#)), a free national-model software application managed by the state of Iowa. It allows law enforcement to enter data from their vehicles and transmit the data electronically. Wisconsin also created uniform crash and traffic citation forms in 2005. Since then, the state receives data on 92 percent of crashes and 89 percent of citations electronically.
- In Wisconsin, when law enforcement officers pull someone over, they may use their in-vehicle computer system to look up driver and vehicle information from the Department of Motor Vehicles (DMV). Those data may be imported to the TraCS system and used to create a citation for the offender. The new citation information is then transferred to headquarters by wireless or thumb drive for supervisory review and transfer to the court system. The courts enter the disposition after adjudication and electronically submit the data to the state department of transportation (DOT) or the DMV to update the driver's records. They also integrate crash data with the Crash Outcomes Data Evaluation System ([CODES](#)).
- One challenge in Wisconsin is that the state does not track the prevalence of drugs. If a driver is pulled over and his or her breathalyzer result is higher than 0.08, drug tests are not conducted. If the BAC is less than 0.08 but the officer still thinks the driver is impaired, samples are submitted for drug testing. However, drug testing is conducted out of state, and it can take up to 10 months to obtain test results. The penalties for alcohol and drugs are the same, though drug testing is much more cost and labor intensive.

General Panel 2 Discussion

- **Variability of state data:** Dr. McCartt pointed to the differences in state laws to account for the variability in data quantity/quality. For example, though 17 states require interlocks for all offenders, some states do not require interlocks for any offenders. Sobriety checkpoint laws vary greatly from state to state. Other factors, such as accessibility of public transportation and state reporting practices, also vary. Ms. Withers stated that Federal legislation paired with sanctions for states that do not meet the Federal standard are effective in lowering the BAC limit to 0.08. Ms. Shelton concurred that data tracking by state varies greatly in spite of NHTSA guidelines for uniform reporting. She also pointed out that the rates of available BAC data for surviving drivers are much lower than for those drivers who are killed. Ms. Schwartz noted that cultural differences by state may also play a role in underreporting of accident data.
- **Improved state reporting:** To make the “best practices the prevalent practices,” Dr. McCartt suggested that we require states to improve reporting of arrest and conviction data; without those data, we can only speculate about the effectiveness of other laws.
- **Fatalities per vehicle miles traveled (VMT):** Ms. Shelton noted that both alcohol-impaired driving fatalities and overall fatalities have decreased per VMT over the past 5 years.
- **Additional data needs:** Dr. McCartt suggested that we need better data about convictions, arrests, and drugged driving. Ms. Shelton agreed that better drug data and more accessible drug testing would encourage law enforcement to test for drugs. Ms. Shelton also suggested that it would be beneficial, though challenging, to obtain drug and alcohol data for drivers in a sample of nonfatal crashes.
- **Roadside surveys:** Dr. McCartt stated that NHTSA and IIHS have conducted [four roadside surveys](#) with slight differences in methodologies. In each one, participation was voluntary but relatively high. In each case, drivers were asked to do a breath test for alcohol. In the final survey, some drivers were asked to give blood or saliva for a drug test. Passive sensors were used to gather some data on everyone, including those who refused voluntary participation. When asked about drivers with BAC levels of 0–0.08 who have been involved in fatal crashes, Ms. Shelton stated that in 2010 there were 11,432 drivers with BACs over 0 and 9,694 drivers with BACs over 0.08—or about 2,000 drivers who fall between 0 and 0.08.
- **Deterrents to drug/alcohol testing:** Ms. Schwartz mentioned that until recently law enforcement officers in Wisconsin could not test surviving drivers in fatal crashes without “probable cause” (reasonable suspicion?); however, the state laws have changed to give law enforcement more power to do postcrash drug and alcohol testing. Dr. McCartt noted that some states have created a disincentive for refusing tests—that is, the penalty for refusing a test is greater than that associated with taking the test and failing it. Another issue discussed was the possibility that insurers will

not cover accidents caused by drunk driving—in which case, hospitals may refrain from testing individuals to avoid insurance claim refusals.

Education and Outreach, Panel 3

Michael L. Brown, Director, Office of Impaired Driving & Occupant Protection, National Highway Traffic Safety Administration (NHTSA)

Grant T. Baldwin, Ph.D., M.P.H., Director, Division of Unintentional Injury Prevention, National Center for Injury and Control, Centers for Disease Control and Prevention (CDC)

Dee Allsop, Ph.D., CEO, Managing Partner, Heart + Mind Strategies

Comments of Michael L. Brown

- NHTSA offers an impaired driving program through the Traffic Safety Institute in Oklahoma City. It also has a cooperative agreement with the Traffic Injury Research Foundation (TIRF) on ignition interlock training. Many training resources are available at www.trafficsafetymarketing.gov, including community guides and kits such as the [No Refusal Tool Kit](#).
- NHTSA promotes several crackdowns each year over the Labor Day weekend and during the holiday season in December. This effort involves a high-visibility enforcement program with widespread publicity and a visible enforcement presence.
- NHTSA also disseminates information and does outreach through its law enforcement liaisons, judicial outreach liaisons, and traffic safety resource prosecutors.
- The agency principally promotes two messages: 1) “Drive Sober or Get Pulled Over”—which is designed to create the impression of an omnipresent law enforcement officer who will catch you if you drink and drive; and 2) “Buzzed Driving is Drunk Driving,” a message developed in collaboration with the Ad Council. These messages and planning materials are placed on www.trafficsafetymarketing.gov for public use.
- NHTSA has found that social messaging is not as effective as high-visibility enforcement in terms of actual results.

Comments of Dr. Grant T. Baldwin

- A well-planned health communication campaign is one means of reaching the shared goal of zero substance-impaired driving deaths. There are several keys to the success of a health communication campaign:
 1. Know your goal: For the CDC, the goal is to stop the behavior of impaired driving.

2. Work the process: A four-stage iterative process involves effective planning and strategy development, pretesting concepts/materials/messages to make sure they resonate with the intended audience, implementing the campaign through relevant communication channels, and evaluating the outcome.
3. Select the right type of appeal for the audience: You may want to touch hearts, evoke fear, or provide information, for example.
4. Properly segment your audience: You may choose to provide information to parents or coloring books to children.
5. Pretest your message and materials.
6. Take advantage of the diversity of communication methods.
7. Link the campaign with other supporting activities.
8. Set clear outcome metrics: For example, in the “Click It or Ticket” campaign, nearly 675,000 tickets were issued for seatbelt nonuse during a 2-week period.
9. Ground the campaign in scientific literature.

Comments of Dr. Dee Allsop

- Several of the most iconic brands have succeeded because of values-based communication, which is based on the simple premise that effective communications persuade by reason but also motivate through emotion.
- Heart + Mind Strategies employs a technique called “laddering,” which involves interviewing people to better understand the functional, physical, and emotional consequences of an issue.
- Through interviews with teens about distracted driving, Heart + Mind Strategies came up with the following message: “Texting can cause accidents that injure people or take a life, which would be guilt inducing because I know better.” They tested several public service announcements (PSA) to convey that message and rated their effectiveness in terms of making the teens want to stop doing distracting things while driving.

General Panel 3 Discussion

- **Self-reporting in response to PSAs:** Dr. Allsop noted that the message alone is not enough to change behaviors. Although you have to include “other angles,” you need to have a strong emotional appeal to give people a reason to want to change. Other avenues of persuasion can be social (un)acceptance of the behavior and enforcement.
- **Education plus laws and enforcement:** Dr. Baldwin stated that a multipronged approach—connecting education with laws and enforcement—was needed to affect a more complex behavior such as driving impaired. He also mentioned that the CDC Director named motor vehicle injury prevention, including alcohol-impaired driving, as one of his six winnable battles.
- **NHTSA target audiences:** To help ensure public safety, NHTSA buys media time and enlists states to support various crackdowns, especially around holiday periods.
- **Optimal outcomes of education and outreach alone:** The metrics of greatest concern to NHTSA are fatal accidents and number of people killed, but the agency also measures other things such as whether users report finding the message effective, or the number of agencies participating, number of arrests, etc. Dr. Baldwin stated that he does not believe there is sufficient evidence to support a mass media campaign without an enforcement component.
- **Key action to reduce impaired driving:** Mr. Brown identified increased enforcement as the one action that would be most likely to have the greatest influence on reducing impaired driving; Dr. Allsop put more weight behind messaging; and Dr. Baldwin identified campaigns combined with more random enforcement.
- **Other audiences:** The panel discussed the need to educate others around the impaired driver, such as passengers and bar/restaurant owners.

