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Problem-Specific Guides Series
Problem-Oriented Guides for Police

No. 69

Drug-Impaired Driving

Joseph B. Kuhns



Center for
Problem-Oriented Policing

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About the Problem-Specific Guides Series

The *Problem-Specific Guides* summarize knowledge about how police can reduce the harm caused by specific crime and disorder problems. They are guides to prevention and to improving the overall response to incidents, not to investigating offenses or handling specific incidents. Neither do they cover all of the technical details about how to implement specific responses. The guides are written for police—of whatever rank or assignment—who must address the specific problem the guides cover. The guides will be most useful to officers who:

- **Understand basic problem-oriented policing principles and methods.** The guides are not primers in problem-oriented policing. They deal only briefly with the initial decision to focus on a particular problem, methods to analyze the problem, and means to assess the results of a problem-oriented policing project. They are designed to help police decide how best to analyze and address a problem they have already identified. (A companion series of *Problem-Solving Tools* guides has been produced to aid in various aspects of problem analysis and assessment.)
- **Can look at a problem in depth.** Depending on the complexity of the problem, you should be prepared to spend perhaps weeks, or even months, analyzing and responding to it. Carefully studying a problem before responding helps you design the right strategy, one that is most likely to work in your community. You should not blindly adopt the responses others have used; you must decide whether they are appropriate to your local situation. What is true in one place may not be true elsewhere; what works in one place may not work everywhere.
- **Are willing to consider new ways of doing police business.** The guides describe responses that other police departments have used or that researchers have tested. While not all of these responses will be appropriate to your particular problem, they should help give a broader view of the kinds of things you could do. You may think you cannot implement some of these responses in your jurisdiction, but perhaps you can. In many places, when police have discovered a more effective response, they have succeeded in having laws and policies changed, improving the response to the problem. (A companion series of *Response Guides* has been produced to help you understand how commonly-used police responses work on a variety of problems.)



- **Understand the value and the limits of research knowledge.** For some types of problems, a lot of useful research is available to the police; for other problems, little is available. Accordingly, some guides in this series summarize existing research whereas other guides illustrate the need for more research on that particular problem. Regardless, research has not provided definitive answers to all the questions you might have about the problem. The research may help get you started in designing your own responses, but it cannot tell you exactly what to do. This will depend greatly on the particular nature of your local problem. In the interest of keeping the guides readable, not every piece of relevant research has been cited, nor has every point been attributed to its sources. To have done so would have overwhelmed and distracted the reader. The references listed at the end of each guide are those drawn on most heavily; they are not a complete bibliography of research on the subject.
- **Are willing to work with others to find effective solutions to the problem.** The police alone cannot implement many of the responses discussed in the guides. They must frequently implement them in partnership with other responsible private and public bodies, including other government agencies, non-governmental organizations, private businesses, public utilities, community groups, and individual citizens. An effective problem-solver must know how to forge genuine partnerships with others and be prepared to invest considerable effort in making these partnerships work. Each guide identifies particular individuals or groups in the community with whom police might work to improve the overall response to that problem. Thorough analysis of problems often reveals that individuals and groups other than the police are in a stronger position to address problems and that police ought to shift some greater responsibility to them to do so. Response Guide No. 3, *Shifting and Sharing Responsibility for Public Safety Problems*, provides further discussion of this topic.

The COPS Office defines community policing as “a philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime.” These guides emphasize *problem-solving* and *police-community* partnerships in the context of addressing specific public safety problems. For the most part, the organizational strategies that can facilitate problem-solving and police-community partnerships vary considerably and discussion of them is beyond the scope of these guides.



These guides have drawn on research findings and police practices in the United States, the United Kingdom, Canada, Australia, New Zealand, the Netherlands, and Scandinavia. Even though laws, customs, and police practices vary from country to country, it is apparent that the police everywhere experience common problems. In a world that is becoming increasingly interconnected, it is important that police be aware of research and successful practices beyond the borders of their own countries.

Each guide is informed by a thorough review of the research literature and reported police practice, and each guide is anonymously peer reviewed by a line police officer, a police executive, and a researcher prior to publication. The review process is independently managed by the COPS Office, which solicits the reviews.

For more information about problem-oriented policing, visit the Center for Problem-Oriented Policing online at www.popcenter.org. This website offers free online access to:

- The *Problem-Specific Guides* series
- The companion *Response Guides* and *Problem-Solving Tools* series
- Special publications on crime analysis and on policing terrorism
- Instructional information about problem-oriented policing and related topics
- An interactive problem-oriented policing training exercise
- An interactive *Problem Analysis Module*
- Online access to important police research and practices
- Information about problem-oriented policing conferences and award programs



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Kimberly Nath oversaw the project for the COPS Office. Phyllis Schultze conducted research for the guide at Rutgers University's Criminal Justice Library. Nancy Leach coordinated the Center for Problem-Oriented Policing's production process. Lee Titus Elliott edited this guide.



The Problem of Drug-Impaired Driving

This guide begins by describing the problem of drug-impaired driving and reviewing factors that increase its risks and negative outcomes. It then identifies a series of questions to help you analyze your local drug-impaired driving problem. Finally, it reviews a number of responses to the problem and summarizes what is known about these responses from evaluative research and police practice.

Drug-impaired driving demands police, legislative, and community attention because of the harms it may cause. Many of the problems associated with drug-impaired driving are similar to those associated with drunk driving. However, recent evidence suggests that the prevalence of drug-impaired driving may be equal to, or perhaps higher than, that of drunk driving.¹ And although the general trend of driving under the influence of alcohol has been declining in recent years in many countries—thanks, in large part, to broader and persistent attention to this problem—drug-impaired driving specifically linked to traffic fatalities appears to be rising.² To date, however, a historical focus on drunk driving has somewhat limited law enforcement and policy attention on drug-impaired driving.

What This Guide Does and Does Not Cover

Drug-impaired driving is just one aspect of the larger set of problems related to drug use and impaired driving. This guide is limited to addressing the particular harms associated with drug-impaired driving. Related problems not directly addressed in this guide, each of which requires separate analysis, include the following:

Drug Use Problems

- Prescription drug abuse
- Rave parties

Impaired-Driving Problems

- Drunk driving
- Age-impaired driving
- Sleep-deprived driving
- Speeding
- Street racing
- Aggressive driving
- Hit-and-run vehicle crashes



Some of these related problems are covered in other guides in this series, all of which are listed at the end of this guide. For the most up-to-date listing of current and future guides, see www.popcenter.org.

