

EFFECTIVE STRATEGIES TO REDUCE DRUNK DRIVING



Alcohol Monitoring Technologies

Screening, Assessment, and Treatment

DWI Courts

Community Supervision

Traffic Safety Resource Prosecutors (TSRPs)

Impaired Driving Data Systems



The Traffic Injury Research Foundation

The mission of the Traffic Injury Research Foundation (TIRF) is to reduce traffic-related deaths and injuries. TIRF is a national, independent, charitable road safety institute. Since its inception in 1964, TIRF has become internationally recognized for its accomplishments in a wide range of subject areas related to identifying the causes of road crashes and developing programs and policies to address them effectively.



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This report is based on discussions at the 7th Annual Meeting of the *Working on DWI System Improvements* which was held May 16-18 in Ottawa, Ontario, Canada at Hotel Indigo.

Robyn D. Robertson

Erin A. Holmes

Traffic Injury Research Foundation

171 Nepean Street, Suite 200

Ottawa, Ontario K2P 0B4

Ph: (613) 238-5235

Fax: (613) 238-5292

Email: tirf@tirf.ca

Website: www.tirf.ca

Traffic Injury Research Foundation

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Why was this report created?

Much has been learned about effective strategies, programs, and interventions to deal with drunk drivers in the past decade. However, available information has primarily focused on research demonstrating the effectiveness of tools.

- > Less attention has been given to the implementation of these tools, the barriers that may be encountered, or the ways that these challenges can be overcome.
- > When such information is available, it is often agency-specific or fragmented across disciplines, making it difficult to locate and access to inform the development of legislation and policy.

This has made it difficult for decision-makers and the public to understand the diverse logistical and operational issues associated with using these strategies.

- > Knowledge about the level of staffing to support the use of these tools, needed training and education for professionals, critical data and communication linkages across agencies, operational practices and procedures, required resources, common barriers, and how they can be overcome are less well-understood.
- > As a result, the implementation of these strategies has been inconsistent, resulted in low participation or use, or has not achieved the desired benefits.

It is critical that legislative and policy initiatives are informed by knowledge of operational practices and broader systems (e.g., justice, licensing, treatment) to ensure that intended objectives are ultimately achieved.

The public must also learn more about why initiatives are applied and how they work so that they can offer informed support and better gauge the feasibility, strengths, and limitations of different policy options.

This report from the *Working Group on DWI System Improvements* is designed to inform decision-makers and the public about proven strategies to reduce drunk driving and ways to maximize their effectiveness to reduce drunk driving deaths on American roadways. The Working Group is a coalition of frontline influential organizations representing professionals in all phases of the criminal DWI¹ system.

For more information on this project and previous initiatives of the *Working Group on DWI System Improvements*, please visit www.dwiwg.tirf.ca.

¹ The abbreviation DWI (driving while impaired or intoxicated) is used throughout this report as a convenient descriptive label, even though some states use other terms such as OUI (operating under the influence) or DUI (driving under the influence), and in some states they refer to different levels of severity of the offense. We have used DWI not only to maintain consistency throughout the report but also because it is more descriptive of the offense usually associated with hard core drinking drivers.

The Members of the Working Group on DWI System Improvements

Robyn D. Robertson
President and CEO
Traffic Injury Research Foundation

Erin Holmes
Research Associate
Traffic Injury Research Foundation

Herb M. Simpson
Research and Policy Consultant
Traffic Injury Research Foundation

Richard J. Ashton
Grant/Technical Management Manager
Highway Safety Committee
International Association of Chiefs of Police

Major Charles E. Andrews
Alabama State Police
Highway Safety Committee
International Association of Chiefs of Police

Major Dave Salmon
Director of Traffic Services
New York State Police
(Represented by Sgt. Doug Paquette)

Leonard R. Jacob
Director
Institute of Police Technology and Management

Honorable Michael R. McAdam
Kansas City Municipal Court, Missouri
Past-President
American Judges Association

Paul L. Biderman
Director
Institute of Public Law
University of New Mexico School of Law
Past-President
National Association of State Judicial Educators

Victor E. Flango
Executive Director
Program Resource Development
National Center for State Courts

Honorable Harvey Hoffman
Eaton County, District Court, Michigan
National Judicial College

Joanne Michaels
Director
National Traffic Law Center of the
American Prosecutors Research Institute

Tom Kimball
Assistant District Attorney
Tennessee District Attorneys General
Conference

David Wallace
Director
National Center for DWI Courts and
National Association of Drug Court Professionals

Cregor Datig
Assistant District Attorney
Riverside County District Attorney's Office

Carl Wicklund
Executive Director
American Probation and Parole Association

Drew Molloy
Chief Deputy Director
Virginia Department of Correctional
Education

Kay Chopard-Cohen
Deputy Executive Director
National Criminal Justice Association

Tom Roy
Commissioner of Corrections
Minnesota Department of Corrections

Maya Hennessey
Criminal Justice Consultant/Trainer
Maya Hennessey and Associates

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OVERVIEW

Drunk driving remains an important traffic safety priority despite overall reductions in fatalities. In an effort to get drunk drivers off of the roadways and prevent future offending, clear understanding of the magnitude and characteristics of the drunk driving problem in the United States and knowledge of the strategies that are available to combat offending are needed.

Should we continue to be concerned about drunk driving?

Yes. A lot of progress has been achieved in reducing drunk driving. The number of fatalities, which peaked in 1982 at more than 21,000 and in recent years has held steady between 13,000 to 14,000 deaths, has since declined to 10,839 in 2009, a record low level (NHTSA 2010).

Yet the number of fatalities is unacceptable. Despite the progress achieved, 32% of road deaths continue to involve a driver with a blood or breath alcohol concentration (BAC) of 0.08 or higher and ongoing efforts are needed to reduce this further. A greater emphasis is needed on the implementation of effective strategies to ensure they achieve the intended results. It is essential that these strategies are supported by adequate staffing, training and education of professionals, data and communication linkages across agencies, and adequate resources.

More work is needed to address barriers to implementation and to understand what components and strategies produce the best outcomes. Consider the following facts:



Fatalities

- > In the U.S. in 2009, 10,839 people died in road crashes that involved at least one driver with a blood alcohol concentration (BAC) over 0.08, which is illegal per se in every state.
- > The average BAC among drunk drivers involved in fatal crashes is 0.18 (NHTSA 2010).

Enforcement

- > Drunk driving is one of the most commonly committed crimes in the U.S. (FBI 2010).
- > In 2009, there were 1,440,409 arrests for driving under the influence (FBI 2010).
- > Low levels of enforcement mean that offenders can drive drunk between 200 to 2,000 times before being apprehended (Borkenstein 1975; Jones and Joscelyn 1978; Voas and Hause 1987; Hingson 1995; ICADTS Working Group on Alcohol Ignition Interlocks 2001). During periods of high enforcement, this drops to as low as 1 in 80.
- > License suspension is a limited solution to the problem. An estimated 25-75% of drivers who are suspended, revoked, or otherwise unlicensed, continue to drive anyway (McCartt et al. 2003; Griffin and DeLaZerda 2000).



Supervision and treatment

- > Some 17% of the 4.2 million offenders on probation are drunk drivers.
- > Up to 75% of repeat offenders are diagnosed as alcohol abusers or alcohol dependent in need of treatment (Baker et al. 2002; Marques et al. 2003).
- > There is a chronic shortage of strategies and targeted programs in place to manage all of the drunk drivers in need of treatment services, particularly in rural areas.

Continued attention to the problem is needed to reduce the impact of these preventable deaths on communities across the United States. Many evidence-based interventions are available to prevent and reduce drunk driving. The informed use of these tools is essential to achieve benefits shown in research.

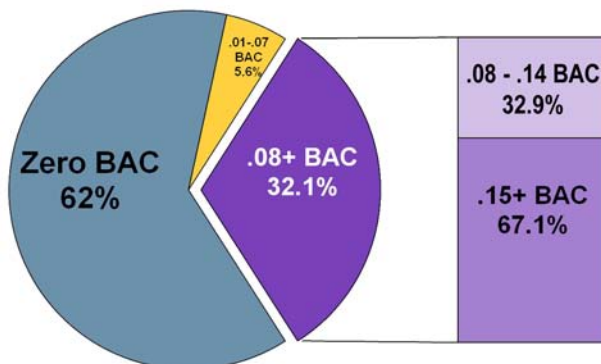
Are all drunk drivers alike?

No. It is a common misconception that all drunk drivers are the same, so they should be subject to the same penalties. In fact, drunk drivers are not a homogenous group even though they share some common characteristics. This makes it challenging to distinguish between different types of offenders and the interventions that are most appropriate for each group; a “one size fits all” policy may not be equally effective for everyone. A summary of the different types of offenders is below:

Offenders caught for the first time

- > The majority of drunk drivers are first offenders; in most jurisdictions 70% of convicted offenders have no prior DWI convictions (Voas and Fisher 2001).
- > The level of risk posed by these offenders varies. Some are true first offenders who rarely drive drunk; others frequently drink and drive at BACs at or above 0.08, but have not previously been caught (Beck et al. 1999).
- > Many first offenders frequently drive with high BACs (greater than 0.15) and have a significant risk of crashing (Rauch 2005).
- > Research suggests that similar to repeat offenders, many first offenders meet the criteria for alcohol dependence; one study revealed that 82% of first offenders were assessed as being problem drinkers and just 18% were social drinkers (Rauch 2005).
- > Screening and assessment of this group can help determine who will benefit from enhanced supervision and/or treatment protocols and who are better suited for lower levels of intervention.

2009 Fatalities in Motor Vehicle Traffic Crashes by Driver BAC



Source: National Highway Traffic Safety Administration, U.S. Department of Transportation. Fatalities in motor vehicle traffic crashes by the highest driver BAC in the crash, 2009 Fatal Analysis Reporting System (FARS).