Enforcement, Panel 4

Technical Sergeant Douglas J. Paquette, New York State Police
Warren Diepraam, J.D., Chief Prosecutor, Trial Division and Vehicular Crimes Section,
Montgomery County (Texas) District Attorney’s Office
Jeanne M. Salvatore, Senior Vice President, Public Affairs and Consumer Spokesperson,
Insurance Information Institute

Comments of Technical Sergeant Douglas J. Paquette

- The best tools to identify impaired drivers are standardized field sobriety tests (SFST), which comprise a three test battery: horizontal gaze nystagmus, walk and turn, and one-leg stand.

- In the training he provides to officers, Technical Sergeant Paquette encourages them to see and document the whole process, which provides comprehensive evidence when presented to a judge.
 - Observe driving behaviors such as wide turns, weaving, and erratic speed/braking.
 - Observe driver behaviors such as delayed/confused responses to questions or trouble locating license and registration.
 - Review performance on SFSTs.
 - Review preliminary breath testing (PBT).
 - Review evidentiary breath testing.
- The SFSTs have been validated on numerous occasions under a variety of conditions.
- If evidentiary breath testing yields a BAC lower than 0.08, and the officer still believes that impairment is present, it is important to try and gather additional information. For example, contact a drug recognition expert or take a blood sample. If an expert is not available, officers may use information provided by the [Advanced Roadside Impaired Driving Enforcement \(ARIDE\)](#) course to help them assess whether the driver may be under the influence of drugs.
- Among the challenges in documenting impairment:
 - Traveling several hours to have an impaired driver processed and deciding how to lodge and supervise that person while waiting for processing to be completed.
 - Maintaining a checkpoint when some officers must leave to process arrests.
 - Drivers who use social media to alert other drivers to the checkpoint location.
 - Finding the resources to staff and pay officers for checkpoints.
 - Providing the right training so officers will be able to withstand cross-examination from the driver's legal defense.

Comments of Warren Diepraam

- The No Refusal Program was created a few years ago in Houston, Texas, as a means of bringing together all aspects of law enforcement. The program aids law enforcement in obtaining search warrants for blood samples when impaired drivers refuse breath tests.
- To illustrate the problem, in Rhode Island and New Hampshire, more than 80 percent of people arrested for driving while intoxicated (DWI) refuse to provide a scientific sample to law enforcement. Additional problems result when DWI cases are dismissed at high rates or when conviction rates are low.
- Research suggests that 50 percent of people who refuse to provide breath samples are under the influence of a substance. Also, defense attorneys are often successful in attacking the veracity of breath testing.
- During a No Refusal period, police officers work closely with prosecutors and judges who have agreed to be available for the effort. They also arrange to have a nurse or phlebotomist on hand to collect the samples.
- Both the [Texas District and County Attorneys Association](#) and [NHTSA](#) websites have additional information about No Refusal programs.
- The Montgomery County, Texas, jurisdiction experienced an 80 percent drop in DWI fatalities and a 20 percent drop in refusal rates as a result of the No Refusal Program. It has also been able to increase the percentage of convictions.

Comments of Jeanne M. Salvatore

- Drivers must purchase automobile insurance in every state except New Hampshire.
- Individuals who are convicted of impaired driving find it more difficult to get insurance. They have fewer choices, and the insurance costs more. This fact should create an economic disincentive for engaging in risky driving behaviors.
- About 1 percent of all drivers purchase insurance through state-run insurance programs designed specifically for high-risk drivers who cannot obtain insurance through other means. These programs are known as “residual markets.”
- Impaired driving is also related to homeowners’ insurance through social host liability—that is, a homeowner who serves alcohol to guests can be held liable for their actions. Thirty-seven states permit social hosts to be held financially liable for damages caused by impaired drivers to whom they served alcohol. The Insurance Information Institute regularly issues press releases to educate homeowners about social host liability.

- Similar to social host liability, restaurants and bars may be held liable for damages caused by impaired patrons. The [Insurance Information Institute website](#) has a table showing which states have statutes or court cases holding alcoholic beverage servers liable.

General Panel 4 Discussion

- **Keeping suspended license drivers from continuing to drive impaired:** Technical Sergeant Paquette suggested that placing an ignition interlock on the driver's vehicle could be a deterrent; however, in general, it is very difficult to keep drivers with suspended licenses from driving if they choose to do so.
- **Impairment from synthetic drugs:** Among the many challenges in dealing with synthetic drugs are that toxicology laboratories may not be capable of screening for and evaluating them and that, in some states, emerging synthetic drugs are not technically classified as illegal drugs.
- **No Refusal Program:** About 12 states have used the program in one form or another, and about 50 of 250 counties in Texas have used it.
- **Standardized field sobriety test:** The SFST can differentiate between drug and alcohol impairment, even though certain drugs do not cause horizontal gaze nystagmus. However, Technical Sergeant Paquette explained that if the overall set of SFSTs suggests impairment, an arrest will be made and the individual will be taken to the station for further evaluation. He also added that some drug-using drivers will attempt to use alcohol to "mask" their drug use—that is, they will ingest a small amount of alcohol in the hopes that an officer will release them after a preliminary alcohol screen rather than following up to evaluate drug impairment.
- **Developing probable cause for alcohol or drug testing:** The SFST is used to develop probable cause for alcohol, but a 12-step evaluation process is used for drugs. Drug recognition experts are trained to perform the 12-step process to determine probable cause for blood testing.
- **Processing DWI cases:** Panelists agreed that processing DWI cases involves a lot of paperwork and can create a burden for law enforcement and the courts.
- **Key tools to improve enforcement:** Panelists named the No Refusal Program, passive alcohol sensors for sobriety checkpoints, and passive sensors in cars as key means of improving enforcement.
- **Disincentives for refusing blood testing:** Mr. Diepraam explained that, in Texas, a driver receives a longer license suspension for refusing to submit to testing than for being found to have an illegal BAC. Additionally, under the No Refusal Program, a person may be compelled to have the blood test.

- **Enforcement campaigns:** The Insurance Information Institute measures the success of its educational campaigns according to whether they are picked up by local television or a national newspaper.

Consequences, Panel 5

Ward Vanlaar, Ph.D., Vice President–Research, Traffic Injury Research Foundation (TIRF)

Terrence D. Walton, Director of Treatment, Pretrial Services Agency for the District of Columbia

Michael J. Barrasse, Judge, Court of Common Pleas, Lackawanna County, Pennsylvania

Joanne E. Thomka, J.D., Director, National Traffic Law Center, National District Attorneys Association

Comments of Dr. Ward Vanlaar

- TIRF, with funding from Anheuser-Busch, formed a working group to review the U.S. criminal DWI system to identify strategies to improve its effectiveness.
- Many people whose licenses are suspended or revoked continue to drive. Alcohol ignition interlocks are breath testing devices connected to the starter system on a vehicle that prevent it from starting if the breath test exceeds a preset limit. Studies show that the average reduction in recidivism with interlocks is about 64 percent. Crash rates for those drivers whose vehicles have interlocks are also lower than for drivers who simply have license suspensions.
- Ankle bracelets monitor whether the wearer has been drinking alcohol by measuring vaporous perspiration. Although these devices appear to be promising, supporting research is limited compared to that on interlocks.
- One challenge in implementing technological strategies is the limited education for end users on how the technologies work.
- DWI courts, or courts that are designed entirely for addressing DWI cases, are another strategy considered by the TIRF working group. The courts try to find a balance in supervision, screening, assessment, and treatment. Studies have shown that recidivism rates are lower for those offenders whose cases are handled in DWI courts compared to traditional courts.
- Community supervision—in which agencies supervise individuals in the community as an alternative to incarceration—is another strategy for improving the effectiveness of the criminal DWI system. Tools used in this strategy include random testing and electronic alcohol monitoring.