General Description of the Problem

Drug-impaired driving—which generally refers to a driver operating a vehicle while having a measurable quantity of a drug (legal or illegal) in the body that impairs driving performance—is a major road and safety concern in many countries, according to a wide variety of sources. In 2009 in the United States, about 4 percent of drivers (or 10.5 million) were drug impaired while driving.³ Among high school seniors, drug-impaired (specifically, marijuana-impaired) driving rates may be higher (about 14 percent from 2001 to 2006) than those of the general population.⁴ Roadside surveys of drivers' oral fluid and blood samples reveal that among all weekend nighttime drivers, over 16 percent tested positive for illegal, prescription, or over-the-counter drugs, any of which could impair driving.⁵ Estimates of the prevalence of drug-impaired driving across different countries—including Australia,⁶ Germany,⁷ Canada,⁸ and New Zealand,⁹ among others—vary considerably. Regardless of the rate, the problem merits police attention, given the potential harms.

According to a number of studies, young males between the ages of 17 and 24 are at the highest risk for drug-impaired driving offending and victimization,¹⁰ although female involvement is increasing.¹¹ Among high school seniors, drug-impaired driving occurs across multiple demographic groups, although lifestyle factors tend to play a stronger role in predicting such driving.¹² Persistent offenses of drug-impaired driving among males have been linked to marijuana dependence; early traffic violations, non-traffic violations, and convictions before age 18; and personality characteristics such as a weaker ability to control one's behavior, to avoid harm, and to respect tradition during the offending driver's teens.¹³ In Finland, drugged driving is associated with low education and high unemployment, receiving disability pensions, and higher rates of divorce or living alone.¹⁴ Given the varying ways in which these studies have been conducted, there is good reason to believe that many drug-impaired drivers are never detected.

Driving under the influence of marijuana—the most commonly used illicit drug—may actually be more common than driving under the influence of alcohol in some countries.¹⁵ Some marijuana users perceive marijuana to be a safe drug to use before driving and thus indicate that changes in laws may not influence their future decisions to continue using marijuana before driving.¹⁶ These perceptions are particularly troubling given the decriminalization and the changes in medical-marijuana laws that are occurring, or that have already occurred, in the United States and elsewhere. Indeed, driving under the influence of marijuana increases the risk of being involved in motor vehicle crashes.¹⁷



However, the drug-impaired driving problem extends well beyond the use of marijuana and includes the use of a wide variety of legal drugs (including those prescribed and those obtained over the counter) and illegal drugs—which include stimulants, depressants, antidepressants, narcotics, hallucinogens, sleeping pills, and other intoxicating substances.¹⁸

Harms Caused by Drug-Impaired Driving

Drug-impaired driving can damage communities in a number of ways, many of which are similar to the harms associated with drunk driving.[†] These harms can include the following:

- Drug-impaired drivers, their passengers, and other drivers on the road, as well as pedestrians, can be injured or killed.¹⁹
- Families affected by drug-impaired drivers can suffer emotionally and financially for extended periods of time, particularly when family members are severely or permanently injured or killed. Injured victims, their families, and their employers can suffer financial losses when injured persons cannot work or perform with less effectiveness.²⁰
- Vehicles and public and private property can be damaged or destroyed.
- The rates of motor vehicle insurance can increase for all drivers, given the costs and risks associated with drug-impaired driving.
- Traffic flow is often impeded during traffic crashes related to drug-impaired driving, and these interruptions may be further prolonged because field drug testing may need to occur.
- Other drivers may resent having to modify their own driving habits and times to avoid encountering drug-impaired drivers.
- Police and other public resources (such as hospitals, drug-testing centers, courts, jails and prisons, drug-treatment providers, and probation offices) are consumed in efforts to enforce drug-impaired driving laws and to respond to drug-impaired driving offenders, thereby limiting the resources available for other public-safety and crime challenges.²¹
- Drug-impaired drivers may lose their driving privileges and possibly their vehicles (perhaps permanently), which may subsequently interfere with their ability to get to work, to attend school, to visit family, to participate in religious events, to seek treatment, and so forth.
- Positive drug tests may have an immediate and future impact on employment eligibility.²²

[†] See Problem-Specific Guide No. 36, *Drunk Driving*, for further information.



- Drug testing—in the field, at the police station or at a hospital—can be expensive for communities, particularly if local substance use rates are high and if ongoing drug testing and monitoring is included as one of the conditions of a conviction.
- Drug-impaired drivers may inadvertently lead other drivers to believe that drug-impaired driving is acceptable or not dangerous, which can exacerbate the problem.²³
- Drug-impaired drivers contribute to and participate in the illicit drug trade, in some cases.
- Drug-impaired drivers may create liability concerns for physicians, pharmacists, and pharmaceutical companies, which may drive up costs of medications.²⁴

Factors Contributing to Drug-Impaired Driving

Understanding the factors that contribute to your problem will help you frame your own local analysis questions, determine good effectiveness measures, recognize key intervention points, and select appropriate responses.

Access to Drugs

Jurisdictions with significant local drug market activity likely have correspondingly high drug-impaired driving problems, notwithstanding the availability of mass transportation or the proximity of users to illicit markets. To the extent that drugs, including prescription drugs, are readily available and easily obtainable—whether through illicit markets on or off the street, through legitimate or illegitimate (usually recreational) prescription markets or through other means (e.g., Internet-based purchasing, nightclub transactions, concert distribution, discreet markets, and medical marijuana outlets)—the risk of increased drug-impaired driving is higher. Certain drugs or drug categories may be more risky than others,²⁵ although a number of factors affect the level of impairment, including dosage, frequency of use, and use of other substances.

Open-air drive-by drug markets (those where users drive up and purchase drugs without getting out of their cars) are of particular concern because potential users are already in vehicles as drugs are being purchased, and those buyers may return for additional drugs within a matter of minutes or hours, depending on the particular substance. In addition, jurisdictions that have difficulty controlling access to legal prescriptions or that have particularly high rates of prescription drug use within their populations (e.g., jurisdictions that mainly include elderly persons or that include large groups of mentally ill patients who are medicated) might create substantial public safety challenges. Finally, jurisdictions with relaxed drug laws (e.g., allowing the use of medical marijuana or decriminalizing the use of marijuana) might also have higher rates of drug-impaired driving.



Drive-by drug purchases, such as the one pictured here, are of particular concern as users are already in vehicles.