Repeat offenders, high-BAC, or other high-risk offenders

- > An estimated 30% of first offenders will become repeat offenders (NHTSA 2004). These offenders drive drunk frequently, often at high-BACs, may have a history of prior impaired driving convictions and convictions for other crimes, and often have a drinking problem.
- > In 2009, 56% of drinking drivers involved in fatal crashes had a BAC level at or above 0.15 (NHTSA 2010). Drivers with a BAC of 0.08 or higher involved in fatal crashes were eight times more likely to have a prior DWI conviction than were drivers with no alcohol (NHTSA 2010).
- > These offenders are at high risk of causing a serious crash. DWI offenders with high BACs pose significantly greater risk to themselves and others; studies have found that a driver with a BAC of 0.15 or greater is anywhere from 84 to more than 2,000 times more likely to be involved in a fatal crash than a sober driver.
- > Approximately half of all drivers arrested and half of those convicted for DWI have BACs of 0.15 or above. (NHTSA 2010)



- > A high BAC is associated with a higher probability of recidivism.
- > Repeat offenders are more difficult to deter using traditional penalties and require a strategy that is anchored in a combination of punishment, surveillance, and treatment. Positive reinforcement is also needed to encourage behavior change.

Young drinking drivers

- > In 2009, approximately 25% of all fatally injured legally impaired drivers were between 16-24 years old (NHTSA 2010).
- > Uniform Crime Reports from the Federal Bureau of Investigation (FBI) reveal that 300,091 youth aged 16-24 were charged with impaired driving in 2009 with 10,712 of these charges involving youth under age 18 (FBI 2010).
- > Youth are inexperienced drivers. Even when sober, 16-19 year olds have a fatal crash rate more than four times as high as drivers aged 25-34, and nine times as high as drivers aged 45-54 (Mayhew et al. 2005).
- > Youth are also inexperienced drinkers and impaired by low levels of alcohol.
- > Common penalties for this group include fines, probation, and, in some cases, treatment.

- Components of graduated driver licensing programs such as passenger restrictions and night-time driving restrictions can protect youth from crashes.

Female drunk drivers

- Female drunk drivers are an important at-risk population. Although 80% of DWI arrests involve men, there was a 28.8% increase in the number of DWI arrests among women between 1997 and 2007 (McKay 2010).
- The 2008 report *Crime in the United States* revealed an even greater difference since 1999 – a 35% increase in impaired driving arrests of women. In the same period, the number of DWI arrests involving men decreased 6.6%.
- Similarly, in comparing the number of DWI arrests in 2008 and 2009, there was a 3.4% increase for women and a 2.7% decrease for men (FBI 2010).
- Women also accounted for 15% of drunk drivers in fatal crashes (≥ 0.08 BAC) in 2007, up from 13.5% in 1998. The number of males declined.
- Women also have an initial BAC that is higher than men when the same amount of alcohol is consumed due to metabolic differences.

Agencies must be equipped to appropriately identify these different offender groups and have strategies and resources available to deal with them to reduce risk of re-offending.

What challenges currently exist in the impaired driving system?

While there is increased use of effective strategies in the justice system to deal with impaired driving offenders, there are still some tough challenges to overcome:

- Proven technologies (such as alcohol interlocks) and other strategies to supervise offenders are not consistently or uniformly applied to appropriate offenders.
- Frontline professionals may not receive the necessary training and education opportunities to effectively implement and utilize proven strategies.
- Communication across agencies involved in the management of drunk drivers is inadequate in some instances and allows offenders to avoid supervision and “slip through the cracks.”
- Drunk driving legislation can be complex and/or may be created without enough input from frontline practitioners, making it challenging to implement strategies.

- > Data systems are often not automated and not well connected. This makes it difficult to track offenders and to share and report information needed to monitor and treat them.

However, there has been promising progress made in addressing these challenges. As evidence of this, 50 states have alcohol interlock legislation and/or a program; 38 states permit the use of sobriety checkpoints; 172 DWI courts have been established; and 46 jurisdictions have a traffic safety resource prosecutor (TSRP). The ongoing challenge is to ensure that these strategies have the tools, resources, and trained staff to deliver them.

What effective interventions are available to combat drunk driving?

There are several proven interventions that should be used to reduce drunk driving, particularly among high BAC and repeat offenders. This report from the *Working Group on DWI System Improvements* was designed to provide a comprehensive and balanced understanding about effective interventions for drunk drivers and what it takes to make them work.

Each section highlights one intervention and describes:

- > The research surrounding the intervention;
- > Information relating to the implementation and use of the intervention;
- > Barriers that may be encountered and how they can be overcome; and,
- > The costs and benefits associated with its use.

Highlighted strategies include:

- > Alcohol monitoring technologies;
- > Screening, assessment, and treatment;
- > DWI courts;
- > Traffic safety resource prosecutors (TSRPs);
- > Community supervision; and,
- > Impaired driving data systems to manage paperwork.

ALCOHOL MONITORING TECHNOLOGIES

This section summarizes the research on the effectiveness of some alcohol monitoring technologies and describes how devices are used to help supervise defendants and offenders. It contains information related to the use of these devices and their cost benefits. Barriers that can impede the use of these devices are also discussed and strategies to overcome these challenges and achieve expected results are shared.

What are alcohol monitoring technologies?

Alcohol monitoring technologies track alcohol consumption and are used to supervise arrested drivers on bond or pre-trial release or convicted drunk drivers.² There are two main types of technology:

Alcohol ignition interlock. This is a breath testing device that is connected to the starter or other on-board computer system of a vehicle. It prevents defendants arrested for drunk driving or convicted drunk drivers from starting their vehicle if their alcohol breath test result is greater than a pre-set limit (typically 0.02). The device requires the driver to safely pass repeated breath tests while the vehicle is in use to ensure that he/she remains sober while driving. These devices possess a range of anti-circumvention features but will not interfere with a running engine.

Alcohol interlocks can protect the public and allow offenders to remain employed, participate in family life, and attend treatment. There are multiple alcohol interlock vendors and devices that have been certified for use. There are approximately 212,000 interlocks installed in the United States as of 2010 (Roth 2010).



² Alcohol monitoring technologies are traditionally used with convicted offenders but they can potentially be used with pre-trial defendants as well. For the purposes of this document, the term "offenders" is used.

Continuous alcohol monitoring (CAM). This device is designed to monitor alcohol consumption among offenders who use alcohol, including drunk drivers. It does not prevent a driver from driving after drinking. Generally speaking, this technology³ is an ankle bracelet that continuously monitors and measures alcohol consumption (e.g., a little, a moderate amount, or a lot) 24 hours a day/7 days a week. The device has a tamper-resistant strap and tests samples of vaporous perspiration (sweat) collected from the air above the skin at regular intervals. Test results are transmitted daily to a modem in the user's residence, and then relayed to a secure central website for review. Actions are taken in response to tampering or drinking events.

CAM technology focuses on the drinking behavior and allows offenders to participate in family and community life, maintain employment and access treatment services. Some CAM devices are more well-researched and well-established than others. However, new devices are being released as other vendors enter the market and not all devices are the same.

How effective are these devices?

Alcohol interlocks:



- > Up to 75% of drivers who are suspended, revoked, or otherwise unlicensed continue to drive anyway. The use of alcohol interlocks can ensure that these drivers are sober prior to operating a motor vehicle (McCartt et al. 2003; Griffin and DeLaZerda 2000).
- > Alcohol interlocks are associated with substantial and impressive reductions in repeat offenses ranging from 35-90% while the device is installed (Voas and Marques 2003; Vezina 2002; Tippetts and Voas 1997; Coben and Larkin 1999).
- > A recent meta-analysis revealed that while installed, interlocks reduce the relative risk of DWI repeat offenses by an average of 64% while installed (Willis et al. 2005).
- > Several studies have shown that alcohol interlocks are effective in reducing repeat offenses among both first and repeat offenders while installed (Tippetts and Voas 1997; Voas et al. 1999; Vezina 2002; Voas and Marques 2003).
- > A random assignment study in Maryland showed that interlock program participation reduced the risk of committing an alcohol traffic violation within the first year by 65% while the device was installed (Beck et al. 1999).
- > While repeat offenses increase to pre-interlock rates once the device is removed, those offenders who had an interlock will have an overall lower re-offense rate

³ Devices are manufactured by a number of different vendors. Individual devices and their features may vary.

than those offenders who did not have an interlock (Beirness 2001; Beirness et al. 1998; Coben and Larkin 1999; Marques et al. 2001; Raub et al. 2003).

Continuous alcohol monitoring devices:

Approximately 22 peer-reviewed studies, along with a variety of experimental studies, have established that consumed alcohol can be measured in perspiration through the process of transdermal alcohol testing (Robertson et al. 2006a). A variety of experimental studies have also shown that transdermal alcohol testing is a valid method to determine whether an individual has consumed alcohol. It is designed for use as a screening device to provide an estimate of how much alcohol has been consumed (i.e., none, small, moderate, or large amount).

Transdermal alcohol readings are similar to breath or blood alcohol readings, although simultaneous measures should not be expected to produce similar results at a single point in time. This is due to the delay between the consumption and absorption of alcohol, and the excretion of alcohol after it has been metabolized.

The effectiveness and success rates of transdermal alcohol bracelets are promising, and some devices have been evaluated (Bock 2003; McKelvie 2005; Flango and Cheesman 2009; Sakai et al. 2006). However, literature concerning the consistent effectiveness of CAM devices is sparse as it is a relatively new technology. More research is required to confirm initial findings and to examine new vendor products for reliability and validity.

How often are these technologies used to supervise drunk drivers?

- > All U.S. jurisdictions have enabling interlock legislation and/or an operational interlock program for DWI offenders.
- > There are approximately 212,000 interlocks installed in the United States (Roth 2010) as compared to the 1.4 million impaired driving arrests each year.
- > Canada, Europe, and Australia use interlocks with different types of drivers (e.g., offenders and commercial drivers).
- > At least 48 jurisdictions in the U.S. currently use CAM devices to supervise alcohol offenders and more than 45,000 offenders are monitored annually.
- > Devices may be applied during pre-trial release, probation supervision, specialty courts, treatment services, and/or re-entry/parole. Their application may also vary based on the type of offender (e.g., first offender or repeat offender).

How have these technologies been implemented?

There has been limited guidance to support the implementation of alcohol interlocks and, to a lesser extent, continuous alcohol monitoring devices. There is no uniform approach to delivery across jurisdictions, and some strategies are more developed than others. Poor implementation of these devices has resulted in their inconsistent application and low participation rates. More research is needed to identify optimal delivery features to achieve the maximum benefits of these devices.