- Although DWI cases are among the most challenging to process, they are often handled by the least experienced prosecutors. One alternative is to use traffic safety resource prosecutors, or prosecutors who have specialized training and experience with DWI cases. Anecdotal evidence suggests that having a specially trained prosecutor in this role could enhance communication and cooperation among the various professionals involved in the system.
- Another strategy, administrative license suspension, has been shown to work, but some individuals continue to drive with suspended licenses.
- Although the existing criminal DWI system has strengths, TIRF maintains that it could be improved by enhanced legislation and regulation, greater use of technology, more collaborative communication and cooperation, enhanced training and education, and additional resources.

Comments of Terrence D. Walton

- From a policy perspective, it is important to understand that the criminal justice system is primarily concerned with public safety, while the treatment system focuses on the personal health and safety of the affected individuals. The two systems must work hand-in-hand to achieve desired results.
- One challenge is that, by law, treatment must be voluntary in almost every case; however, court-mandated treatment has been found to be effective.
- A 2006 meta-analysis on court-mandated treatment for drinking drivers found a moderate positive effect on drinking-related crashes.²
- One of the challenges for the justice system in dealing with drunk driving offenders is determining what kind of care they need. For example, treatment should be targeted at those individuals who are assessed as abusers or substance dependent—which is really only a subset of drunk driving offenders.
- Overall, evidence-based DWI-related treatment is important, and it is critical to tailor the treatment to the individual's needs based on a valid assessment, such as those endorsed by the [American Society of Addiction Medicine](#).

² Submitted to the forum docket.

General Panel 5 Discussion

- **Roles of judge and prosecutor:** Ms. Thomka emphasized that communication among all participants, including law enforcement and the judicial system, is critical. We are now seeing much better communication among parties. Judge Barrasse added that historically the courts have not cooperated effectively with the treatment side. In the past, treatment was perceived by the judicial system as “namby-pamby”; however, there has been an attitude shift over time. Officials now realize that if they want to change driver behaviors, they need to focus on rehabilitation, not just deterrence and punishment.
- **Judicial system view of substance-impaired driving:** Judge Barrasse agreed that traditionally the youngest prosecutors get DUI cases and that, in the past, DUI was more about processing cases quickly than effectively. The biggest change in recent years has been a shift to trying to effect change.
- **Past perceptions of DWI:** Ms. Thomka added that, from a prosecutorial perspective, there used to be a perception that DWI was not a crime but was an “average Joe situation,” and that traffic fatalities caused by impaired individuals were not “real homicide.” She is working to change those perceptions and to promote swift and certain punishment for those who commit impaired driving offenses.
- **Advantages and disadvantages of plea bargaining:** Judge Barrasse explained that DUI courts are part of the plea bargaining process and, as such, they provide an opportunity for some offenders to obtain the treatment needed to change their lives and their behaviors. He stated that plea bargaining should be based on evidence-based research and treatment. Currently there is great variability in how plea bargaining is applied. Sometimes it is used simply to move a case through the system and save money, but it should be used to help both society and the individual who is going through the system.
- **Restrictions on plea bargaining:** Ms. Thomka opposes plea bargaining a case down to something that is not an alcohol or a drug driving offense if there is no longer a record of that offense. Dr. Vanlaar concurs. Based on his research, practitioners feel that bargaining is necessary to make the system work, but plea bargaining down from an alcohol- to a nonalcohol-related offense should be prohibited. Having such limits in place, or requiring documentation of the reasoning behind a plea bargain, will let prosecutors know whether they are dealing with a recidivist or a first-time offender.
- **Role of ignition interlocks:** Ms. Thomka explained that, especially during the preconviction period, prosecutors view ignition interlocks as an effective tool but one that needs to be used in a multidisciplinary context. Judge Barrasse agreed that interlocks are effective but not a “silver bullet.” He also noted that interlocks provide an opportunity to acknowledge positive behavior change by the individual—that is, they can demonstrate that a person is making changes in their life. For offenders who

- are assessed as alcohol dependent, Mr. Walton emphasized that interlocks can be particularly beneficial as a means of allowing them to drive to treatment sessions.
- **Voluntary versus mandatory treatment:** Mr. Walton noted that court-ordered treatment is just as effective—and, in some cases, more effective—than voluntary treatment. However, by law, a person may always say “no” to treatment, even coerced treatment.
 - **Next steps to reducing impaired driving:** Judge Barrasse explained that it is important to look at the person and not just the offense. The “elephant in the room” is addiction. Both historically and at present, some addicted individuals are being “warehoused” in prisons. He emphasized that we need to treat the individual and not simply the crime they committed.
 - **Distinction between alcohol and drug impairment in prosecutorial process:** Ms. Thomka stressed the importance of the role of officers with drug evaluation classification training. After a determination of impairment is made through the drug recognition protocol, another challenge is obtaining blood and evaluating it for the presence of drugs. The issue is further complicated by the fact that some impairing substances are not illegal. Judge Barrasse added that an additional challenge is presented by older drivers impaired by prescription drugs. He asserted that doctors should restrict or prohibit patients from driving when using certain prescription drugs.
 - **Effectiveness of DUI courts:** Judge Barrasse stated that a DUI court holds individuals accountable to do their treatment. The court “holds their feet to the fire” in terms of getting treatment and forces them into a situation of deciding to make a change. The interaction among multiple players—including the offender, the judge, the probation officer, the social workers, and others—demonstrates to the individual that a network of people care about them. Also, unlike traditional drug courts that have dismissals and expungements, most DUI courts do not have dismissals. Those who participate are convicted just like those who do not elect to use DUI courts—however, they may avoid harsher sanctions.
 - **Most effective treatment modalities:** Mr. Walton explained that the modalities that are standard and evidence-based are those that are cognitive/behavioral in nature. He added that medication-assisted treatment (e.g., using Naltrexone and Acamprosate) can increase effectiveness. Dr. Vanlaar stated that the most effective evidence-based treatments are ignition interlocks and DWI courts.
 - **Prevalence of DUI courts:** Judge Barrasse stated that all 50 state supreme courts, as well as the National District Attorneys Association, have endorsed DUI courts. The real challenge is implementing the courts in a way that shows fidelity to the model.
 - **Challenges of treating repeat offenders:** Mr. Walton stated that when one treatment fails, he tries a different approach, and that he continues as long as he feels that he is protecting public safety. When public safety is specifically a concern, he favors approaches that involve, for example, ignition interlocks or residential treatment.

Prevention, Panel 6

Robert Saltz, Ph.D., Senior Research Scientist, Prevention Research Center, Pacific Institute for Research and Evaluation

Frederick Mahony, Chief, Massachusetts Alcoholic Beverages Control Commission and National Liquor Law Enforcement Association

Robert E. Taylor, M.D., Ph.D., FACP, Professor of Pharmacology, Medicine, and Psychiatry, Howard University

Abdullatif (Bud) Zaouk, D.Sc., Director, Transportation Solutions, QinetiQ North America

Comments of Dr. Robert Saltz

- Dram shop laws allow bars, restaurants, or liquor stores to be held liable for the damages caused by serving underage or clearly intoxicated patrons. Most states have such laws but enforcement is difficult and labor intensive.
- In some cases, dram shop laws have evolved into a patron-care approach in which bartenders may refer drinkers to seek treatment or prohibit them from driving if they became intoxicated at the establishment.
- Full comprehensive and responsive beverage service also includes steps to reduce the likelihood of intoxication in the first place.
- Interventions at the point of consumption have great potential because they take place at the time of drinking and minimize reliance on the drinker's own judgment.
- A 1980s study showed that a server training program at a Navy club bar was successful in reducing intoxication among male customers by half. Another larger scale study using 100 test sites and 135 comparison sites found that a 3-hour server training program resulted in improved interventions at the test sites; however, outright refusals by servers were still very low. Other studies conducted in the state of Oregon and in Stockholm, Sweden, found that alcohol server training resulted in reductions in crashes and assaults, respectively.