Misperceptions of Risk of Injury or Apprehension

Drug use can affect users' perceptions of the risks associated with substance use, can alter decisions and influence behaviors, and can decrease user concerns with apprehension. Despite evidence to the contrary, some marijuana users²⁶ and users of other drugs²⁷ perceive minimal risk associated with driving following substance use, and perceptions of risk seem to vary across different drugs and drug use patterns.²⁸ As a result, some drug users are more likely and more willing to drive while impaired, and their willingness to do so can affect other drug users, who may then be inclined to drive following their own drug use at some point in the future. To the extent that drug-impaired drivers successfully make it to their destinations and avoid being apprehended by police, their willingness to continue to use drugs while driving increases risks for other drivers as well.

Combining Legal or Illegal Drugs Along with Alcohol

Using multiple drugs simultaneously or using drugs in combination with alcohol significantly impedes driving performance,²⁹ which is a particularly important concern in situations or places where alcohol and drugs are readily available and consumed simultaneously (such as nightclubs, parties, raves, and concerts). For example, nightclub attendees in Australia reported both recent drug use and a likelihood of driving home with someone who is drug impaired and possibly alcohol impaired as well.³⁰ Although some rave attendees have reported higher levels of concern with impaired drivers,³¹ young people, in particular, are willing to accept rides from drugged drivers.³² In addition, a prior experience of driving while drug impaired increases the likelihood of doing so again; it also increases the chances of accepting rides with others who are drug impaired.³³



Understanding Your Local Problem

The information provided above is only a generalized description of drug-impaired driving. You must combine the basic facts with a more specific understanding of your local problem. Analyzing the local problem carefully will help you design a more effective response strategy.

Stakeholders

In addition to criminal justice agencies, the following groups have an interest in the drug-impaired driving problem and should be consulted when gathering information about the problem and responding to it.

- *Schools and universities* are particularly concerned with the safety of students and can often provide campus-based data and information and can help administer student surveys to assess the extent of the problem and to evaluate the effectiveness of responses. University students use substances at high rates, and therefore university faculty and staff can further assist in measuring use rates and educating this high-risk group.
- *Parents* who help teach their children to drive and learn about drug and alcohol use are ideally positioned to assist police with getting students engaged in the problem, with asking them to participate in surveys and other research efforts and perhaps with soliciting ideas on how drug-impaired driving can be minimized.
- *Other drivers* who are at risk for damage to their property, for injury, or for death can advocate for police and legislative attention to drug-impaired driving and can help police by reporting suspicious drivers quickly.
- *Insurance companies* that are interested in minimizing financial exposure and high costs and in establishing reasonable insurance rates based on perceived risks can help police by tracking offending rates among their customers, by exploring the impact of raising insurance rates among offenders on overall public safety, and by providing information on future accidents among high-risk offenders (some of which may not involve the police but may come to the attention of the insurance companies).
- *Bar and restaurant owners* may be in a position to intervene and contact police if drugs are being used in bars and restaurants—either drugs only or drugs in combination with alcohol. In an effort to prevent accidents, bartenders and servers can assist police in reporting potential offenders as they leave a bar or a restaurant.
- *Drug treatment providers* can help reduce overall drug use rates and reduce drug use among offenders specifically. These agencies often track the impact of their treatment programs in reducing recidivism among clients.



- *Driver's license centers* can play an important role in restricting and revoking licenses and in recalling license plates of convicted offenders, but they must also serve as a primary resource of data on reoffending and overall public safety risk levels.
- *Motor vehicle clubs and associations* can serve as likely targets for educational programs and can assist police by providing information on particularly dangerous roadways that might serve as roadblock settings.
- *Transportation businesses*, such as taxi cab, limousine, and shuttle services, can assist police in measuring the prevalence of drug-impaired passengers over time, which might indicate whether any planned responses are effectively discouraging drug-impaired driving (and thereby encouraging other forms of transportation).
- *Traffic engineers* can help identify particularly risky roads (near open-air drug markets, for example) that might be modified in an effort to disrupt drive-up-and-buy markets and limit easy in-and-out access to areas where drug-impaired driving is likely to occur.
- *Personal injury attorneys* can publicize their lawsuits against offenders, which might then deter some drug users from driving while drug impaired.
- *Large employers with motorized fleets* can collect internal data on traffic accidents that might help police to accurately estimate the magnitude of the problem of drug-impaired driving.
- *Emergency medical providers* can assist police by helping to identify potential offenders, by assisting with drug testing those who cannot be field tested (perhaps because of their own injuries) and by performing confirmation tests if officers are unable to do so within a reasonable time.
- *Drug courts* can develop systems to track offender compliance and reoffending rates among those who do and do not complete the drug court process.
- *Physicians who prescribe drugs* can help police by confirming prescription status, perhaps as a condition of probation, among first-time offenders who may be at increased risk for future offending.
- *Advocacy groups* that support medicalizing, decriminalizing, or legalizing certain drugs, particularly marijuana, can assist by tracking the effectiveness of educational programs designed to deter drug-impaired driving.
- *Pharmaceutical companies* can alert police and community leaders regarding the risks associated with specific drugs that are widely used among high-risk populations (including the elderly, for example).
- *Pharmacies and pharmacists* can assist with investigations of offenders who may have been impaired because they used legal prescriptions.
- *Victim advocacy groups and public health agencies* can assist in collecting victimization and injury data and in tracking emerging or ongoing trends.



Asking the Right Questions

The following are some critical questions you should ask in analyzing your local problem of drug-impaired driving, even if the answers are not always readily available. Your answers to these and other questions will help you choose the most appropriate set of responses later on.

Incidents

- How many drug-impaired driving incidents occur locally each week, month, or year (depending on your reporting processes)?
- Does your jurisdiction have a valid method of measuring the number of drug-impaired driving incidents? If not, what will it take to develop such a system?
- What proportion of police officers is trained to test for drug-impaired driving in the field, at the station or at some other location (e.g., a clinic or hospital)? Are law enforcement employees who are not police officers involved in the testing process, or could they assist?
- Which drugs are you able to test for in the field or at other locations? What drugs that might be implicated in drug-impaired driving are you currently unable to test for in these locations?
- What proportion of traffic crashes is associated with drug-impaired drivers? Is this proportion higher or lower than the proportion associated with alcohol-impaired driving?
- What testing methods are used to test for drug-impaired driving, and are these methods valid, reliable, and user-friendly? How do you know?
- What is the estimated cost to the public for drug-impaired driving crashes, enforcement, testing, treatment, and so forth?