What are the elements of a good implementation and delivery strategy?

- > Good laws that are created with input from frontline practitioners and that are consistent with existing drunk driving legislation.
- > Adequate resources, staff, and time to implement and administer the initiative.
- > Clear understanding and communication among practitioners of the respective roles and responsibilities of each of the agencies involved in device delivery.



- > A detailed description of workflow and how offenders are processed and managed while on the device.
- > Effective communication and coordination across agencies involved in delivery.
- > Operational policies and practices to guide the installation of devices, monitoring of offenders, reporting and sharing of data, and management of the strategy.
- > Technical device standards and a certification process for vendors and vendor oversight protocols (e.g., service center audits, background checks of installers).
- > Consistent sentencing and follow-up to ensure that eligible offenders are supervised using the device and are compliant with it.
- > Screening and assessment of offenders for substance use issues and the use of appropriate treatment opportunities as needed to facilitate behavior change.⁴
- > A user-friendly (and ideally integrated with agency systems) web-based data system to monitor, report and manage data, and streamline workload.
- > Program violations that are consistently defined and easily understood.
- > Offender accountability is reinforced using a framework of graduated sanctions and reinforcements to respond to specific events or behavior.

⁴ Research shows that alcohol interlocks are best used in conjunction with comprehensive alcohol treatment programs designed to address the underlying alcohol dependency issues of offenders who suffer from substance abuse (Beirness et al. 1998).

- > Performance-based exit criteria whereby an offender must demonstrate compliance with program conditions before being eligible for device removal.
- > Reciprocal arrangements with neighboring jurisdictions to ensure that offenders who relocate or are convicted in another jurisdiction cannot avoid supervision.

Are there barriers to implementation and how can they be overcome?

Yes, persistent barriers have resulted in only a small portion of those offenders that could be supervised being required to use alcohol monitoring technologies. These barriers include:

- > Laws that make use of the device voluntary or that enable offenders to “opt out” (e.g., do not have a vehicle or say they will not drive);
- > Insufficient education and training of criminal justice professionals;
- > Misperceptions about the cost/affordability of the device;
- > Strict eligibility criteria that exclude many offenders from installing the device;
- > Long hard license suspension periods that encourage unlicensed driving;
- > Poor communication across agencies that makes it challenging to monitor or confirm that offenders install the device, or to track and impose sanctions for those who fail to install or are non-compliant; and,
- > Offender relocation to other jurisdictions makes it difficult to track offenders and to share and report information needed to monitor and treat them.

What is the weakest part of any plan to use these devices?

The monitoring of offenders and the ability to hold them accountable for their behavior are the weakest parts of any strategy. Good monitoring protocols that allow practitioners to identify non-compliant offenders and impose appropriate sanctions are essential.

Currently, the monitoring of offender behavior is inconsistent. Valuable opportunities to alter behavior by responding to non-compliance (i.e., attempting to drive after drinking or using alcohol) or reinforcing compliant behavior are often missed.

- > Monitoring is a point where offenders are most likely to fall through gaps. This can occur due to poorly defined agency roles and responsibilities, weak communication and reporting across agencies, and insufficient training and education. This means that responses to behavior and timely feedback to and intervention with offenders are inconsistent or non-existent. Close supervision

and follow-up combined with graduated sanctions are a deterrent and hold offenders accountable for their non-compliance.

- The large workload of probation officers combined with a lack of sufficient resources also affects their ability to closely monitor DWI offenders.

The development of clear monitoring protocols combined with effective communication across agencies involved in the delivery of devices can increase offender accountability and encourage and reinforce compliant behavior.

What are the costs and the benefits associated with these devices?

The approximate cost for the installation of an alcohol interlock varies. The average is \$70 (US) and an additional \$70 monthly to cover the costs associated with downloading and reporting the data captured by the device (Robertson et al. 2006b). These costs may be greater in rural jurisdictions where fewer offenders are monitored.⁵ This translates into a daily cost of \$3-4.

CAM bracelets on average have an installation fee of \$50-100 with monitoring costs ranging between \$6-10 per day. These devices cost less than home electronic alcohol monitoring (\$10-15/day) and incarceration (\$45-62/day). These devices also protect the public and permit offenders to remain productive members of society.

The benefits of alcohol interlocks in particular have been widely acknowledged.

- A cost-benefit analysis conducted by the European Road Safety Observatory (2006) revealed that alcohol interlocks are one of the most cost-effective measures that contribute to the largest reductions in roadway fatalities.
- A Norwegian study notes that installing alcohol interlocks in the vehicles of all impaired drivers would have an estimated cost-benefit ratio of 8.75 which means that for every dollar spent on interlocks there will be a savings of approximately nine dollars (Elvik 1999).
- The Insurance Institute for Highway Safety estimated that the use of alcohol interlocks among repeat offenders in 2005 would have saved over 1,100 lives.

⁵ While costs may be higher in rural areas, the interlock may be particularly important in these locations as public transportation options are lacking. The device allows the offender to continue working to support themselves and/or their family.

Summary

Alcohol monitoring technologies are a proven tool to monitor and supervise the behavior of impaired drivers, although not all technologies are created equal. These technologies can also be coupled with an appropriate treatment strategy for those offenders with substance abuse issues. The utilization of these technologies has to date been low and more work is needed to improve implementation. In particular, more education and good monitoring protocols are needed to reflect the risk offenders pose and hold them accountable for their behavior. While the use of these devices is not without costs, they do provide a range of benefits in terms of improved outcomes and reduced societal costs.

For more information, please visit www.tirf.ca (see publications section) or www.aic.tirf.ca or www.nhtsa.gov (see research – behavioral section).

SCREENING, ASSESSMENT, AND TREATMENT



What is screening?

Screening is the first step towards determining if an offender is in need of treatment. It is a process designed to identify who can be excluded from a more detailed examination for the presence of substance abuse issues and who needs further assessment. The purpose of screening is to indicate if alcohol use problems may be present (Connors and Volk 2003). Today, the screening process may be considered a form of treatment because exposure to this process can have therapeutic benefits (Donofrio and Degutis 2002; Wilk et al. 1997; Wells-Parker and Williams 2002). Screening can also be repeated during the treatment process to monitor offender progress.

What is assessment?

The main purpose of an assessment is to evaluate the extent and severity of an offender's alcohol abuse problems. It can also determine the offender's readiness for treatment, identify any co-occurring mental illnesses, determine the type of intervention that is needed, and engage the offender in the treatment process (SAMSHA 2005). In contrast to screening, assessments are more formal, comprehensive, and in-depth. They are also typically administered by trained practitioners and take longer to perform. Assessment results are used to develop an appropriate treatment plan for the offender.

Similar to screening, assessment can occur at multiple points in an effort to track changes in offender behavior and may result in updates to the treatment plan if the offender improves.

Are screening and assessment important?

Yes. Screening and assessment determine which offenders are in need of treatment for alcohol use problems. Screening and assessment represent two distinct processes but the terms are often used interchangeably. The outcome of these processes may be a referral to a treatment program that is matched appropriately to the individual offender's needs. Justice professionals provide more referrals for treatment than any other source – they constitute an estimated 40-50% of referrals to community-based treatment programs (Anglin et al. 1998). Referral decisions must also take into account the availability and accessibility of treatment services within a jurisdiction (Knight et al. 2002).

What is treatment?

Treatment is a general term that encompasses a range of interventions including group and individual counseling, brief interventions, cognitive-behavioral strategies, motivational interventions, and pharmacotherapies. These are described in more detail below. While community-based mutual support groups are not considered treatment, they can be effective when combined with other strategies (Dill and Wells-Parker 2006).

What is the purpose of treatment?

The purpose of treating DWI offenders is to help identify and alleviate identified problems with substance abuse that they may have – or are at risk of developing – and interrupting those addictive patterns. Treatment is designed to lessen and prevent negative consequences of substance abuse (such as impaired driving) and also to support the offender during times of relapse, which should be expected. A realistic goal of treatment is to reduce the risk of recidivism (Taxman 2007). Targeted treatment, in combination with appropriate levels of supervision, is a proven strategy to facilitate behavior change among high-risk or repeat offenders.

Do all DWI offenders require treatment?

No. Not all offenders have chronic alcohol use issues or are in need of treatment. Screening and assessment of DWI offenders can determine who needs treatment and what kind of treatment they are likely to benefit from. Generally speaking, offenders diagnosed with moderate to serious alcohol issues, and those at high risk of recidivism are most in need of intervention. These offenders should be prioritized for referrals to treatment services tailored to their individual needs, along with those offenders at risk of developing alcohol abuse issues (SAMHSA 2005; Williams et al. 2000).

Is treatment of some DWI offenders necessary?

Yes, in many cases treatment for some DWI offenders is necessary. For example, a study of first time DWI offenders conducted by Lapham et al. (2001) revealed that:

- > Approximately two-thirds of convicted DWI offenders are alcohol dependent.
- > 85% of female and 91% of male DWI offenders have met the criteria for alcohol abuse or dependence at some time in their lives.
- > 32% of female and 38% of male offenders have met the criteria for abuse of or dependence on another drug at some time in their lives.
- > 50% of women and 33% of men with an alcohol use disorder also had at least one psychiatric disorder (often depression and post-traumatic stress disorder).



Is treatment readily available?

No. Unfortunately, access to treatment is limited and the need for treatment services greatly exceeds availability, especially in rural areas. It has been suggested that the treatment capacity requires a four-fold increase to accommodate all offenders referred for treatment (Taxman et al. 2007).

What factors influence whether an offender receives treatment?

Several factors can influence whether an offender receives treatment, including:

- > If the offender is screened and assessed for alcohol issues;
- > The results of any screening or assessment;
- > Availability of treatment services;
- > Suitability of available treatment services for offender;
- > Waiting lists to participate in treatment;
- > Cost of treatment; and/or,
- > The offender's readiness for change.

What are some effective treatment strategies?