Comments of Chief Frederick Mahony

- The primary focus in Massachusetts is targeted data-driven enforcement. The state went from a failure rate on underage compliance checks of 20 percent in 2000 to 5–7 percent in 2012.
- In the United States, on average, there are 200 licensed alcohol serving premises per enforcement agent; however, there is great variability from state to state. In Massachusetts, when agents observe liquor law violations, they file charges either against the licensee before an administrative panel or against the server in a criminal

court. The resulting fines, penalties held in abeyance, and license conditions make unlawful conduct no longer financially viable for the bar owner. In New Mexico, if a patron is found to have a BAC of ≥ 0.14 grams per deciliter within 90 minutes of consuming his/her last drink at a retail alcohol establishment, the BAC can be used as presumptive evidence of intoxication at time of sale, and the licensee can be cited for over-service.

- Tracking place of last drink (POLD) data is another enforcement strategy, whereby the arresting officer asks the intoxicated person where they had their last drink. The number of states collecting POLD data has increased from 2001–2010. In Massachusetts, 2,400 POLD reports are filed with the Alcoholic Beverages Control Commission annually. The commission then conducts enforcement operations at bars with the highest number of POLD reports. If the bar serves an obviously intoxicated person, it is charged and the commission seeks penalties such as suspensions and mandatory server training. The commission has seen dramatic reductions in POLD reports from the targeted establishments.

Comments of Dr. Robert E. Taylor

- The Howard University Alcohol Research Center was established in 1997 to facilitate multidisciplinary research and collaboration to reduce alcohol morbidity and mortality among minority populations.
- Screening, brief intervention, and referral to treatment (SBIRT) is an evidence-based comprehensive public health approach to screen patients and deliver early intervention and treatment. The entire process requires 7–10 minutes.
- Howard’s Alcohol Research Center conducted a study in which 7,000 emergency room patients were screened using SBIRT. Twenty-six percent were found to be positive for at-risk drinking and received a brief intervention; these participants had 3.25 fewer drinks per week than controls in the period following the intervention. The patients were followed for 12 months, and they were found to have had some resilience for at least up to 6 months. The intervention was more effective with at-risk (moderate) drinkers than with dependent drinkers.
- Research has shown that physicians often miss signs of substance abuse among both adults and teenagers. Howard has adopted the acronym “RISK” for raise the issue of substance abuse, inform the patient, screen for the substance abuse problem, and know how to offer brief intervention and referral to treatment.
- Every medical resident trained at Howard University Hospital receives a 1-hour lecture on RISK, practices the SBIRT intervention, takes a 2.5-hour online curriculum, and then applies the intervention to five actual patients. They then have a clinical skills evaluation where they are recorded conducting the intervention on a simulated patient and graded.

- Few studies have looked at the impact of medical interventions on impaired driving; however, a [newly published study in the Annals of Emergency Medicine](#) found that emergency practitioners performing brief interventions on hazardous and harmful drinkers can reduce alcohol consumption and episodes of driving after drinking.

Comments of Dr. Abdullatif (Bud) Zaouk

- The Driver Alcohol Detection System for Safety (DADSS) is a cooperative program between the Automotive Coalition for Traffic Safety, which represents leading automakers in the United States, and NHTSA. It is a 5-year program, begun in February 2008, to develop and test prototype noninvasive vehicle-integrated technologies to measure BAC or breath alcohol concentration and reduce the incidence of drunk driving.
- The goal of the program is to develop an accurate detection system that will prevent impaired drivers from driving but not inconvenience sober drivers.
- The program is split into two phases—developing proof-of-principle prototypes, and developing subsystems and integrating them into a research vehicle. Phase 1 results are promising.
- Two technologies are currently being developed for phase 2. One is a breath-based system that uses infrared light to calculate airborne ethanol concentrations; and the other is a touch-based technology in which a finger is placed on a touchpad interface, and ethanol concentrations are measured by light refraction.
- The system requirements include the ability to accurately measure BACs or breath alcohol concentrations from 0.01–0.12 in less than half a second. The prototypes met most of their goals with both human subjects and standard calibration devices; however, the program team is continuing to work on improving the precision of the devices.

General Panel 6 Discussion

- **Incentives for server training programs:** Dr. Saltz noted that many states have incentives or mandates for servers to obtain training in responsible beverage service. He also discussed insurance industry incentives, such as reductions in premiums for establishments that train staff on responsible beverage service. Chief Mahony noted that alcohol and beverage commissions do not currently team with responsible server training groups but that requiring offending licensees to institute such training is a good idea.

- **Howard's SBIRT program:** Dr. Taylor explained that SBIRT is designed to target drivers who are at risk but have not reached dependency, so there is little correlation with DUI courts, which work primarily with individuals who are substance dependent.
- **DADSS research program:** With respect to users attempting to circumvent detection technology, Dr. Zaouk noted that the program is taking steps to ensure that the systems are tamper proof and focus only on measuring the alcohol levels of the driver rather than any other person in the vehicle.
- **Responsible beverage service versus economic incentives to sell alcohol:** Dr. Saltz noted that the fear of fines or suspensions serves as an economic disincentive for establishments to serve obviously intoxicated patrons.
- **DADSS timeline and projected implementation:** Dr. Zaouk explained that the ongoing research program concludes in 2013, at which time they will have a demonstration/research vehicle. The next step would be fleet deployment, and they are still 8–10 years away from full implementation. In parallel with technology development, the Automotive Coalition for Traffic Safety and NHTSA have established a working group to look at public acceptance issues.
- **Expansion of SBIRT program:** The U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration ([SAMHSA](#)) is funding about 20 sites to implement SBIRT. The expectation is that once the grants are completed, the program will be sustained and incorporated into the culture of training medical students and residents.
- **Trends in alcohol consumption:** NIAAA states that per capita alcohol consumption in the United States began to rise in the late 1950s and peaked in 1980. It has declined since then but has risen again in recent years.³
- **Places of impairment:** In terms of drunk driving arrests, Chief Mahony reported that a little over 50 percent of drivers had been drinking in licensed establishments prior to arrest.

³ See <http://pubs.niaaa.nih.gov/publications/Surveillance92/CONS09.pdf>, figure 1.