Victims

- What proportion of traffic crash victims is tested for drug and alcohol impairment? What limitations exist that prevent higher or broader levels of testing—i.e., testing for more substances?
- What is known about the demographic profile of the victims of drug-impaired drivers (e.g., gender, education, socioeconomic status, employment history, living arrangements)? How are these data collected? Are they used in any meaningful way to develop responses?



- Are victims of drug-impaired driving crashes ever given an opportunity to confront the offender (e.g., a victim impact panel)? If so, is there any evidence of effectiveness?
- What proportion of victims of drug-impaired driving crashes has a criminal record, or more specifically, evidence of past drug involvement?
- Are there any specific laws or practices in place to provide restitution to the victim(s)?

Offenders

- What proportion of traffic crash offenders is tested for drug impairment? Is testing mandatory under certain conditions or discretionary (if so, under what conditions)? What limitations exist that prevent more frequent or broader levels of testing—i.e., those involving more substances?
- What is known about the demographic profile of drug-impaired drivers (e.g., gender, education, socioeconomic status, employment history, living arrangements)? How are these data collected? Are they used in any meaningful way to develop responses?
- What proportion of drug-impaired drivers consists of repeat offenders (e.g., they have previously been arrested for similar charges or for other drug-related charges)?
- What is the driving history of those arrested for drug-impaired driving, and how does it compare with that of the average driver or with that of drunk drivers?
- What is the criminal history of those arrested for drug-impaired driving? Are most of them involved in other forms of crime or in persistent drug use? If so, would focusing attention and resources on those types of crimes help reduce drug-impaired driving?

Locations/Times

- What times of day, days of the week, weeks of the month, or months of the year have the highest levels of impaired-driving rates? What are some possible explanations for these patterns?
- What locations (e.g., specific streets, communities, and areas near stadiums, bars, and open-air drug markets) are at increased risk for drug-impaired driving incidents? Are these locations close to illicit drug markets or to pharmacies?
- Are open-air, drive-by-and-purchase drug markets operational in parts of your community or jurisdiction? How common is it for driving buyers to use the drugs they purchase before resuming driving?



Current Responses

- How many arrests and convictions for drug-impaired driving occur annually? Has this number increased or decreased over the past decade?
- What are the legal consequences for drivers who refuse to submit to a drug test, either during a traffic stop or following a vehicle crash, when impairment is suspected? What proportion of suspected drivers refuses? Is the consequence for refusal swift, certain, and severe?
- What proportion of drug-impaired drivers continues to drive with suspended or revoked licenses? For what proportion does suspending or revoking their license reduce recidivism?
- Are arrested or suspected drug offenders routinely educated about the risks and consequences of drug-impaired driving?
- Does your jurisdiction have mandatory drug-impaired driving education courses within the school system, either as part of driver education or within local universities or other settings?
- Is drug treatment mandatory for drug-impaired driver offenders?
- Is some form of punishment mandatory? Does the specific response vary, depending on the type of drug, the level of intoxication or the number of offenses? Is punishment swift, certain, and severe?
- Do state or local laws ensure that drug-impaired drivers have mandatory increases in insurance rates following an arrest or conviction? If not, has the insurance industry discussed this strategy with police or with legislators?
- Can drug-impaired drivers, especially repeat offenders, lose their vehicles permanently as one of the consequences of driving while drug impaired? Does the impoundment process occur quickly?
- Can drug-impaired drivers be diverted into alternative venues (either within or outside the criminal justice system) by police officers or by the court system (or by both)?
- What discretion exists for police officers who respond to potential drug-impaired driving situations?
- Does your police department have a specialized unit that handles drug-impaired driving situations, or are some of your police officers specifically trained to handle these cases?



Measuring Your Effectiveness

Measurement allows you to determine to what degree your efforts have succeeded, and suggests how you might modify your responses if they are not producing the intended results.

Ideally, you should take measures of your problem *before* you implement responses, to determine how serious the problem is, and *after* you implement them, to determine whether your responses have been effective. You should take all measures in both the target area and the surrounding area. For more detailed guidance on measuring effectiveness, see Problem-Solving Tools Guide No. 1, *Assessing Responses to Problems: An Introductory Guide for Police Problem-Solvers* and Problem-Solving Tools Guide No. 10, *Analyzing Crime Displacement and Diffusion*.

The following are potentially useful measures of the effectiveness of responses to drug-impaired driving. Process measures demonstrate the extent to which the responses were properly implemented. Outcome measures demonstrate the extent to which the responses reduced the level or severity of the problem.

Process Measures

- More efficient processing times for drug-impaired driving scenes, testing, and responses
- Improvements in officer training and certification in recognizing and responding to drug-impaired driving situations and in testing for a variety of drugs, using standardized protocols
- Increased proportion of point-of-contact testing (field testing) that is later verified
- Demonstrated improvements in laboratory and field-testing protocols
- Wider adoption and implementation of sobriety checkpoints that focus on drug impairment in addition to alcohol impairment
- Improvements in physician and pharmacist awareness training
- Disruption of drive-up-and-buy markets as sources of drug-impaired driving incidents
- Increased education outreach (at multiple critical points) among at-risk populations (such as high school and college students, those who regularly use impairing prescription medications, the elderly, known drug users, and prior drug-impaired driving offenders)
- Increased number of forfeited vehicles from convicted drug-impaired drivers
- Increased number of confiscated license plates from convicted drug-impaired drivers
- Increased prosecutions of offenders
- Reduced amount of time for punishing offenders and increased certainty of punishment



Outcome Measures

- Reduced number of crashes, injuries, and fatalities that involve drug-impaired drivers, measured as a proportion of all traffic crashes, injuries, and fatalities
- Reduced degree of injury to persons and property from drug-impaired driving crashes
- Reduced number of repeat offenders and of victims involved in drug-impaired driving incidents
- Improved successful outcomes following treatment of offenders (e.g., reductions in test failures, successful integration into the community, and lower recidivism rates)



Responses to the Problem of Drug-Impaired Driving

Your analysis of your local problem should give you a better understanding of the factors contributing to it. Once you have analyzed your local problem and established a baseline for measuring effectiveness, you should consider possible responses for addressing the problem.

The following response strategies provide a foundation of ideas for addressing your particular problem. These strategies are drawn from a variety of research studies, government initiatives and police reports. Several of these strategies may apply to your community problem.