Brief interventions. Brief interventions are designed to identify an individual's current or potential alcohol problem and motivate him or her to do something about it (WHO 2010). It typically consists of a short counseling session (approx. 5-10 minutes), in which a health care provider discusses alcohol consumption and associated consequences with the patient (Rivara et al. 2000). A behavior change plan is then negotiated. For patients with less severe alcohol problems, a brief intervention may be the only treatment needed to facilitate a change in their drinking behavior (Rivara et al. 2000). For those who are dependent on alcohol, a brief intervention should be coupled with specialized treatment for chemical dependency.

Brief interventions have become a valuable course of action in terms of remedial programs for impaired drivers with alcohol-related problems. Studies conducted in the United States, Australia, Bulgaria, Mexico, the United Kingdom, Norway, and Sweden show that there is clear evidence that well-designed brief intervention strategies are effective, cost efficient, and easy to administer (WHO 2010). A randomized control trial (RTC) was conducted on impaired driving offenders participating in a brief motivational intervention and found that these offenders were more likely to change their drinking behavior in a short period of time (Brown et al. 2010). Analyses also revealed significant declines of 25% in risky drinking for those who participated in the brief interventions as well as greater improvement at a six month follow-up (Brown et al. 2010).

Motivational interviewing (MI). Motivational interviewing is one form of brief intervention. It involves one-on-one, patient-centered, non-confrontational short counseling sessions and may be used at different stages of an offender's processing. The idea is to encourage the offender to accept their alcohol problem, understand the benefits of being treated, and access necessary services to provide support to overcome the problem. The premise of this technique is to enable professional staff to build a rapport with offenders and empower them to change on their own (Taxman et al. 2004).

Studies have found that although MI may not be more effective than other addiction treatment approaches, it does work faster in remedying the client's addiction (Chanut et al. 2005). When provided as the sole treatment, MI can lead to improvements in drinking outcomes that compare with those seen in a 12-step Alcoholics Anonymous (AA) program and in longer, more intensive cognitive-behavioral treatment interventions (Project MATCH Research Group 1997).

Cognitive-behavioral therapy (CBT). CBT is a form of psychosocial therapy with an action-oriented perspective. CBT encompasses a wide range of cost-effective psychotherapeutic approaches that deal with thoughts and beliefs as a means to reducing problematic behavior (Beck 1993). The objective of this approach is to identify thoughts, assumptions, beliefs, and behaviors that are related to negative emotions and underlying dysfunctional problems (e.g., drinking problems) and to replace these with more realistic and functional ones. Ultimately,

the goal is to change an individual's thoughts in order to change behavior. A number of studies support the effectiveness of CBT in treating alcohol abuse:

- > Longbauch et al. (1999) found that alcohol abusers who received CBT had better drinking-related outcomes than those who did not receive therapy.
- > More than 24 randomized control trials found CBT to be comparable to or more effective than other treatments for alcohol abuse (Carroll 1996).
- > Carroll (1998) also found that CBT was particularly effective in reducing the severity of relapse.
- > Offering offenders with a high level of alcohol dependence extensive treatment such as CBT has been shown to be highly cost effective (Holder et al. 2000; Berglund et al. 2003).

Are pharmacological interventions available?

Yes. There are many medications that can be used for alcohol treatment purposes.

- > However, medications that have been approved to treat alcohol dependence are still underutilized, particularly in the criminal justice community (Arias and Kranzler 2008).
- > Pharmacotherapies are not frequently used to treat impaired driving offenders and their availability/use among this population nationally is not known.
- > Three oral medications (Naltrexone, Acamprosate, and Disulfiram) and one injectable medication (extended-release injectable Naltrexone known as Vivitrol) are currently approved for treating alcohol dependence (NIAAA 2005).
- > They have been shown to help patients reduce drinking, avoid relapse to heavy drinking, achieve and maintain abstinence, or gain a combination of these effects.

Naltrexone. Available in both oral (ReVia and Depade) and injectable (Vivitrol) form, Naltrexone is an opioid antagonist that blocks the rewarding effects of drinking and reduces cravings for alcohol. Research has shown that:

- > Naltrexone cuts the risk of relapse risk during the first three months by approximately 36% (Srisurapanont and Jarusuraisin 2005).
- > In a 2005 analysis of 24 random control trials, Naltrexone significantly decreased relapses. It seems more indicated in programs geared towards controlled consumption.

- The injectable form resolves some of the compliance issues associated with oral medications and has a 30-day duration of action. A study has found that this resulted in a 25% reduction in the proportion of heavy drinking days compared with a placebo (Garbutt et al. 2005).

Acamprosate. Available in oral form (Campral), Acamprosate is a synthetic compound that reduces the symptoms of prolonged abstinence such as insomnia and anxiety.

- In a 2004 study that examined 17 random control trials, Acamprosate was associated with a significantly higher number of abstinent days and continuous abstinence rates at six months were significantly higher (Mann et al. 2004).
- The medication worked in patients with severe alcohol dependency issues (defined as greater than 15 drinks per day)(Poldrugo 1997; Kiefer et al. 2003).
- It also appears to be especially useful in therapeutic approaches to achieving abstinence in recently detoxified, motivated alcohol-dependent patients.
- Compliance rates can be low due to the oral dosage required three times a day.

Disulfiram. Also known as Antabuse, this oral medication interferes with the metabolism of alcohol by the liver which results in severely aversive symptoms such as nausea and palpitations. While this medication has been in use for the longest period of time, its utility and effectiveness are considered limited because compliance is generally poor when patients are given it to take at their own discretion (Fuller and Gordis 2004).

It is important to recognize that medication for addiction works best in the context of psychosocial treatment. Evidence is accumulating that weekly or bi-weekly brief counseling combined with medication is an effective treatment for many patients during the early stages of recovery (Johnson et al. 2007; Anton et al. 2006).

Are there barriers to the delivery of treatment?

Yes. Justice practitioners may encounter a variety of barriers in the delivery of treatment. Common barriers include issues relating to insufficient resources, myths and misconceptions, practical concerns, challenges due to legislation, implementation of interventions, and the cognitive deficits of some DWI offenders.

Resources. The level of resources allocated towards screening, assessment, and treatment in a given jurisdiction determines the number of DWI offenders who can be properly diagnosed and treated. The need for treatment services greatly exceeds the supply, especially in rural areas of the United States.

Myths and misconceptions. There are a range of common myths and misconceptions relating to screening, assessment, and treatment that can discourage justice practitioners from routinely applying these techniques as part of effective sentencing practices. This has occurred in part because much of the research in this area is not widely known to

practitioners in the field and also because much of the literature is not readily available and can be challenging to understand.

Misconceptions include:

- > Screening is a time-consuming and resource-intensive process;
- > Screening and treatment are expensive;
- > Coercive (mandated) treatment is ineffective;
- > Self-help programs qualify as treatment;
- > Addiction is a weakness and not a physiological issue;
- > Treatment is 'soft on crime'; and,
- > Offenders participate in treatment to avoid tougher sanctions.



Legislation. References to or support for screening, assessment, and treatment are not consistently included as part of the penalties for DWI offenders. In many jurisdictions, treatment is not a sentencing priority and the emphasis is placed on punishment and incapacitation of offenders instead of rehabilitation. Policymakers could also benefit from information about the effectiveness of treatment in reducing recidivism. In addition, health and privacy legislation may actually impede the effective delivery of treatment.

Implementation. The implementation of treatment protocols is inconsistent within and across jurisdictions. The identification of those offenders in need of treatment is challenging and it is difficult to hold offenders accountable for their participation in and completion of mandated treatment.

Cognitive deficits. Studies of repeat impaired driving offenders reveal that many suffer from neurocognitive impairments particularly with regard to memory capacity and executive functioning (Ouimet et al. 2007). Executive functioning abilities include allowing a person to select behavior appropriate to a situation and the ability to inhibit inappropriate behaviors, and focus on a task in spite of distraction. These offenders are unable to learn and retain information or successfully engage in treatment interventions. They also have few behavioral inhibitions and seek immediate gratification (Brown et al. 2009). This inability to engage in treatment is problematic as 50-90% of convicted impaired driving offenders delay participation in remedial programs, and such delays are associated with an increased risk of unlicensed driving.

What strategies are needed to improve the delivery of treatment?

- > Provide education and cross-professional training to assist practitioners in understanding evidence-based practices and promising interventions as they relate to the screening, assessment, and treatment of DWI offenders.
- > Allocate appropriate levels of resources (both funding and staffing) to accommodate the number of DWI offenders in need of these strategies.
- > Offer comprehensive services that combine multiple interventions and move away from the 'one-size-fits-all' approach. Research has shown that combining strategies may be more effective because DWI offenders have a range of diverse and complex problems that may not be addressed using a single approach (Dill and Wells-Parker 2006).
- > Consistently identify appropriate offenders who are most likely to benefit from and/or need treatment.
- > Monitor offender behavior to ensure accountability and offer aftercare services to provide ongoing support.
- > Follow recovery management principles in the form of supportive check-ups by treatment professionals to improve treatment outcomes (i.e., preventing relapse or assisting offenders who do relapse to quickly transition back to recovery) (Scott et al. 2005).

What are the benefits and costs associated with treatment?

The cost of treatment provides a better return on investment than many other sanctioning alternatives such as fines or surcharges. The cost-effectiveness of treatment varies according to the treatment outcome that is measured (e.g., legal costs, reduced health care costs, or work-related costs). Studies that have examined this issue have concluded that many types of treatment are cost-effective in relation to reduced health care costs; more expensive options do not demonstrate better outcomes (NIAAA 2000).

It is important to keep in mind that the cost of treatment should be considered in relation to the costs related to not treating offenders:

- > A study on the cost-effectiveness of California's substance abuse treatment programs found that every dollar spent on drug and alcohol abuse treatment has the potential to save taxpayers up to \$7. Between 1991 and 1992, the state spent \$209 million on treatment which resulted in an estimated \$1.5 billion in savings

due to reductions in crime and the subsequent costs associated with medical care (Gerstein et al. 1994).

- > For every \$10,000 invested in early intervention, there will be a future health cost reduction of \$43,000 (excluding motor vehicle accident and crime costs) (Fleming et al. 2002).
- > Offenders can also bear some or all of the cost of assessment and treatment permitted that they are not indigent. As a result, the criminal justice system is not shouldered with absorbing the entire cost.