International Perspective, Panel 7

Mircea Steriu, Communications Officer, European Transport Safety Council

Barry Watson, Ph.D., Director, Centre for Accident Research and Road Safety, Queensland

Steve Martin, Superintendent of Motor Vehicles, British Columbia Ministry of Justice

Comments of Mircea Steriu

- The mission of the [European Transport Safety Council](#) (ETSC) is to reduce the number of deaths and serious injuries occurring from transport in Europe.
- The ETSC estimates that up to 2 percent of all kilometers driven in the EU are driven by persons with BACs above the legal limit within the member state. The European Commission has estimated that 25 percent of all EU road deaths are alcohol related. The ETSC estimates that 6,500 deaths could have been prevented in 2010 if all drivers had obeyed their country's legal BAC limits.
- The ETSC has seen a 53 percent reduction in the number of deaths attributed to drunk driving from 2001–2010, compared to a 47 percent reduction for deaths due to other causes. The largest amount of progress has been made by Ireland, Slovakia, Latvia, Bulgaria, and Hungary.
- With respect to enforcing drunk driving laws by looking at alcohol checks per capita, the best performing country was Finland, where, on average in 2010, a driver had a 43 percent chance of being stopped at random and being checked for drinking and driving. There is a lot of variability among countries; for example, in Great Britain, the chance of being stopped and checked was 1.4 percent.
- In the EU, only the United Kingdom and Malta still have a BAC limit of 0.08; the other countries have moved below that level. Additionally, many countries differentiate their legal BAC limits by type of driver—for example, setting lower limits for novice drivers.
- In 2011, Ireland changed its BAC limit to 0.05 for regular drivers and 0.02 for novice drivers and professional drivers. This change was coupled with tough and automatic sanctions for those drivers who exceeded the new limits.
- The use of alcohol interlock devices is also increasing in Europe.⁴ For example, in 2004, France began requiring interlocks for offenders with a BAC of 0.08–0.16. Offenders were required to pay for the device and use it for 6 months. This project reduced recidivist drunk driving offenses and was subsequently expanded to other regions. Buses carrying children now have interlocks regardless of whether drivers

⁴ See http://www.etsc.eu/documents/copy_of_Alcohol_interlocks_in_the_EU_Antonio_Avenoso.pdf, accessed June 21, 2012.

have previous alcohol offenses. Beginning in 2012, French motorists will be required to have a portable breathalyzer in their cars.

- From 2006–2011, the ETSC undertook the [DRUID project](#) (driving under the influence of drugs, alcohol, and medicines), whose main finding was that alcohol remains the primary problem in terms of traffic safety, but that drugs and psychoactive medicines are also problematic. One of the challenges is to determine which specific drugs impair driving; a Norwegian partner is conducting research in this area.

Comments of Professor Barry Watson

- In Australia, the legal BAC limit is 0.05 countrywide. Since the late 1990s, the proportion of alcohol-related driving fatalities has hovered around 30–35 percent. Australia has experienced some reductions in fatalities, which it associates with the lower BAC limit and random breath testing.
- In the late 1960s and early 1970s, Australia adopted per se drunk driving laws; and in the 1990s, the BAC limit was lowered to 0.05, and random breath testing and mandatory penalties were introduced. In the 1990s, Australia also introduced a zero alcohol limit for learner, provisional, and professional drivers. For the most part, however, rehabilitation for offenders is voluntary, with the exception that some Australian states require interlocks or vehicle impoundment for high-range or repeat offenders.
- Research at the Centre for Accident Research and Road Safety, conducted in the 1990s, found that the introduction of the 0.05 BAC paired with sobriety checkpoints was associated with a 12 percent decline in alcohol-related fatalities. The introduction of random breath testing led to an *additional* 8 percent relative decline.
- Random breath testing allows police to pull over and test drivers at any time irrespective of whether they suspect they have been drinking. Most such testing operations are conducted in highly visible areas using large buses outfitted with testing equipment (known as “booze buses”). The key goal is to promote general deterrence through high visibility. Mobile random breath testing is also used, which allows police to catch drivers who try to evade the stationary operations.
- Random breath testing is paired with mass media advertising to reinforce the general deterrent effect. Surveys show that 98 percent of respondents favor the use of random breath testing. Drivers who refuse the breath test are charged with the equivalent of a high-range drunk driving offense. Testing rates are high, with 30 percent of those surveyed reporting having been breath tested in the previous 6 months.

- With respect to drugs, a large Australian study found that over one-quarter of the motorists killed over a 10-year period had drugs other than alcohol in their system, the large majority of which were considered to be impairing. A Victoria roadside study found that 2.4 percent of drivers pulled over were positive for cannabis or amphetamines. A more recent Queensland roadside study found that 3.1 percent of drivers had a drug in their system other than alcohol.
- Australia implemented random drug testing in Victoria in 2003, under which it is an offense for a driver to have any concentration of an illicit drug or to refuse a test. The substances included are cannabis/THC, amphetamines, methamphetamines, and MDA/ecstasy. Random roadside drug tests are administered only to those drivers who pass the random breath test for alcohol. Under the program, a 5-minute oral fluid drug test is first conducted for screening purposes. Drivers who fail that test participate in a second oral fluid test in a specially equipped bus. The detection rate for random drug testing is 1 in 40 drivers, compared to 1 in 120 drivers for drunk driving. Random drug testing is more expensive and time consuming than random breath testing.

Comments of Steve Martin

- The British Columbia Ministry of Justice, Office of Motor Vehicles, is responsible for policy and legislation, driver improvement programs, administrative justice, and driver medical fitness. Canada has both federal and provincial laws concerning impaired driving. In British Columbia, legal sanctions escalate, with higher sanctions for BACs over 0.08 compared to those in the 0.05–0.08 range.
- In Canada, like the United States, progress in addressing alcohol-impaired driving has been stalled since 2000. The challenges have included high levels of alcohol-impaired driving as measured by roadside prevalence surveys, high recidivism rates, ineffective use of police resources, and pressure on the court system.
- The Canadian Center on Substance Abuse has conducted roadside nighttime surveys that involved volunteers providing breath samples. Results show that 2–3 percent of drivers had a BAC above 0.08, and 3–5 percent of drivers had a BAC above 0.05.
- The consequences for alcohol-impaired driving must be clear, swift, and severe. British Columbia's new law states that for drivers with a BAC of 0.05–0.08, police may intervene immediately at the roadside with escalating sanctions, prohibitions, vehicle impoundments, and monetary penalties. Three sanctions within 5 years will trigger a mandatory user-pay ignition interlock and driver education or counseling. For a BAC over 0.08, a mandatory user-pay interlock and driver education/counseling are required, and police may impound vehicles for 30 days and assess a monetary penalty of \$500. This new approach has resulted in a 40 percent reduction in alcohol-related fatalities and a 51 percent reduction in serious injuries.

- The new law was challenged in court, and it was found that the appeal grounds for roadside testing were too narrow. Legislation has been amended to address the court's concern, and the proposed changes are being debated in the provincial legislature.⁵
- The British Columbia Ministry of Justice decided to make radical changes to impaired-driving laws because incremental changes were not resulting in changes in behavior.

General Panel 7 Discussion

- **Effect of lowering BAC on alcohol consumption:** The three panelists agreed that consumption had not been affected as much as drinking patterns and strategies; for example, more drinking is taking place at homes than at bars, and groups are more often identifying designated drivers.
- **Analogs to “no refusal” programs:** Each panelist stated that the penalties assessed for refusing to provide a breath or oral fluid sample are equal to or greater than the penalties associated with a positive alcohol/drug test.
- **EU drinking age:** The drinking age is 16 for beer and wine and 18 for spirits.
- **French law requiring portable breathalyzers:** This effort is being conceived as a “safety kit” for the driver. During a roadside stop, if a driver is subjected to a random breath test and it is positive, he or she will receive a fine for not using the portable breathalyzer. Or, during a stop, there will also be a fine if the breathalyzer is not present or not functioning.
- **Legal BAC limits in Europe:** The most common standard limit is 0.05; however, several countries have lower limits, and several have zero tolerance (i.e., 0.0 BAC).
- **Efficiency of random breath testing:** Professor Watson noted that, in Australia—as in the United States—if more than a couple of drivers are found to be positive, the sobriety checkpoint needs to be shut down to process those drivers. However, because their rates of detection are typically less than 1 percent, becoming overloaded by drivers with positive test results is not typically a problem.
- **Rates of alcohol-related fatalities in Europe:** About 11 percent of highway deaths are attributed by police as being directly alcohol related; however, when alcohol as a primary or secondary cause is included, the rate increases to approximately 25 percent.

⁵ As of June 15, 2012, amendments were made to the law to reinstate the use of immediate roadside sanctions with additional stipulations to allow for an appeal process (see http://www2.news.gov.bc.ca/news_releases_2009-2013/2012JAG0108-000862.htm).