It is critical that you tailor responses to local circumstances and that you can justify each response on the basis of reliable analysis of accurate data. In most cases, an effective strategy will involve implementing several different responses. Law enforcement responses alone are seldom effective in reducing or solving the problem.

Do not limit yourself to considering what police can do: carefully consider whether others in your community share responsibility for the problem and can help police better respond to it. The responsibility of responding, in some cases, may need to be shifted toward those who have the capacity to implement more effective responses. (For more detailed information on shifting and sharing responsibility, see Response Guide No. 3, *Shifting and Sharing Responsibility for Public Safety Problems*.)

For further information on managing the implementation of response strategies, see Problem-Solving Tools Guide No. 7, *Implementing Responses to Problems*.



General Considerations for an Effective Response Strategy

Generally, any enforcement, intervention, or prevention programs that attempt to minimize or delay onset of illicit substance use can also help reduce incidents of drug-impaired driving.[†]

In addressing drug-impaired driving, you would do well to begin by examining your local strategies for responding to drunk driving and consider using parts of that framework as a starting point for responding to drug-impaired driving.[‡] The lessons we have learned about drunk driving can directly inform many of our responses to drug-impaired driving. For example, first-time drunk-driving offenders can likely be influenced and persuaded to desist, but repeat offenders' behavior is far more difficult to change, and they are at increased risk of continued offending.³⁴ Therefore, you should consider adopting different sets of responses that address first-time drug-impaired drivers and repeat offenders.³⁵

Specific Responses to Reduce Drug-Impaired Driving

Legal and Administrative Responses

1. **Implementing per se (also known as “zero-tolerance”) laws.** Many jurisdictions have implemented per se laws in which a specified level of an illicit drug found in the body of a driver is, in and of itself, defined as an offense. Within the context of illegal drugs, zero-tolerance laws include those that set the limit of illicit drugs at the minimal drug detection level. Therefore, under zero-tolerance laws, it may not be necessary to prove that drivers were actually impaired but only to demonstrate that they had a detectable amount of an illegal drug in their body while driving.³⁶ Other states, and some scientists, have an interest in identifying reasonable detection levels that suggest impairment by some substances (including marijuana).³⁷ Nevertheless, zero-tolerance laws, while not necessarily improving the enforcement of the laws, appear to improve prosecution rates in some states.³⁸ Broader adoption of zero-tolerance laws has been carefully studied and recommended.³⁹ However, actual enforcement of zero-tolerance laws may be challenging, because police officers may still need to use the premise of perceived impairment as the justification for a traffic stop. Therefore, per se and zero-tolerance laws may ultimately focus attention primarily on drivers who are substantially impaired, as opposed to the larger

† For further information on addressing the broader issues related to drug use, readers are encouraged to review the POP Guides on *Drug Dealing in Open-Air Drug Markets (#31)*, *Drug Dealing in Privately Owned Apartment Complexes (#4)*, *Clandestine Methamphetamine Labs (#16)*, *Rave Parties (#14)*, and *Prescription Fraud (#24)*.

‡ See Problem-Specific Guide No. 36, *Drunk Driving* for further information.



population of drivers who have illicit substances in their bodies.⁴⁰ Furthermore, per se and zero-tolerance laws may not include drug-impaired drivers who are using prescription or over-the-counter medications (because possession, as determined by a laboratory or field test of those drugs, may not be illegal, in and of itself).

2. **Developing drug-impaired driver courts.** Drug-impaired driver courts, generally modeled on drug courts, have been developed and implemented in South Dakota and in Erie/Niagara, New York.⁴¹ These specialized courts have been used to respond to first-time offenders, but they mostly target high-risk and repeat offenders and are focused on managing substance abuse problems, one of which is drug-impaired driving. Because initial evaluations and reviews of these kinds of intervention efforts are promising, like the evaluation and review of drug court effectiveness overall, much broader adoption of drug-impaired driver courts should be encouraged, given the cost of trying offenders in drug courts compared with the cost of their incarceration,⁴² especially for serious recidivists.⁴³
3. **Implementing or improving on-site, point-of-contact (field) drug-testing devices and protocols.** A number of drug-screening devices are available for use in the field. One initial evaluation suggested that Los Angeles police officers were quite effective at field testing, although there was some room for improvement.⁴⁴ However, a larger study that examined a wide variety of testing methods across a broad array of substances suggested that no devices can yet be recommended.⁴⁵ As a result, continued development of drug-testing devices that ensure accuracy, reliability, and usability is necessary.
4. **Standardizing lab and field testing protocols.** Uniformity in lab and field drug-testing standards and protocols is also important. Professional organizations such as the American Board of Forensic Toxicology (ABFT), the American Society of Crime Laboratory Directors/ Laboratory Accreditation Board (ASLD/LAB), and other similar entities should continue to take the lead in aligning laboratory standards internationally and ensuring consistency in lab processes and protocols.⁴⁶ Standardization of testing protocols can also assist police in preparing cases that can be efficiently prosecuted and that can withstand legal and judicial scrutiny.



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Many departments use officers trained as drug recognition experts at sobriety checkpoints such as the one pictured here. http://commons.wikimedia.org/wiki/File:Sobriety_checkpoint_easthaven_ct.jpg Used with permission.

5. **Suspending, restricting, or revoking driving privileges.** Motor vehicle departments typically have administrative and legal protocols in place for restricting, suspending, or revoking driving privileges for impaired drivers, and these responses have been effective.⁴⁷ The same protocols could be (and in some jurisdictions already are) applied to drug-impaired drivers. It seems clear, however, that relying solely on these measures has not been effective—especially for persistent drinkers. It likely follows that these approaches, if implemented as a primary response, would be equally ineffective for persistent drug users, including users of intravenous drugs who are frequently convicted of drug-impaired driving.⁴⁸ First-time drug-impaired driving offenders, however, may be more effectively influenced to change their behavior by various methods of restricting driving privileges. And some evidence suggests that “use and lose” laws, which include those that authorize driver-licensing actions against persons found to be using, or in possession of, illicit drugs, and against underage persons found to be drinking, purchasing or in possession of alcoholic beverages, improve public safety and reduce subsequent traffic violations overall.⁴⁹

Enforcement Responses

6. **Implementing high-visibility enforcement, including sobriety checkpoints.** Police visibility, focused and directed enforcement—especially during high-risk time frames and in high-risk areas—and regular and highly visible use of sobriety checkpoints have been successful deterrents to alcohol- and drug-impaired driving.⁵⁰ Although sobriety checkpoints can be resource intensive (and therefore expensive), this enforcement approach has been upheld by American courts as a reasonable intrusion of privacy when implemented properly. The general public typically supports the use of sobriety checkpoints to enforce drunk-driving laws and sobriety checkpoints, particularly



when advertised in advance, have increased potential offenders' perceptions that they will be apprehended.⁵¹ On the other hand, sobriety checkpoints that have targeted drunk driving fail to detect legal intoxication among many drivers.⁵² It is therefore likely that checkpoints designed to target drug-impaired driving would also miss a substantial proportion of impaired drivers, given the range of difficulties associated with field drug testing (see response #7 below).