Summary

The treatment of DWI offenders who have been identified as having substance dependency issues is important. Through treatment, the underlying causes of impaired driving are addressed which can prevent future recidivism. Screening and assessment are necessary steps in the identification of these individuals. Once a treatment recommendation/order has been made there are many effective intervention strategies available. These include brief



interventions, motivational interviewing, cognitive-behavioral therapy and pharmacological interventions. While treatment is a cost-effective strategy for combating impaired driving, sufficient resource allocation and increased support of its use with this offender population are needed to reap the potential benefits.

For more information, please visit www.samhsa.gov; www.tirf.ca/publications/PDF_publications/TIRF_DWI_Treatment_Report_2008.pdf;

www.niaaa.nih.gov/Pages/default.aspx; and <http://www.stopimpaireddriving.org/AlcScreenWeb2005/index.html>

DWI COURTS

Repeat drunk drivers pose the greatest risk to public safety and are less likely to respond to traditional penalties. These persistent offenders must be held accountable when they fail to comply with penalties that are imposed. Also, any underlying issues that contribute to re-offending (e.g., alcohol dependence) require attention in combination with positive reinforcement of good behavior.

What is a DWI court?

Unlike a traditional court, a DWI court has a separate court docket of high-risk, convicted drunk drivers (high-BAC or repeat offenders) who are less likely to be deterred by traditional penalties and interventions and are more likely to continue driving drunk. These courts aim to reduce drunk driving by treating the underlying drinking problem and holding offenders accountable for their behavior (National Center for DWI Courts (NCDC) 2010). This is accomplished with close supervision, appropriate sanctions and reinforcements, and long-term treatment. This strategy is based on the premise that future drunk driving offenses can be prevented by treating the underlying drinking problem (NCDC 2010). These offenders are also more likely to suffer from other psychiatric disorders. Hence the intensive supervision model utilized by DWI courts is appropriate and necessary for them.

Modeled after drug courts, these specialized substance abuse courts for high-risk drunk drivers use a team-based approach. The team is led by the judge and other criminal justice stakeholders such as prosecutors and defense counsel, probation officers, treatment professionals, law enforcement, and community services. The team works together to develop a program based on offender risks and needs, accountability measures, and supervision (Robertson et al. 2008). As part of the court program, offenders are required to



abstain from alcohol and are frequently monitored using random alcohol (and drug) testing, an alcohol interlock or a transdermal alcohol monitoring device, and intensive supervision.

DWI courts hold offenders accountable immediately when they do not comply with conditions imposed by the court. Review hearings are held in which offenders appear in front of the judge to account for their behavior. DWI courts can respond more quickly than a traditional court and apply both graduated sanctions to discourage negative behavior and positive reinforcements to encourage constructive behavior in a swift and certain fashion (Robertson et al. 2008).

How effective are DWI courts?

There is a growing body of evidence to suggest that DWI courts can result in significant reductions in drunk driving recidivism among offenders that successfully complete the program. Key findings from studies include:

- > A Michigan study of three DWI courts found that offenders were 19 times less likely to be re-arrested for another drunk driving offense during a two-year follow-up period than offenders processed in a traditional court (Fuller et al. 2008).



- > In a Georgia study of three DWI courts, results show that the courts had a retention rate of 79% (4 out of 5 offenders remained in the program) and that DWI court graduates had a recidivism rate of 9% whereas those offenders processed in traditional courts had a 24% recidivism rate (Fell et al. 2011). Due to the significant reduction in recidivism, it is

estimated that offender involvement in DWI courts prevented between 47 and 112 repeat DWI arrests.

- > Additional evaluations of DWI court programs have revealed:
 - » Lower recidivism rates for graduates of DWI courts in Athens (GA), Maricopa County (AZ), Los Angeles County (CA), and elsewhere (Marlowe et al. 2009).
 - » The Bernalillo County New Mexico Metropolitan Court's DWI/Drug Court Program evaluation revealed that only 36 of the 341 (10.6%) program graduates were re-arrested for DWI since it was established (Guerin 2002).
 - » Since the inception of the Athens, Georgia DWI/Drug Court Program in 2001, the recidivism rate for participants is 3% (NHTSA 2004).

- » A NHTSA evaluation of the DWI court in Rockdale County, GA found that program participants had recidivism rates that were one-half that of offenders in a local program using minimum sentences (Jones et al. 1998).
 - » The outcome evaluation of the Waukesha Alcohol Treatment Court in Wisconsin revealed that court participants had a significantly lower recidivism rate for any new offense (29% vs. 45%) after 2 years (post-entry) than offenders in a comparison group (Hiller and Saum 2009).
- > Research shows that close monitoring and individualized penalties for DWI offenders can reduce recidivism (NHTSA 2010).
 - > The average waiting period between arrest and sentencing is much shorter in a DWI court. The number of days spent in jail before entering the DWI court program and the total time in jail was significantly reduced, saving the justice system time and money (Fuller et al. 2008).
 - > It is noted that a few recent studies have found that DWI courts may not be effective in reducing recidivism (Bouffard and Richardson 2007; Bouffard et al. 2010; MacDonald et al. 2007); however, there were some limitations associated with these studies.
 - » The Rio Hondo program in Los Angeles County was created solely for the purpose of the study. It was evaluated (MacDonald et al. 2007) immediately after it was first implemented and ended once the research was complete, leaving no opportunity for the program to make adjustments to improve operations, likely contributing to poor outcomes.
 - » The second set of studies (Bouffard and Richardson 2007; Bouffard et al. 2010) examined hybrid courts that did not create separate dockets for DWI and drug offenders and did not establish specialized programs for DWI offenders. This could explain why recidivism rates were higher than those for drug offenders who have different needs.

How many DWI courts are in operation in the United States?

While drug courts have been in use for more than two decades, DWI courts are still relatively new. A majority of these courts have been established since 1994 when the first DWI court program was implemented in Las Cruces, New Mexico.

As of December 2009, NCDC reports that there are 2,459 drug courts in the United States of which 172 are designated as DWI courts. Additionally, 354 of these courts operate as hybrid⁶

⁶ A hybrid DWI/drug court is one that started out as a drug court, but now also takes DWI offenders. All DWI courts were initially modeled from drug courts which were first used with substance abuse offenders.

DWI/drug courts (NCDC 2010).⁷ Most courts are also relatively small and handle fewer than 100 cases annually (Flango 2004).

How are DWI courts implemented?

Strategic planning is required to create an effective and sustainable DWI court program. Locales that are interested in establishing a DWI court must create a steering committee involving criminal justice stakeholders and community representatives to gather input, develop a feasible implementation plan, and oversee the implementation of the court (NCDC 2010). Careful thought must be given to structure, organization, eligible offenders, and funding sources before a DWI court can be properly implemented.

DWI courts must adhere to the ten guiding principles⁷ that have been established in order to be a recognized, accepted DWI court. These courts are most effective under the conditions outlined in those principles which include:

- Having a clearly defined target population of offenders and eligibility criteria (typically based on offense history and screening results).
- Using clinical assessments with validated instruments to identify offender needs.
- Developing treatment plans tailored to individual offenders.
- Closely supervising offenders.
- Developing agency, organization, and community partnerships to increase support for the court and to maximize resources.
- Selecting an appropriate and qualified judge to lead the court.
- Developing strategies to effectively manage offenders by coordinating efforts across partner agencies.
- Addressing offender transportation issues.
- Evaluating the program for effectiveness and reductions in recidivism.
- Ensuring the sustainability of the program.



A DWI court can be implemented in four to six months after a program structure is agreed upon by the partner agencies if there are enough practitioners to run the court (NHTSA 2010). In some instances, implementation can take more than one year without enough resources or staff.

⁷ For a map of all DWI, drug, and hybrid courts in the United States, please visit: <http://www.ndcrc.org/court-map>

⁸ To view these principles in their entirety, please visit http://www.dwicourts.org/sites/default/files/ncdc/Guiding_Principles_of_DWI_Court_0.pdf

Are there barriers to the implementation of a DWI court?

Yes. The good news is that these barriers can be overcome with educational efforts and with creative problem-solving by partner agencies.

Reluctance among judges. Implementation of DWI courts calls upon judges to add to their traditional role of resolving disputes and dispensing justice. A judge who supervises a DWI court must accept responsibility to monitor offenders' treatment, acknowledge progress and sanction failures; functions ordinarily served by probation officers. Some judges are uncomfortable assuming this role, as it may lie outside their expertise.

More education about the research supporting these courts, their benefits, and the positive effects that courts have on offenders to encourage and sustain positive life changes is useful to increase understanding about this proven tool. Judges with a successful DWI court are ideal spokespersons and role models for their colleagues.

Lack of agency buy-in. Agencies have to understand the goals and see the benefits of participation in a DWI court program. Just like judges, other professionals (e.g., lawyers, probation officers, treatment providers) must commit to being part of the team. The judge plays an important role in negotiating support and cooperation from key agencies by assuming a leadership position and becoming a "change agent" (NCDC 2010). All team members must have a voice in the initiative and have their efforts supported. The judge plays an integral role to ensure that this is achieved.

Offender transportation. Most convicted drunk drivers have a suspended or revoked driver's license. This makes it difficult for offenders to attend DWI court, meet with their probation officer, and attend mandatory treatment sessions. Strategies such as alcohol ignition interlocks can be used to protect the public and hold offenders accountable while allowing them to attend appointments required by the court. While the burden is on participants to attend required treatment and court sessions, courts may work with offenders to develop creative solutions and ensure they can fulfill requirements.

Inadequate resources. The intensive supervision of offenders required by a DWI court program requires more funding to support smaller caseloads and more probation officers. Officers spend more time with each offender to track their progress and ensure a swift response to violations. Judges also spend more time with offenders than in a traditional court as they meet weekly, bi-weekly, or monthly with offenders as necessary. This limits the number of offenders that can be supervised and requires the court to have sufficient resources for this task. All of this means that more funding is needed to offset higher staffing costs resulting from intensive supervision and the associated increase in workload. Yet these costs may be more than offset in savings described below.

The misperception that a coercive approach to treatment is not effective. There is a misperception that people who voluntarily enter treatment are likely to have better results (e.g., long-term behavior change, fewer relapses) than those offenders who are forced to

participate, like they are in DWI courts. The rationale is that offenders who are forced to take part in treatment against their will are unlikely to fully participate and therefore, will not change their behavior.