- **Legal sanctions in British Columbia:** Within 2 months of implementation of the new law, the province saw a 50 percent reduction in fatalities compared to similar prior periods. Fatality levels are now at a sustained 40 percent reduction. Improved results occurred before random breath testing was actually implemented, which was attributed to the publicity and controversy associated with the rollout.
- **Drivers who use both drugs and alcohol:** The panelists discussed the disadvantages of conducting drug screening only on those drivers who test negative for alcohol, noting that there are not enough data about drivers who use both alcohol and drugs simultaneously or about the role of drug use in crashes. A further challenge in Europe is a lack of a common reporting procedures and definitions for such terms as “alcohol-impaired fatalities.”
- **Roadside sanctions in British Columbia:** Impaired drivers have their licenses revoked immediately and must return home by taxi or with the tow truck driver, who will then impound their vehicle. The appeal rate is 10 percent. Independent adjudicators conduct hearings, and about 16 percent are found in favor of the driver. Most Canadian provinces have a similar system.
- **Lessons learned for the United States:** Mr. Steriu suggested that the United States consider an administrative sanction system to increase the swiftness of punishment. Professor Watson suggested that moving from 0.08 to 0.05 BAC is associated with benefits and that random breath testing can lead to further reductions. Mr. Martin emphasized immediate and severe sanctions, including vehicle impoundment. He also suggested random breath testing and in-car alcohol detection systems.

Actions Needed to Reach Zero, Panel 8

R. Gil Kerlikowske, Director, Office of National Drug Control Policy (ONDCP)

Ralph S. Blackman, President and CEO, The Century Council

John D. Bodnovich, Executive Director, American Beverage Licensees (ABL)

Troy E. Costales, Chairman, Governors Highway Safety Association (GHSA)

J. T. Griffin, Senior Vice President of Public Policy, Mothers Against Drunk Driving (MADD)

Jacqueline Hackett, Deputy Director for Policy-Intergovernmental and Public Liaison, ONDCP

Jenna McMahon, National Organizations for Youth Safety

Jeffrey P. Michael, Ed.D., Associate Administrator, Research and Program Development,
National Highway Traffic Safety Administration (NHTSA)

Arlene J. Mulder, Mayor, Arlington Heights, Illinois, and Vice Chair, Criminal and Social
Justice Standing Committee, Conference of Mayors

Jacob Nelson, MPH, MPP, Director of Traffic Safety Advocacy and Research, AAA

Jan Pauls, Representative, Kansas House of Representatives

Mary Jane Saunders, J.D., General Counsel, Beer Institute

Stephen K. Talpins, J.D., Vice President, Institute for Behavior and Health

Robert Voas, Ph.D., Senior Research Scientist, Pacific Institute for Research and Evaluation

Comments of The Honorable R. Gil Kerlikowske

- The ONDCP has been working closely with the U.S. Department of Transportation (DOT), specifically NHTSA, on issues concerning drugged driving. In 2010, NHTSA published the [first FARS analysis of drug-related data](#). Those data showed that one in three drivers killed in a motor vehicle crash in 2009 who were tested for a known drug tested positive for an illegal drug. Cannabinoids were reported in almost one-half of the fatally injured drivers aged 24 or younger who tested positive for drugs.
- The 2011 [Monitoring the Future study](#) found that one in eight high school seniors reported that in the 2 weeks prior to taking the survey they had driven after smoking marijuana, and more reported driving after consuming alcohol.
- President Obama identified drugged driving as a national priority in his 2010 national drug control strategy and set the goal of reducing drugged driving in America by 10 percent by 2015. He declared December National Impaired Driving Prevention Month and called on all Americans to commit to driving sober, drug-free, and without distractions.
- The ONDCP has a peer-reviewed and tested [media campaign](#) and has found that young people who have been exposed to these ads are more resistant to using drugs. The ONDCP also has a teen drugged driving [toolkit](#).
- States are pursuing enhanced legal responses, such as per se laws that will make it easier to keep drugged drivers off the roads. Seventeen states already have such statutes.
- Some of the challenges in complete and consistent drug testing for fatally injured drivers include inconsistencies in the medical examiner/coroner systems among the states and the time and expense required for such testing.
- NTSB advocacy in the area of impaired driving can help make it a priority in state and local funding decisions and raise awareness about the problem.
- The ONDCP has been collaborating with international partners through the United Nations Commission on Narcotic Drugs, which has passed a [resolution on drugged driving](#). In 2011, the ONDCP participated in an [International Symposium on Drugs and Driving](#). Several countries are further ahead of the United States in developing drugged driving testing. The ONDCP maintains that sanctions for drugged driving should be as strong as those for alcohol-impaired driving.
- In terms of which drugs to test for, the FARS research points to marijuana; however, the United States also has concentrated areas in which methamphetamines and opiate-based prescription drugs are more problematic.

Comments of Ralph S. Blackman

- The Century Council is a not-for-profit organization founded 20 years ago to fight drunk driving and underage drinking. It is funded by several alcohol producers.
- Hardcore drunk drivers, defined as offenders who drive at BAC levels of 0.15 or above or have had more than one DWI arrest, are a persistent problem. High BAC drivers are involved in the majority of impaired driving deaths each year, and about one-third of impaired driving deaths involve repeat DWI offenders (based on a 3-year look-back period).
- Hardcore drunk drivers are less likely to be deterred by traditional sanctions and education efforts and more likely to have criminal records, use drugs, have poor driving records, and have mental health problems.
- The Century Council proposed the following five priorities to the NTSB: 1) combine technology solutions with efforts to change offender behavior; 2) supervise offenders; 3) educate criminal justice practitioners; 4) promote individualized sentencing and rehabilitation for hardcore drunk drivers; and 5) improve data.
- The NTSB should keep impaired driving a top priority for the traffic safety community, expand its recommendations beyond legislative approaches, and coordinate with other agencies to identify science-based solutions.

Comments of John D. Bodnovich

- American Beverage Licensees (ABL) is a trade association of nearly 20,000 small business owners who operate independent bars, taverns, and package stores in cities and towns across the country.
- For on-premise establishments with licenses to serve alcohol, managing and controlling alcohol consumption can be challenging and staff training must be comprehensive and ongoing. Consequently, ABL has partnered with the Responsible Retailing Forum and its supporters to develop responsible retail practices for on-premise alcohol serving establishments.
- This retailing guidance examines policies and practices that guard against unlawful alcohol sales, including over-service to intoxicated individuals, and serves as a primer for protecting the safety and well-being of the community while making licensees and their staff aware of potential liabilities and fines.
- Responsible server training programs are one “tool in the toolbox” to prevent drunk driving. ABL also supports 1) the role of DUI courts, prosecutors, and judges; 2) assessment and treatment of offenders; and 3) better testing for multiple impairing substances.

Comments of Troy E. Costales

- The GHSA supports multifaceted approaches to impaired driving, to include strong laws, high-visibility enforcement, a well-trained judiciary, and technological solutions. Specifically, the GHSA supports ignition interlocks for all convicted offenders, including first-time offenders; sobriety checkpoints or saturation patrols; and DUI courts and judicial training.
- The GHSA also supports a proposed incentive in House and Senate reauthorization bills related to alcohol ignition interlocks and continued funding of the DADSS program.
- Among the efforts the GHSA supports are the following:
 - Drug-impaired driving as a national priority
 - Distinct sanctions for drug- and alcohol-impaired driving at the state level
 - Adoption of standard protocols for drug testing
 - Increased training for law enforcement on identifying drugged drivers
 - Increased testing and reporting of drug information for all drivers in fatal crashes
 - Increased training for prosecutors to aid in the prosecution of drug-impaired drivers
 - Research on ignition interlock devices to detect impairing drugs other than alcohol.
- The GHSA also supports the Drug Evaluation and Classification Program and encourages all states to adopt the program and train drug recognition experts. At the Federal level, DOT funds should be “flexed” to allow states to use the program for both drug- and alcohol-impaired driving.
- The GHSA supports more research to understand impaired driving; to examine the effectiveness of per se drug laws; and to develop accurate, reliable, and inexpensive roadside drug testing technology.