7. **Training police officers to be drug recognition experts.** Many police departments have trained some officers as drug recognition experts. These experts rely on a standardized process for assessing whether a suspect is drug impaired.⁵³ The use of this systematic approach has assisted many prosecutors in prosecuting drug-impaired driving offenders, although the reliability of the process and the admissibility of the evidence have been subjected to substantial legal challenges.⁵⁴ Evaluations of the effectiveness of this response have been mixed, but they tend to indicate that officers are reasonably accurate in identifying drug-impaired drivers.⁵⁵ The National Highway Traffic Safety Administration (NHTSA) has published useful guidance on how to improve the investigation and prosecution of drug-impaired driving cases.⁵⁶

Restricting Vehicle Access

8. **Impounding, immobilizing, or confiscating vehicles or vehicle license plates of drug-impaired drivers.** Impounding or immobilizing vehicles or confiscating license plates, temporarily or permanently, as a method of reducing additional traffic violations and improving overall safety, has been effective at reducing future offending by those driving on suspended or revoked licenses.⁵⁷ Confiscating license plates of drunk drivers, particularly first-time drunk drivers, has also been effective.⁵⁸ These responses appear to be working in a variety of locations in the United States and Canada among alcohol- and drug-impaired drivers who are either first-time or repeat offenders.⁵⁹ Jurisdictions vary with respect to the time when, and under what conditions, permanent vehicle forfeiture can occur. New York City applies such sanctions to first-time and repeat offenders alike, arguing that the vehicle is an instrument of a crime and observing that first-time offenders were responsible for 87 percent of the drug-impaired driving-related deaths. Although there have been concerns about establishing vehicle ownership, about undue impact on family members, and about claims of excessive punishment, vehicle forfeitures have generally been upheld by state and federal courts in the United States.⁶⁰



Reducing Drug Use

9. **Mandating drug treatment for all drug-impaired drivers.** It is unlikely that all drug-impaired drivers were apprehended the first time they drove while impaired. Furthermore, repeat offenders have demonstrated a persistent use of drugs and a willingness to drive while impaired; they have also demonstrated an unwillingness or inability to change either behavior. By and large, it is reasonable to conclude that most convicted drug-impaired drivers are drug users during periods when they are not driving. Drug treatment, including court-mandated treatment or compelled treatment by other means (e.g., drug courts or other drug diversion programs), is often effective at reducing (and sometimes eliminating) drug use and at managing the consequences associated with drug abuse.⁶¹ Treatment should be more intensive and last longer for repeat drug-impaired driving offenders (who are likely persistent drug users); even so, treatment has been effective at reducing subsequent collision risk for cocaine and alcohol users.⁶² Treatment is often less costly than many other criminal justice sanctions, including incarceration; therefore, it should be required for any convicted drug-impaired driver. Treatment, either concurrent with or in lieu of punishment, can be effective, but punishment without treatment is less likely to deter repeat drug-impaired driving.

10. **Using electronic-monitoring devices to closely track repeat drug-impaired driving offenders.** Offenders who are arrested or convicted more than once for drug-impaired driving merit closer monitoring and supervision by the criminal justice system than first-time offenders. Recent advances in electronic monitoring have suggested that this approach is a cost-effective method of community supervision both before and after convictions.⁶³ Electronic monitors affixed to convicted drug-impaired drivers or their vehicles would allow police to track offenders continuously, to determine whether they are on foot or in a car, and to assess whether they are near such places as drug markets and drug houses. Together with driving restrictions, an electronic-monitoring program that includes a drug-use-monitoring device that can detect illicit substance use occurring within the offender's home or while he or she is driving to or from work would create an effective technological method of preventing continued drug use and of reducing rates of recidivism among convicted drug-impaired drivers.



Education and Prevention Responses

11. **Conducting public-awareness campaigns directed at the general population and targeting high-risk populations.**[†] Like public-awareness campaigns that focus attention on drunk driving, drug-impaired driving campaigns should be broadcast to the general public. Such campaigns should focus on correcting misperceptions about the dangers associated with driving under the influence of drugs—in particular, marijuana. Mothers Against Drunk Driving (MADD) has taken the initiative and developed a number of campaigns, such as “If You Are High, You Can’t Drive.”⁶⁴ Repeatedly publicizing laws and legal sanctions might also deter drug-impaired driving.⁶⁵ States and countries that have recently permitted the use of marijuana for medical purposes or decriminalized it altogether, or that are considering doing so, should prioritize public-awareness campaigns because marijuana use will likely increase after decriminalization. Campaigns that emphasize the message across multiple mediums and that engage multiple community groups and stakeholders may be worth pursuing.⁶⁶
12. **Mandating drug-impaired driving education and prevention programs for high-risk drivers.** Any new driver should be exposed to educational materials that focus attention on preventing drug-impaired driving. These types of programs should also target older drivers who are prescribed potentially impairing medications (which can be identified when the drivers renew licenses or, better yet, when they are prescribed); first-time and persistent substance abusers who may be at increased risk of offending; and other identified at-risk populations (e.g., those with drug-related arrests, nontraffic convictions, and persistent traffic infractions at younger ages, as well as first-time drug-impaired drivers). These programs must move beyond merely providing factual information about the hazards associated with drug-impaired driving, an approach which may not be particularly effective.⁶⁷ Prevention programs will be more effective if they emphasize increased swiftness and certainty of apprehension, nonlegal sanctions such as shame and loss of friends, concern for others, and awareness of personal-injury risks.⁶⁸ Furthermore, programs that seek to correct inaccurate perceptions of the risks associated with various forms of drug-impaired driving, including marijuana-impaired driving and driving under the influence of marijuana and alcohol combined, should be developed and adopted.⁶⁹

[†] See Response Guide No. 6, *Crime Prevention Publicity Campaigns*, for further information.



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Repeatedly publicizing laws and legal sanctions may deter drug-impaired driving.