However, evidence suggests that treatment can have positive effects on a person's substance use behavior regardless of the conditions under which they enter the program (Anglin 1988). Research also shows that coerced treatment can achieve significant reductions in substance use and related behaviors, sometimes even more than voluntary treatment, because they tend to remain in treatment longer when they are being coerced (Breckenridge et al. 2000). Findings from a long-term study co-funded by the National Institute on Drug Abuse (NIDA) and the U.S. Department of Veterans Affairs (VA) have affirmed the results of shorter-term studies that have shown similar therapeutic outcomes for voluntary and legally mandated patients (Whitten 2006). So the perception that a coercive approach to treatment is not effective is often inaccurate.

DWI courts may greatly reduce overall criminal justice system costs:

- Courts may significantly reduce long-term system costs if they are well-implemented and decrease recidivism.
- DWI courts may reduce jail time. An evaluation of the Anchorage Wellness Court found that the cost of participation in the program was less than 10% of the cost of incarceration (McKelvie 2004).
- Courts also bring together the many agencies and organizations to fill the gaps in the impaired driver control system (NHTSA 2004).

What are the benefits and costs associated with DWI courts?

It is hard to determine the exact cost to operate a DWI court. Costs vary across communities depending on the needs of individual courts and the type of offenders that are supervised. NCDC (2010) identifies several areas where courts require funding:

- Administrative personnel to manage operations;
- Probation officers to supervise offenders;
- Equipment (such as software, database, and testing components);
- Drug and alcohol tests (such as breath and urine tests);
- Electronic monitoring;
- Treatment (facilities and staff); and,

> Court time.

Follow-up costs for DWI courts are likely to be greater than traditional courts because of the intensive offender monitoring that is integral to their operation (NHTSA 2010). Probation officers and judges devote more time to each offender to discuss violations and progress, and caseloads tend to be smaller. To offset costs, NCDC (2010) has identified multiple sources of local, county, state, and federal funding.

- > Revenue is set aside for treatment or community service projects; state receives funding for treatment through federal sources which can be used by DWI courts.
- > Some states have passed legislation creating fines or fees that can be earmarked for treatment programs such as DWI courts.
- > Individual courts can seek contributions from corporations, private foundations, or the insurance industry.
- > Many programs have also set a weekly participant fee of \$5-\$30 per week.
- > The savings accrued from not incarcerating the offenders participating in DWI courts could also be reinvested to sustain the operation of these courts.

Summary

DWI courts can be an effective tool to supervise, treat, and rehabilitate persistent drunk driving offenders and protect the public. Research has shown that these team-oriented specialized courts have produced significant reductions in recidivism among successful graduates. More educational efforts are needed to make agencies aware of the benefits of these courts. Creative problem-solving by partner agencies and adequate resources are also needed to implement these courts according to their guiding principles.

For more information, please visit www.dwicourts.org/ncdc-home.

COMMUNITY SUPERVISION



What is community supervision?

Community supervision agencies are responsible for the supervision of individuals in the community as an alternative to incarceration. Community supervision agencies manage people at several stages of the criminal justice process including pre-trial, pre-sentence release, post-sentence release, and following release from a correctional facility. The level of supervision is individualized and based upon jurisdictional laws and the level of risk posed by the offender (Robertson and Simpson 2003).

What is the goal of community supervision?

The overarching goal of community supervision is to reduce the likelihood of recidivism by protecting the public, allowing the individual involved with the justice system to maintain ties to the community, and promoting rehabilitation (APPA and The Century Council 2010). While the goals of punishment and rehabilitation may seem to be incompatible, these goals are not mutually exclusive and both are required to encourage behavior change. Research shows that behavior change is the most effective strategy to enhance public safety.⁹ Community supervision aims to monitor individuals to ensure that they comply with supervision conditions, hold them accountable if they violate conditions, and

motivate them to change by matching them with appropriate treatment interventions and levels of support.¹⁰

⁹ Paparozzi and Lowenkamp 2000; Clark 2001; Taxman et al. 2003; Taxman et al. 2004; Andrews and Dowden 2006.

¹⁰ It is also important to acknowledge when offenders have made progress as positive reinforcement has proven to be an equally powerful tool as punishment for non-compliance.

How does community supervision work?

Many tools and strategies may be applied as part of community supervision. Common tools include: regular supervision by a pre-trial/probation/parole officer, random testing for alcohol or drugs, electronic monitoring, community service orders, treatment, and restitution orders. Community supervision officers may also monitor and enforce a wide range of other conditions specific to an individual (e.g., curfew, abstinence from alcohol or drugs, no driving) that may be imposed by the court or other entity.

Agency partnerships and open communication and information-sharing among the courts, releasing authorities, community supervision agencies, and treatment providers are essential to meet the needs of individuals involved with the justice system and the needs of communities.

How many individuals are supervised in the community?

At the end of 2009, 5,018,855 people¹¹ were under community supervision orders – 4,203,967 individuals on probation and 819,308 individuals on parole; this represents approximately 1 in every 47 adults in the U.S. (Glaze and Bonczar 2010).

Large community supervision populations have occurred due to challenges associated with jail and prison overcrowding and some changes in sentencing philosophy. Unfortunately, this growth in caseloads has occurred at a time when resources have been depleted and funding has stagnated. This makes it challenging for officers to effectively monitor the people under their supervision (Petersilia 1997).

How many convicted DWI offenders are supervised in the community?

The majority of DWI offenders are convicted of misdemeanor offenses and as such, are sentenced to probation and possibly a short jail term. In 2009, DWI offenders accounted for 15% (326,594) of the total number of individuals on probation in the United States (Glaze and Bonczar 2010).

At what point in the justice process can individuals be supervised?

Individuals can be released on supervision at multiple points in the justice process.

Pre-trial supervision. This occurs after arrest and before trial and is used to ensure defendants make all scheduled court appearances and comply with release conditions. Duties of the supervising officer may include:

- Assist the court in making decisions regarding bail/release;

¹¹ This figure does not include those individuals who are released pre-trial and supervised in the community.

- > Perform screening/assessment to determine risk level and identify potential substance or alcohol abuse issues;
- > Make recommendations to the judge regarding release conditions;
- > Gather information about the defendant to inform release decisions; and,
- > Monitor the defendant in the community while they await their trial date.

Pre-sentence supervision. Following a guilty plea or finding of guilt, people may be released into the community before they are sentenced. During this time, they are monitored and must comply with specific conditions imposed by the judge. Probation officers may conduct a pre-sentence investigation and complete a pre-sentence report (PSR) to help the judge determine appropriate sanctions and treatment requirements to address risk of recidivism.

Post-sentence supervision. Once people are sentenced to community supervision, probation officers review the conditions that have been imposed and usually develop a supervision plan for each person based on a formal assessment of their risks and needs

(Alexander 2000). Assessments are used to predict their likelihood of repeat offending and identify needs that must be addressed (e.g., substance use) (Latessa and Lowenkamp 2005). The resulting supervision plan describes the level of monitoring an individual requires (based on risk) and appropriate interventions (based on needs). A person has a better chance of rehabilitation if he/she is matched with appropriate treatment interventions that match their needs (Allen 1991).



What is probation?

Probation is a judicial or a suspended sentence, or court order that places convicted individuals under supervision in the community. This permits adjudicated individuals to avoid jail or prison if they comply with probation conditions. Most misdemeanor probation sentences are a maximum of two years. In special circumstances, this period of supervision may be extended.

Conditions of supervision can vary according to an individual's level of risk. In some instances conditions may not be realistic or achievable because of limited resources – e.g., availability of treatment programs in rural areas, too demanding of a supervision officer's workload.

Common probation conditions imposed on DWI defendants/offenders include:

- > Completion of a chemical dependency treatment assessment;
- > Abstinence from alcohol and drugs;
- > Submission to random alcohol testing/urinalysis;
- > Participation in treatment;
- > Electronic monitoring;
- > Installation of ignition interlock or other alcohol monitoring device(s);
- > Payment of fines/restitution/fees;
- > Performance of community service;
- > Completion of alcohol education classes; and,
- > Attend a victim impact panel.

Are all people on probation actively supervised?

No. A majority of DWI offenders are convicted of misdemeanor offenses. In many jurisdictions, and particularly in rural areas, there may be no probation services for people adjudicated of a misdemeanor offense due to limited resources. Conversely, higher risk individuals and those that are convicted of felony offenses are almost always actively supervised according to the level of risk they pose to the community.

The level of supervision that is provided is subject to the severity of the offense and the risk of recidivism (as determined by a risk assessment).

- > **Low-risk individuals.** These people may have limited or no direct contact with a probation officer. They typically report using a form, telephone, or a kiosk. This is sometimes referred to as 'administrative', 'banked' or 'paper' probation.
- > **Medium-risk individuals.** These people usually meet with their probation officer on a monthly basis to inform the officer about their activities. They may also be subject to random contacts at work or home, and screening for substance use.
- > **High-risk individuals.** These people are subject to intensive supervision and may be part of a specialized caseload. They meet with their probation officer weekly or more often. These individuals are also subject to random and/or scheduled contacts at work or home, possibly several times a week. Screening for substance use is common among DWI offenders.

The identification of risk levels and individualized needs also helps probation officers prioritize the people on their caseload. This level of prioritization helps probation officers maximize their effective use of limited resources.

What is parole?

Parole supervision is very similar to probation with a few key differences. People on parole have served a period of incarceration and are subject to longer periods of supervision. Parole officers may also be able to impose sanctions for non-compliance.¹² Parole officers may work closely with incarcerated individuals who are nearing eligibility for release. They develop a release plan for inmates and then monitor their activity when they re-enter the community. These released individuals are often deemed higher risk than those on probation due to the sentences they have received (resulting from the commission of a serious crime/felony).

The supervised release of individuals following a period of incarceration is important to help them re-adjust to community life. Experience has shown that most people are less likely to repeat their offense if they undergo a re-entry process and supervised release that involves close monitoring and access to community services (e.g., housing, counseling, employment).



What tasks do probation/parole officers perform?