Comments of J. T. Griffin

- Since MADD’s founding, drunk driving deaths have declined by 36 percent. By putting a face to the crime of drunk driving, MADD believes it has changed the public’s attitude about drinking and driving.

- In 2006, MADD launched a campaign that calls for 1) high visibility sobriety checkpoints in all states, which NHTSA has estimated can reduce drunk driving by 20 percent; 2) alcohol ignition interlocks for all offenders because 50–75 percent of convicted drunk drivers will continue to drive even without a license; and 3) development of advanced alcohol detection technologies.
- When the campaign began, only New Mexico had an all-offender interlock law, but today 16 states (and 4 counties in California, under a pilot program) have such laws. Arizona and Oregon have experienced over 50 percent DUI fatality reductions since passing all-offender interlock laws, and other states have also seen declines when compared to the states that use only interlocks to address high-BAC offenders.

Comments of Jenna McMahon

- Ms. McMahon provided testimony on her 2008 arrest for drinking and driving in New York. She pled guilty to misdemeanor DWI, which was vacated on the date of sentence if she met the following conditions: an alcohol/drug assessment, participation in an outpatient program for 6 months, 50 hours of community service, attendance at a Victim Impact Panel for MADD, and installation of an interlock device on her vehicle. She also had a 1-year license suspension and a \$500 fine, and took a 7-week \$275 course as part of the Motor Vehicle Drinking Driving Program.
- Her experience has “turned her life around.” She does not feel that there are any quick solutions to changing behaviors.

Comments of Dr. Jeffrey P. Michael

- Technology offers a long-term solution to addressing impaired driving, while short-term needs involve adjusting and maintaining public priorities. Technological solutions are “an efficient solution to a complex problem,” because they address the root problem of drunk driving regardless of the person or the reason he or she is impaired.
- With respect to short-term needs, we need strong laws, good law enforcement, effective adjudication, public awareness, and treatment.
- The biggest challenge is to make the issue of impaired driving a high priority for policymakers and political leaders.

Comments of Mayor Arlene J. Mulder

- The most important role mayors can play in reducing substance-impaired driving is in the area of community awareness and education. As community leaders, they interact with residents; and the residents hear their messages.
- In addition to discouraging the practice of drinking and driving, the city of Arlington Heights will broaden its message to discourage anyone from getting into a vehicle with someone who has been drinking. Reminding drivers of the serious consequences they face for driving impaired will serve as a deterrent.
- Mayors can also play an important role in supporting and promoting community organizations such as MADD and organizations that sponsor post-prom events, for example.
- The Arlington Heights police chief has said that having more resources to arrest impaired drivers is crucial and that without Federal funds they cannot afford to do so. For example, the city recently cut the “Too Good for Drugs” program due to financial hardships.

Comments of Jacob Nelson

- Each year, AAA conducts a nationally representative survey of its members to assess their priorities and where they stand on certain issues. Members consistently put drunk driving at the top of their lists.
- AAA has worked with a team of researchers to identify gaps in how impaired driving is being addressed and to find areas where the association can make a difference. AAA believes that the emphasis should be on improving and strengthening state policy.
- There are many loopholes in existing state laws, and there has been push-back to introducing new legislation. For example, legal challenges have been mounted concerning the collection of blood specimens from drivers for drug/alcohol testing.
- Surveying state stakeholders about important issues as well as conducting annual audits of all states to identify legal loopholes would aid the states in developing strong, consistent, and visible policies.

Comments of Representative Jan Pauls

- Kansas formed a 23-person commission in 2009 to look at the state's DUI laws. The members included judges, prosecutors, defense attorneys, and the sheriff, and designees from the secretary of transportation, highway patrol, the welfare group that funded some alcohol treatment programs, and addiction counselors.
- The commission met diligently for 2 years. Initially, there were many disagreements among the various participants; but eventually they resolved their differences and were able to effect change.
- The commission identified poor recordkeeping as one reason that some drivers with DUIs were not being convicted. A DUI central repository was set up and moved from the Department of Revenue to the Kansas Bureau of Investigation. The DOT funded the effort with highway funding sources.
- In 2009, the state changed the law to require ignition interlocks for first offenders. The commission is now working to standardize alcohol assessment counseling. It is also considering a law that would criminalize second-time breath test refusal.

Comments of Mary Jane Saunders

- The malt beverage industry deplores drunk driving and has a longstanding commitment to promoting responsibility and preventing underage drinking and drunk driving.
- The beer industry promotes responsible alcohol sales and encourages the use of designated drivers or safe rides home. The Beer Institute also produces tools to aid parents in talking to kids about drinking, supports the Federal Trade Commission's "We Don't Serve Teens" program, and works with retailers to train servers to check IDs.
- The Beer Institute supports a combination of education, targeted intervention, and strong law enforcement, as needed, and maintains that policies should be handled at the state level rather than federally.
- State judicial and monitoring efforts must be strengthened, and loopholes that are exploited by repeat offenders and hardcore drunk drivers should be closed. Drunk driving laws should be simpler and harder to evade, and states should work to make sure that the various elements of their criminal justice systems work more efficiently.
- The Beer Institute supports increasing the remedies a court may impose on a driver who refuses to take a breath test requested by a police officer.

- It also supports the establishment of offender-funded systems—that is, systems that set DWI fines at levels that cover the jurisdiction’s costs. Such systems would save taxpayer dollars and act as a deterrent to impaired driving.

Comments of Stephen K. Talpins

- NHTSA’s 2007 National Roadside Survey showed that the percentage of drivers with a BAC of 0.08 or greater was much higher in the 1970s and has been declining steadily since that time. However, drugged driving is increasing, and the failure to identify drugged driving offenses is responsible for the “plateau” in impaired driving accidents and fatalities.
- DUI offenders in treatment programs have a disincentive to admit any substance problems beyond the ones that are already known. A Norwegian study showed that drugged driving offenders recidivate at a higher rate than alcohol offenders.
- To address the problem, the Institute for Behavior and Health supports improving methods to identify drunk drivers and assess offender needs. For example, the common practice of not conducting drug tests when a driver’s breath sample reflects a BAC of 0.08 or higher is a critical problem.
- In Miami, a study is currently underway to use onsite oral fluid kits to screen drivers for drug use. If they test positive, they are taken for confirmatory laboratory testing.
- The Institute for Behavior and Health maintains that the criminal justice system should shift from incarceration to community corrections. For example, DUI courts are very effective. Another program that is working well is South Dakota’s 24/7 sobriety program, which is an offender-pay monitoring system.
- The pharmaceutical industry should be involved in addressing impaired driving, just as is the alcohol industry. Private industry also has a stake in this matter.
- Of the emerging drug testing technologies, one uses breath ([SensAbues](#)) to test for drugs and another employs [intelligent fingerprinting](#) (SmartStart).

Comments of Dr. Robert Voas

- A NHTSA survey of drinking and driving estimates that every month there are 85 million drinking driving trips—which means that, over the course of a year, there are 1 billion drinking driving trips nationwide, 1 billion risky decisions.
- The most powerful method to influence risky decision making is high-visibility enforcement, such as sobriety checkpoints and special enforcement units—that is, convincing people that there will be unpleasant consequences if they drink and drive.

- Currently, only 18 states use the checkpoint technique on a weekly basis. To increase deterrence, we must increase the saturation of checkpoints. However, it is not just about making arrests; only a small portion of the people causing fatal alcohol-related crashes have had a prior arrest.
- Although there are concerns that checkpoints require many people and resources, NHTSA-supported research shows that a smaller numbers of officers can have a significant impact if they employ passive sensing technology.
- There is a tendency for states to rely on the Federal government for funds through the Highway Trust Fund. Because that trust fund is decreasing, the Pacific Institute for Research and Evaluation would like to see a renewed emphasis on high-visibility enforcement.