13. **Educating and engaging physicians and pharmacists regarding prescription drug abuse and drug-impaired driving.** Given that a substantial proportion of drug-impaired driving is linked to prescription drugs and prescription drug abuse, doctors and pharmacists (and their assistants) need to be fully informed of, educated about, and engaged in responding to this problem. One potential program that focuses on physician support for designated drivers could be considered and adopted.⁷⁰ A comparable program, supported by pharmaceutical companies and perhaps local transportation companies, could also be considered and adopted: designated drivers would be made available to those who are picking up or continuously using prescription drugs known to impair driving ability. Guides for developing such programs are available.⁷¹
14. **Encouraging physicians and pharmacists to educate their patients about the link between the use of certain prescription drugs and impaired driving.** Point-of-sale education programs are a viable method of reaching the general population and specific at-risk populations using prescription drugs, such as the elderly and the mentally impaired. These types of warning programs might have a meaningful impact because they are delivered proactively from a medical professional rather than reactively from a law enforcement officer or a court. Such programs should seek to identify drugs that are potentially impairing, to explain the consequences of using these substances before driving and to articulate the laws and punishments (including rate increases in automobile liability insurance) that apply to drug-impaired driving.⁷² Progressive programs might also include readily available transportation alternatives, home delivery of potentially impairing substances, clearly readable warning labels on containers, and other such methods for ensuring that substance users are effectively reached and are likely to understand the risks and consequences associated with driving while medicated.

Responses with Limited or Unknown Effectiveness

15. **Confining convicted drug-impaired drivers to their homes in the absence of close monitoring (electronic or otherwise).** Home confinement, while possibly minimizing some subsequent offending, does not necessarily address the problem of substance abuse, and persistent drug users are unlikely to abstain in the absence of additional coercive or restrictive measures. Use of electronic monitoring as a method of enforcing home confinement is a preferred option, particularly if the offender understands the surveillance capability of the monitoring device and if swift, certain, and severe sanctions are in place for noncompliance with, or other violations of, confinement conditions. Home confinement, combined with mandatory treatment and electronic monitoring, has been tested with drug offenders and has generated some positive results.⁷³



16. **Developing ignition interlocking devices and requiring convicted drug-impaired drivers to install them.** Use of ignition interlocking devices, properly installed and maintained for a sufficient amount of time, has been effective in deterring some first-time and repeat drunk drivers from reoffending.⁷⁴ Nevertheless, there have been some disadvantages to this approach. Some offenders do not own cars (and the impoundment of which may be part of their punishment—see #8 above); others may not install the devices even if ordered to do so; and ongoing monitoring may present substantial resource challenges for criminal justice systems. Those challenges would need to be considered if technological advances allow for drug testing by ignition interlocking devices in the future. At present, such devices are neither widely available nor validated as useful.
17. **Developing and implementing devices that monitor drug use.** Current technology allows for ongoing monitoring of the amount of alcohol in the blood. Similar technology may be developed for ongoing drug monitoring and testing of sweat, blood, urine, or saliva. At this point, such technology is in the early stages of development, although there are some preliminary indications that sweat-testing patches might prove useful in the future.⁷⁵ If you are part of the criminal justice system in your jurisdiction, you should be aware of new scientific and technological developments regarding the technology of remote drug-monitoring devices. Such technology might also be used in conjunction with electronic-monitoring technology, which would allow police to track offenders and test them for drugs at all times and wherever they go.
18. **Incarcerating drug-impaired drivers.** Incarcerating convicted drug-impaired drivers, particularly repeat offenders and those prosecuted for deaths associated with crashes, obviously prevents offenders from driving during confinement and can deter them from further drug-impaired driving once released, but the deterrent impact on all drivers may be less than anticipated. Much of the deterrence literature suggests that swift and certain responses, rather than severe consequences alone, are likely to deter future offending, particularly if offenders know clearly how they are expected to behave in the future and the consequences for failing to do so. For offenders who are unresponsive to alternative sanctions, to substance abuse treatment (either compelled or voluntary), or to other responses, long-term incarceration is a viable, although expensive, strategy for ensuring increased public safety for some period of time.⁷⁶



19. **Substantially increasing fines for drug-impaired driving offenses.** In many countries, increasing fines has historically had minimal effects on recidivism rates among drunk drivers or as a general deterrent to drunk driving. Often the fines are not paid, and many jurisdictions lack the resources to enforce payments unless the offender comes into contact with the criminal justice system in the future. Hence, there is little reason to believe that this approach would have a meaningful impact on drug-impaired drivers. However, Australia and Sweden have adopted fine systems that are closely linked to offenders' income levels and to the seriousness of the offense, and within those systems, fines have been more effective in reducing recidivism rates.⁷⁷ Nevertheless, the magnitude of the fine relative to the offender's resources and the seriousness of the offense may not have been equitably balanced in many countries. Therefore, fine systems may need further exploration as one potential response to drug-impaired driving.

Appendix

Summary of Responses to Drug-Impaired Driving

The table below summarizes the responses to drug-impaired driving, the mechanism by which they are intended to work, the conditions under which they might work best, and some factors to consider before implementing a particular response. It is critical that you tailor responses to local circumstances and that you can justify each response on the basis of reliable analyses. In most cases, an effective strategy will involve implementing several different responses. Law enforcement responses alone are seldom effective in reducing or solving the problem.

Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
<i>Legal/Administrative Responses</i>					
1	22	Implementing per se (aka “zero-tolerance”) laws	Increases the probability of successful prosecution of offenders; subjects more drug-impaired drivers to arrest and prosecution; communicates societal intolerance for drug-impaired driving	...states or countries are interested in strong enforcement policies and are not as concerned about the inadequacies of current field-testing protocols	Some drivers who are not actually impaired will still be punished, perhaps harshly, depending on the location and local laws; false positives may affect a small minority of drivers; legality of enforcement of these laws may be challenged; drug-impaired drivers using prescription or over-the-counter medications may not be included



Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
2	23	Developing drug-impaired driver courts	Holds offenders accountable for future substance use and offending; ensures closer monitoring of offenders in an effort to prevent repeat offending	...offenders are at high risk for recidivism or have had more than one arrest for driving while impaired	Establishing drug-impaired driver courts can require significant time and start-up resources, although these courts are often cost effective in the long run
3	23	Implementing or improving on-site, point-of-contact (field) drug-testing devices and protocols	Improves prosecution success and ensures that drug testing occurs near the time and place of the offense, which improves validity of test results	...the devices are user-friendly, cost effective, accurate, and reliable	There are a number of technological devices available and still evolving, so police agencies will need to keep pace with ongoing innovations; the technology is still in development and may not accurately assess newer drugs or certain categories of drugs
4	23	Standardizing lab- and field-testing protocols	Facilitates successful testing protocols that can withstand legal scrutiny; increases probability of conviction	...agencies know how to handle testing samples and have the resources to handle them	While some guidelines for standardizing such protocols are evolving, many jurisdictions operate independently; therefore, standardization among many jurisdictions remains challenging

Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
5	24	Suspending, restricting, or revoking driving privileges	Deters other potential offenders by threat of punishment; limits offending by controlling opportunities to drive a vehicle	...police, prosecutors, and courts have the resources to adequately enforce violations	Repeat offenders and those with persistent substance abuse problems are less likely to be deterred and will often continue to drive while impaired despite repeated administrative or legal restrictions; police, prosecution, and judicial resources for enforcement are often scarce
<i>Enforcement Responses</i>					
6	24	Implementing high-visibility enforcement, including sobriety checkpoints	Increases risk of apprehension at high-risk times and places; raises public awareness of drug-impaired driving	...police are able to identify offending patterns at high-risk times and places	Legal challenges regarding sobriety checkpoints are likely to hinder implementation in some jurisdictions; can be resource intensive
7	25	Training police officers to be drug recognition experts	Increases likelihood of successful prosecution and ensures that suspects are treated fairly but tested accurately	...scale of drug-impaired driving is sufficiently large to justify training costs; prosecutors' evidentiary requirements are satisfied	Legal challenges to admission of collected evidence will consume court and officer time; training costs can be substantial



Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
<i>Restricting Vehicle Access</i>					
8	25	Impounding, immobilizing, or confiscating vehicles or vehicle license plates of drug-impaired drivers	Prevents offenders from driving their own vehicle or increases likelihood of being stopped by police for driving without a license plate	...clearly authorized by law	Legal challenges may surface, as well as concerns about excessive punishment (e.g., for first offenders); costs associated with vehicle confiscation might be substantial
<i>Reducing Drug Use</i>					
9	26	Mandating drug treatment for all drug-impaired drivers	Reduces likelihood of recidivism by reducing demand for illicit drugs	...treatment programs are properly matched by drug type and offender's needs	Treatment does not have to occur in lieu of punishment, but punishment without treatment may be less effective; treatment costs are substantial
10	26	Using electronic-monitoring devices to closely track repeat drug-impaired driving offenders	Increases offenders' risk of drug detection and apprehension	...employed in conjunction with driving restrictions and drug use monitoring	Start-up costs may be expensive, but ongoing costs of electronic monitoring are generally more reasonable than incarceration costs; requires staff time to monitor offenders and apprehend them, if necessary

Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
<i>Education and Prevention Responses</i>					
11	27	Conducting public-awareness campaigns directed at the general population and targeting high-risk populations	Draws attention to dangers and consequences associated with drug-impaired driving	...targeted to high-risk populations, including youths, college students, first-time offenders, drug users, the elderly, and in jurisdictions that have relaxed drug laws (including those permitting medical marijuana); message is deemed credible by intended audience	Campaigns with multiple message points and sponsors may be more effective; costs may be substantial and benefits limited
12	27	Mandating drug-impaired driving education and prevention programs for high-risk drivers	Focuses on education and prevention programs that reach at-risk populations or that may be required for certain at-risk populations; targets high-risk populations and ensures that those groups understand the risks and consequences	...the programs emphasize the swiftness and certainty of apprehension, focus on nonlegal sanctions, correct misperceptions about the risks of drug-impaired driving, and are supported with frequent field-testing programs (e.g., sobriety checkpoints) and public-awareness campaigns	Different programs will need to be developed for different risk groups such as repeat offenders, the elderly on prescriptions, and youths



Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
13	29	Educating and engaging physicians and pharmacists regarding prescription drug abuse and drug-impaired driving	Ensures that those who prescribe drugs are fully aware of the consequences of drug-impaired driving and are engaged in prevention efforts	...physicians and pharmacists recognize their own liability concerns and work with engaged partners who might provide alternative transportation opportunities for prescription drug users	Many designated driver programs already exist that focus on preventing drunk driving, and these programs might be readily adopted or expanded to address the consequences of prescription drug use while driving
14	29	Encouraging physicians and pharmacists to educate their patients about the link between the use of certain prescription drugs and impaired driving	Ensures point-of-sale educational awareness and delivers the message outside of the criminal justice system, which may be more appropriate for some groups and more effective for others	...the programs involve physicians and pharmacists and provide a variety of options for safe delivery and use of prescription and over-the-counter medications that can hinder driving ability	Pharmaceutical companies will need to be active partners in acknowledging the risks associated with their medications and in educating users about those risks
<i>Responses with Limited or Unknown Effectiveness</i>					
15	29	Confining convicted drug-impaired drivers to their homes in the absence of close monitoring (electronic or otherwise)	Deters offenders from driving through fear of sanctions	...sanctions are certain and swift; drug treatment is also made available	Home confinement restrictions are too easily violated absent vigilant monitoring

Response No.	Page No.	Response	How It Works	Works Best If...	Considerations
16	30	Developing ignition interlocking devices and requiring convicted drug-impaired drivers to install them	Reduces likelihood of impaired driving by preventing such drivers from operating their own vehicle while drug impaired	...the technology is reliable and valid (and available); monitoring is effective	Technology of such devices is still in early development and testing stages; offender might have access to other vehicles
17	30	Developing and implementing devices that monitor drug use	Deters offenders from using drugs illicitly out of fear of detection and punishment; facilitates compliance by giving offenders a valid argument against others who encourage drug use	...technology is reliable and if monitoring is vigilant and results in swift and certain sanctions for violations	Technology of such devices is still being developed and will not be widely available for some time; legal challenges will likely delay implementation, and different technologies will need to be developed for different substances
18	30	Incarcerating drug-impaired drivers	Prevents offenders from driving while incarcerated; deters potential offenders through fear of punishment	...punishment is also swift and certain; incarceration is accompanied by drug treatment	This response may be the best available option for persistent offenders who are not responsive to other forms of intervention
19	31	Substantially increasing fines for drug-impaired driving offenses	Intended to deter potential offenders through aversion to paying fines	...fines are proportional to income levels and to seriousness of offense and are consistently enforced	Fines are often not paid, and follow-up enforcement is often lax



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