Supervision officers fulfill two primary goals:

- Officers make sure supervisees comply with sanctions by directly monitoring their behavior in the community. They meet regularly with supervisees and conduct scheduled and random contacts or “spot checks” to confirm compliance with any conditions.
- Officers provide assistance to people on their caseload with rehabilitation and re-integration into the community. They can also provide direct services, such as intervention and counseling, and in some cases, actual treatment services, such as cognitive skills programs.

Officers often find it challenging to both enforce conditions of supervision while also supporting rehabilitation/reintegration strategies (DeMichele 2007). The “tough on crime” emphasis means officers may be encouraged to devote more time to enforcement as opposed to behavior change (Robertson and Simpson 2003). Ideally, a balance between these two goals is needed to protect the public in the long term.

Parole officers perform many of the tasks described below. In addition, they also identify appropriate programs and services that should be part of an individual case plan, make

¹² If paroled offenders violate their conditions they can be returned to jail/prison and the parole officer has the power to make this determination.

recommendations about post-release conditions, and assist incarcerated individuals who are set to be released into the community.

Other core tasks performed by officers include:

- Conduct investigations and provide reports to the court throughout the justice process;
- Complete risk and needs assessments to measure the likelihood of repeat offenses and inform decisions about level of supervision and need for treatment interventions;
- Document a supervised individual's behavior, update case files, and forward relevant paperwork to the courts or other agencies; and,
- Investigate alleged violations of the terms and conditions of supervision, prepare a report for the sentencing or releasing authority regarding alleged violations, and prepare recommendations for action.

How big is a community supervision officer's caseload?

Community supervision agencies supervise nearly 75% of all adults in the criminal justice system (DeMichele 2007). Caseloads are growing due to shrinking resources and a much larger number of individuals being sentenced to supervision in lieu of jail or prison.

The number of people that one officer can effectively supervise depends on the level of risk and needs of each supervisee and the amount of work that is required to supervise him or her. To illustrate, a repeat DWI offender that has substance abuse issues, mental health problems, limited education, no support system, and is unemployed will likely require more supervision than a DWI first offender with no criminal history, a stable home life, and employment. So risk/needs assessments are essential to help prioritize individuals and allocate resources accordingly.

Caseloads among probation officers can range from less than 100 to as many as 3,000 supervisees per officer.¹³ The average regular supervision caseload varies from 100 to 175 offenders depending on the type of individuals being monitored (Gerwin 1998). Intensive supervision caseloads (for high-risk individuals) are considerably smaller (30-70 individuals) and are less common due to a lack of resources. Conversely, reduced supervision caseloads (for low-risk probationers) may have from 300 to 3,000 offenders (Robertson and Simpson 2003).¹⁴

¹³ Neito 1996; Gerwin 1998; Division of Community Corrections 2000; Office of Probation Services 2000; McCubbin 2001.

¹⁴ APPA has suggested that intensive supervision cases require a minimum of four hours face-to-face contact monthly, regular cases require two hours, and reduced supervision cases require only one hour.

What challenges are associated with supervising impaired drivers?

Every community supervision agency is different so not all agencies can utilize a comprehensive model to deliver supervision services. Common challenges associated with supervision include:

- > Lack of funding for effective levels of supervision;
- > Large case/workload allocation combined with too few officers;
- > Lack of availability/funding of treatment interventions;
- > Emphasis on enforcement at the expense of rehabilitation;
- > Failure to match individuals with appropriate interventions;
- > Lack of input in determining supervision conditions;
- > Lack of authority to impose sanctions and take meaningful action for non-compliance;
- > Ineffective communication/partnerships among criminal justice agencies; and,
- > Staff burn-out.¹⁵

Insufficient resources are a significant barrier to enforcing and reinforcing compliant behavior and make it difficult for officers to adequately supervise offenders on their caseload. Officers typically monitor different types of individuals who pose varying levels of risk and have different needs.

Can community supervision reduce recidivism rates?

Yes. Studies have shown that incarceration is not more effective than community supervision in preventing re-offending (Vyas 1995) and treatment programs have been shown to be more effective when delivered in a community setting (Gendreau and Andrews 1990).

Individuals who are supervised in the community are shielded from the negative effects of incarceration. They also have the opportunity to gain and/or maintain employment, receive treatment and support, and maintain ties with family, friends, and the community.

Few studies have specifically examined the effectiveness of community supervision in reducing recidivism among DWI offenders. More research is needed to determine optimal levels of community supervision needed to reduce repeat offending. The diversity of supervision strategies and interventions across jurisdictions makes it challenging to identify effective

¹⁵ Robertson and Simpson 2003; APPA and The Century Council 2010; Dunlap et al. 2008; DeMichele 2007.

practices for this offender population. However, the use of a risk/needs assessment, adequate supervision, matching supervisees with appropriate treatment interventions, graduated sanctions for non-compliance, and positive reinforcement for progress are all important components of a successful supervision plan.

How can DWI offenders be effectively supervised in the community?

The American Probation and Parole Association released guidelines for the effective community supervision of DWI offenders in 2008. The guidelines emphasize public safety, offender accountability, and behavioral change and include the following measures:

- > Investigate, collect, and report relevant and timely information that will aid in determining appropriate interventions and treatment needs for DWI offenders at multiple stages of the DWI system.
- > Develop individualized case or supervision plans that outline supervision strategies and treatment services that will hold DWI offenders accountable and promote behavior change.
- > Implement a supervision process for DWI offenders that balances supervision strategies aimed at enforcing rules with those designed to assist offenders in changing behavior.
- > Develop partnerships with programs, agencies, and organizations in the community that can enhance/support the supervision and treatment of DWI offenders.
- > Deliver training to supervision staff to improve their ability to work effectively with DWI offenders.
- > Assess the effectiveness of supervision practices on DWI offenders using both process and outcome measures.

Summary

Community supervision is an integral part of the DWI system that balances enforcement, accountability, and rehabilitation. Individuals supervised in the community can be monitored at various phases throughout the justice process and have different levels of monitoring dictated by their assessed risk of recidivism. More than five million Americans were under some form of community supervision in 2009, with 15% of these individuals being supervised for DWI offenses. Given the large numbers, caseloads have continued to increase and this coupled with too few probation/parole officers has presented challenges. Adequate funding is needed to ensure that individuals receive the necessary amount of supervision and to also ensure that staff are not overworked and burn out. While community supervision

has proven effective in reducing recidivism, more research is needed to determine which monitoring strategies work best with impaired drivers.

For more information, please visit www.appa-net.org/eweb.

TRAFFIC SAFETY RESOURCE PROSECUTORS (TSRPs)

Traffic safety resource prosecutors (TSRPs) play an important role in the DWI system. Through their guidance and support, prosecutors can be trained to better handle a DWI caseload which will increase the likelihood of conviction of impaired drivers.

TSRPs play an integral role in the DWI system

Traffic safety resource prosecutors have the specialized expertise in the prosecution of impaired drivers that is needed to increase the probability of conviction, particularly among hard core drunk drivers.

DWI cases can be some of the most difficult to prosecute as they are complex and involve many procedural and technical issues (e.g., breath testing protocols, toxicology, proof of impairment, etc.). In addition, impaired driving cases are often handled by the least experienced prosecutors. In many states, drunk drivers must be convicted before being subject to programs and penalties. Without a criminal conviction, offenders are less likely to be identified as repeat offenders should they be arrested again, and are more likely to avoid enhanced penalties. As a result, the detection of impaired drivers by law enforcement is not enough to keep drunk drivers off the road.

What is a TSRP?

A TSRP is a prosecutor with extensive experience in the area of traffic crimes, particularly the prosecution of impaired driving cases.

TSRPs help educate and provide technical assistance to less experienced prosecutors in their state who routinely handle impaired driving cases. TSRPs also form partnerships and serve as liaisons among a variety of agencies including law enforcement, medical examiner offices,



Governor Highway Safety Offices, the National Highway Traffic Safety Administration, the National Traffic Law Center, the National Association of Prosecutor Coordinators, victim advocacy groups, and the media. Most states have one TSRP but several have multiple TSRPs as a result of large populations or specific needs.

There are currently 46 states involved in the TSRP program. The only states that do not presently have a TSRP are Nevada, Maryland, Hawaii, and Maine.

What does a TSRP do?

A TSRP acts as an educator and source of support and leadership for traffic crime prosecutors throughout their state. In certain states, a TSRP may be called to help prosecute complex impaired driving cases as either first or second chair. The TSRP also delivers training on issues pertinent to the prosecution of impaired driving cases (among other traffic issues) to prosecutors and law enforcement alike. TSRPs also tend to be familiar with new and emerging strategies and resources, including DWI/Drug courts that operate within the state.

A TSRP does many different things to support the prosecution of drunk drivers, such as:



- Reviews and shares specific data related to traffic crimes in the state (to prosecutors and other groups), including:
 - » DWI arrests
 - » Drugged driving arrests
 - » Underage drinking arrests
 - » Drunk driving fatalities
 - » Motor vehicle collisions and fatalities
- Identifies state specific issues that prosecutors and law enforcement can encounter and then delivers training/education to address them.
- Is available to support prosecutors and answer any questions related to individual cases (e.g., search and seizure issues, blood draws, breath test procedures and instruments, proof of impairment, defense challenges).
- Follows up with prosecutors to determine if current practices are working well and if there are any new challenges that need to be addressed.
- Assists law enforcement in implementing sobriety checkpoints by ensuring that they function in accordance with state laws and department regulations.
- Provides toxicology expertise regarding blood/breath testing requirements and regulations as well as breath testing instruments in their state.
- Networks with other TSRPs to find out what is being done nationally to address common problems and applies strategies that have proven successful.

- > Provides guidance in drafting new legislation at the state level.

How are TSRP positions funded?

TSRPs are funded by grants through the National Highway Traffic Safety Administration and State Highway Safety Offices with the latter providing the majority of funding. Additional funding may be provided by the state or municipal governments however, this is not the norm.

For more information, please visit www.napcsite.org, www.ndaa.org, and www.ndaa.org/ntlc_home.html. An updated list of all TSRPs can be found at: <http://ndaa.org/pdf/TSRP%20List%2012%2001%2010.pdf>.