General Panel 8 Discussion

- **Alcohol industry position on technological approaches to impaired driving:** Neither the Beer Institute nor the ABL has a position on passive detection systems, but Ms. Saunders and Mr. Bodnovich stated that ignition interlock devices are appropriate for repeat offenders and for certain first-time offenders, such as those with a high BAC. Mr. Blackman contended that technology is a “solution du jour”; though the Century Council supports technology development, it is critical of it being touted as a single solution to the problem of impaired driving. As an example, the use of ignition interlocks alone is not as likely to be successful at leading to behavioral change as interlocks paired with assessment and treatment.
- **Education and outreach on drug-impaired driving:** The ONDCP National Youth Anti-drug Media Campaign has a drug driving toolkit known as “Above the Influence,” which is geared toward parents and adult caregivers.
- **Maintaining behavioral change after removal of ignition interlocks:**
 - Mr. Blackman maintained that when alcohol interlocks are removed, drivers begin to recidivate to driving after drinking, which is why it is important to pair treatment with interlocks.
 - Mr. Nelson stated that data from the interlock device may be useful to the treatment provider in identifying problems and making treatment more effective.
 - Mr. Talpins has found that post-interlock recidivism is high without treatment, and that continuous alcohol monitors or home breath testing may be more appropriate for people addicted to alcohol.

- In Ms. McMahon’s case, she knew that if she was convicted of another DUI, she would have gone to jail; fear of the potential consequences associated with another conviction was a strong disincentive for her to consider recidivating.
- Recent research has shown that interlocks do not necessarily change overall alcohol consumption, but that those drivers with interlocks will change their drinking patterns so that they do not drive after drinking. As expressed by Dr. Voas, it is a very good sign that it is possible to take people who are alcohol dependent and keep them from driving while impaired.
- **Less expensive alternatives to DUI court programs:** According to Mr. Blackman, better assessment can serve as an intervention on its own and can provide a clearer picture of specific drug, alcohol, and mental health issues. The quicker and more reliable the punishment for impaired driving, the more effective it will be. Mr. Talpins added that financially self-sustaining justice solutions are possible, including DWI courts, and he encouraged follow up with the [National Center for DWI Courts](#) for more information. The South Dakota 24/7 program targets hardcore offenders, who are placed in the program as a condition of their bond rather than waiting for sentencing. They must report to their local sheriff’s department twice a day for breath testing or wear a transdermal alcohol-monitoring bracelet and be subjected to random drug tests. The program was started with funding from the South Dakota legislature, but it is now financially self-sustaining. Using community corrections instead of incarceration saves money and reduces recidivism.
- **Cultural shifts in attitudes toward drinking and driving:** Drinking and driving are no longer socially acceptable. The message of “one for the road” has changed to “don’t drink and drive.” However, Mr. Nelson advocated that the system should be improved to prevent repeat offenses. NHTSA’s National Roadside Survey is a good indicator of the change in culture, and it shows a reduction in driver BACs above 0.08 from more than 7 percent in the 1970s to less than 2 percent now. Dr. Voas reported on a recently completed study that surveyed people aged 18–34 as they left dance clubs. One-half of the passengers were found to have a BAC of 0.05 or higher, but only 20 percent of drivers did. Of drivers who drove to the event but decided not to drive home, 60 percent had a BAC of 0.05 or greater. Among the drivers who took the place of the original drivers, 20 percent had BACs of 0.05.
- **Political will for policy changes:** Mayor Mulder noted that, unfortunately, sometimes it takes an accident to raise political strength or to make the issue salient to the public. Representative Pauls concurred, stating that she has observed cultural changes during her political tenure, including responsible drinking practices at legislative receptions. She also restated the value of having a state commission to improve communication and create a shared culture of responsibility for DUIs.
- **Technological approaches to preventing drugged driving:** NHTSA wants to have evidentiary drug-testing technology available at the police station that is as defensible and affordable as it is for alcohol. The ONDCP has supported a driving simulator to examine driving impairment caused by marijuana and also the combination of

marijuana and alcohol. Designated drivers may eschew alcohol but still use marijuana, for example, or prescription drugs.

- **Deterrent effect of roadside sobriety checkpoints:** The CDC National Center for Injury Prevention and Control has identified this very topic as one of its stated research needs.
- **Cost of impaired driving:** The societal costs of impaired driving are high. For every person who is killed in impaired driving crashes, 30–50 people are injured, many very seriously. Dr. Voas estimated that drunk driving costs \$132 billion per year.
- **Marketing alcohol to young people:** The Chairman cited statistics from the Center on Alcohol Marketing and Youth at the Johns Hopkins Bloomberg School of Public Health that report exposure to alcohol advertising on television increasing by 41 percent for youth from 2001–2005; and more than two-thirds of this advertising was placed on youth-oriented programming. Ms. McMahon commented that many alcoholic drinks are targeted to youth, such as cotton candy-flavored vodka and whipped cream that contains vodka. Mr. Nelson noted that public service messages from the alcohol industry typically say “drink responsibly” rather than the more direct “don’t drink and drive.” Although the beer industry advertises extensively, Ms. Saunders spoke of a voluntary industry code in which advertising is restricted to outlets where the audience is predominantly above the legal drinking age. The Federal Trade Commission conducts routine studies of advertising in the alcohol industry. Mr. Blackman noted that though alcohol advertising may have increased, alcohol consumption among children in the twelfth, tenth, and eighth grades has decreased over the same period. He also noted that research has shown that both parents and peers have a greater influence on youth decisions to drink or not to drink.
- **Near- and long-term solutions to impaired driving:** Mr. Blackman promoted judicial education for the near term. Mr. Talpins predicted great long-term potential for passive alcohol sensing, but did not foresee a drug analog. For drug-related short-term solutions, the city of Miami—for example—is moving forward on roadside testing of all drivers arrested for DUI regardless of their BAC. Mr. Griffin asserted that ignition interlocks are important in the short term, but over the long term, DADSS may eliminate drunk driving in America. Making the first-time ignition interlock law an administrative sanction rather than a court-imposed one was very successful in Kansas. Both Hawaii and Oregon also had or have advisory committees to address DUI. The Hawaii group worked to establish an ignition interlock law, and the Oregon advisory group has recently worked to address the problem of drivers trying to seek exemptions from DUI convictions because of medical marijuana use. Mr. Nelson described an advocacy toolkit developed by AAA to assist states in forming advisory groups or task forces.

Closing Remarks

Substance-impaired driving is the number one killer on our roads today. Since 1988, more than 300,000 people have perished at the hands of impaired drivers. Because of the combined efforts of government, law enforcement, the judicial system, highway safety advocates, and educators, among others, the number of annual lives lost from impaired driving has decreased from 18,611 in 1988 to 10,228 in 2011.

However, I believe we are complacent about educating drivers of their responsibilities behind the wheel. We need a renewed commitment and political will to work through the myriad complex social, legal, and medical challenges of impaired driving.

Identifying actions to eliminate deaths and life-altering injuries on our roadways was the purpose of this forum, “Reaching Zero.” We can work more effectively with law enforcement and integrate new technologies into the vehicle fleet, along with improving design. We need to support the National Highway Traffic Safety Administration in turning cars into the cure. We need to better understand the effects of drug-impaired driving along with impairment by multiple substances.

The solution should be as simple as: “Don’t use alcohol or drugs, and then get behind the wheel.” Too many people make bad choices in this regard. “Each life is precious. Each crash preventable.” We must continue toward ensuring that the consequences of impaired driving are certain, swift, and severe. To reach zero, we must expand successful intervention efforts and further develop the technology that separates the impaired person from their vehicle.

Chairman Deborah A.P. Hersman