IMPAIRED DRIVING DATA SYSTEMS



Gaps in available impaired driving data are a chronic impediment to decision-making, the development of impaired driving policies and programs, and the effective allocation of resources. The first step towards improving the quality of data is to gain a better understanding of current practices for data collection. Such a review is useful to identify what data are available, what gaps exist, and tools and strategies that can be used to address them.

Why is the collection of data important?

Data collection is important to provide researchers and policymakers with information to help them determine the scope of the impaired driving problem and how best to deal with it. High-quality data make it possible to accurately gauge the extent of and trends in impaired driving and the effectiveness of implemented countermeasures. These data enable legislators, policymakers, and administrators to prioritize the most-needed interventions and to allocate resources to properly implement them. It is equally important that collected data are valid, complete, readily accessible, and available in a timely manner.

Data collection is also important to determine where and why weaknesses in the DWI system exist and how they can be overcome. It facilitates the development of

strategies to close gaps in the system and ensure that offenders are subject to appropriate policies and programs. Solid data collection protocols are essential to ensure the justice system can detect impaired drivers and reduce recidivism and gauge the effectiveness of programs and policies. To illustrate, staff that must rely upon poor quality data may often experience lower conviction rates and poorer outcomes. Thus timely, accurate, and complete

data are essential to inform decision-making, set priorities, identify gaps, and measure outcomes.

What are the consequences of poor quality impaired driving data?

Data that are incomplete (e.g., not available about the entire population of interest), out of date, or inaccurate may be misinterpreted, fail to provide the whole picture, and can result in faulty conclusions. Moreover, poor quality data make it difficult to gauge the effectiveness of programs and policies, and make it less likely that decision-makers will trust the data in the future.

Negative consequences associated with poor quality or inaccessible data can include:

- > Policymakers and the public may have poor understanding of the problem;
- > Legislation that fails to address impaired driving and/or that lacks sufficient resources;
- > Ineffective impaired driving programs and policies;
- > The inconsistent application of penalties and interventions to drunk drivers;
- > The misallocation of resources/funding; and,
- > Poorly targeted educational initiatives for practitioners.

Ultimately, these consequences contribute to the inability of jurisdictions to address the impaired driving problem and/or reduce recidivism. Poor access to good quality impaired driving data makes it challenging for law enforcement and other justice practitioners to detect, prosecute, sentence, and appropriately manage these offenders. And, continued offending is costly in terms of criminal justice costs, fatalities and injuries, lost productivity, and property damage among other costs.

Are there examples of good data collection strategies?

Yes. To avoid negative consequences jurisdictions can rely upon high-quality data gathered through effective data collection and sharing protocols. In this regard, it is important that jurisdictions are able to move towards uniform and automated data collection and information-sharing systems, and overcome policies that hinder information-sharing among and across agencies.

An example of a good system is the NHTSA DWI Tracking System (released in 1997). Such a system relies upon common data collection guidelines across a jurisdiction to improve the accuracy of research findings and overcome conflicting research results. This is possible

because the system allows researchers to access a larger and more complete pool of data as a basis for research initiatives. This, in turn, enables policymakers to more accurately set priorities.

Beyond timeliness, accuracy, and completeness, it is also important that impaired driving data are consistently collected in accordance with established standards (i.e., all agencies collect the same data elements in the same way). At the same time, it must be possible to integrate collected data with other safety data sources (i.e., relevant data should be merged based on key linking variables), and that the data are accessible to the people who need it (e.g., justice, treatment, licensing practitioners, safety professionals, policymakers, and legislators).

Is there a concrete example of a model impaired driving records information system?

Yes. Under SAFETEA-LU, enacted in 2005, NHTSA was directed to establish guidelines that laid out the types/formats of data that all states should collect from drivers arrested for or convicted of impaired driving. The goal of the initiative is to assist states in improving their



driving records information systems by allowing for the timely tracking of impaired driving offenders from point of arrest through case resolution, providing impaired driving-related aggregate data, conforming to national and system performance standards, providing accurate, consistent, and complete data that is easily accessible, and maintaining quality controls and security features to protect the integrity of the data. Five states – Alabama, Connecticut, Iowa, Nebraska, and Wisconsin – served as demonstration sites.

Subsequently, a model system and data dictionary was created (Model Impaired Driving Records Information System; MIDRIS) that outlines the data elements and codes that could be utilized in an impaired driving tracking system (related to such things as citation, court, and driver licensing history). The project is currently being marketed. For more information, please visit: www.nhtsa-ts.is.net/MIDRIS.

How can data collection be improved?

There are a number of ways to improve data collection. Strategies include:

- The development of uniform, statewide definitions and practices to guide data collection, with consideration of practices in neighboring jurisdictions. Examples include the Model Minimum Uniform Crash Criteria (MMUCC; see www.mmucc.us), the Model Inventory of Roadway Elements (MIRE; see www.mireinfo.org), the National EMS Information System (NEMSIS; see www.nemsis.org), and the Commercial Driver's License Information System (CDLIS; see www.aamva.org/TechServices/AppServ/CDLIS/).

- The tracking of the data collected by agencies in the DWI system to coordinate efforts.
- The use of a common architecture for data systems (such as the National Information Exchange Model or NIEM; www.niem.gov/index.php) to facilitate data sharing.
- The establishment of working partnerships among practitioners, researchers, and agencies to promote stronger research initiatives and strengthen research results.
- The establishment of linkages between existing data systems utilizing NIEM. To achieve this, agencies must be encouraged to work collaboratively, to prevent needless duplication of activities, and to avoid the creation of multiple initiatives to accomplish the same goals.
- The integration of traffic safety data with criminal justice data to develop a more complete picture of the impaired driving problem that is captured by both transportation and criminal justice datasets.
- The implementation of a comprehensive, formal data quality management program to govern the collection, submission, and storage of DWI tracking system data.

What steps can agencies take to improve data collection?

There are steps that can be taken to improve the availability, timeliness, and accessibility of valid impaired driving data.

Each agency can:

- Determine what pieces of data are valuable and will be collected, and share this information with partners.
- Ensure that new data collection systems can incorporate data from legacy systems and will be compatible with those employed by other agencies.
- Facilitate collaboration between agencies hosting the data, the data system provider, agencies providing the data, and agencies using the data.
- Gather input from frontline staff to make sure that data collection systems are user-friendly; provide training as required.
- Set parameters for data accessibility (who can access data, modify data, and share data) to create accountability and protect agencies from liability.
- Encourage electronic reporting which improves accuracy and can reduce the workload associated with data entry, error reports, and data quality management.

- Strive for consistency across a jurisdiction. Managing paper and electronic reporting can be challenging.
- Establish standards for data collection tools and ensure that systems are available to other agencies as needed.
- Develop metrics of data quality as part of a comprehensive data quality management system designed to identify and address problems.
- Ensure that the data are widely available to users who, in turn, can provide specific feedback on errors or difficulties they encounter.
- Assign custodial responsibility for the DWI tracking system to an agency that cares about the data from the perspective of a safety decision-maker.

What steps can jurisdictions take to improve data collection?

Each jurisdiction can:

- Convene a State task force to examine existing data collection practices and make recommendations for improvement.
- Develop uniform definitions for key pieces of data that can be used across jurisdictions and facilitate meaningful comparisons.
- Improve information-sharing practices across agencies and data systems.
- Streamline data collection practices across agencies to create an accurate data source.
- Support and fund technology initiatives to improve data systems.
- Actively monitor data quality and support projects designed to improve it.

What data systems already capture impaired driving data?

There are several existing data systems that already capture impaired driving data to varying extents. Awareness of these data sources is important to inform data collection initiatives in each jurisdiction.

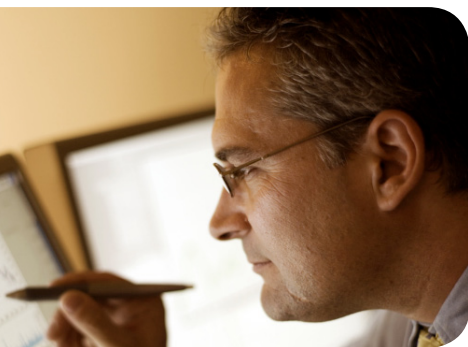
State Data Systems:

- **Court case management and driver history files.** Few states have a DWI tracking system at present. Citation tracking systems – a database of all traffic-related citations issued – are also rare. Through the driver history file, most can identify drivers with past DWI-related convictions. From centralized district court case management systems many can also identify pending cases for offenders

currently charged with DWI offenses. These systems are the source of most reporting of recidivism rates as it is generally possible to tally the number of prior convictions and the time from most recent prior conviction to the next/current arrest or date of suspension. Those states with a unified court system and/or a statewide case management system receiving data from all courts have, in effect, already achieved a high-level of DWI and citation tracking. This is important because the other major source of offender data – the driver history file – typically contains only convictions (i.e., post adjudication data), and a record of suspensions/revocations for DWI offenders. Lacking information on the number of times a person has previously been charged (whether convicted or not) leaves a state with only a partial picture of the DWI offender population.

- > **Alcohol and drug test results.** Many states have a centralized data source for BAC test results, especially if these results are from breath tests. Blood test results may also be collected in a central repository, thus giving decision-makers access to both drug and alcohol test results. States that lack a central repository for such records automatically face additional barriers to analysis of the frequency of driving under the influence of drugs or alcohol.
- > **Crash records.** Statewide crash records databases support decision-makers with statistics on the frequency and severity of alcohol-involved crashes. The best of these systems are updated with data on all drivers who were tested for the presence of alcohol or drugs following a crash. Even lacking reliable updates to the database, however, most states' crash records system will include a record of the officer's suspicion of alcohol or drug involvement in the crash.
- > **Location data.** Crash and citation records in conjunction with location data can help decision-makers determine where problem areas are located with respect to alcohol or drug-involved crashes or traffic stops. This can aid in developing enforcement allocation, budget estimation, and pinpointing problem establishments (e.g., sales to minors, frequent party locations, etc.).
- > **Corrections/probation data.** These systems are only rarely accessed in safety decision making, however, they may contain useful information on offenders' substance abuse history, associated offenses in addition to traffic violations, and assessments of their substance abuse problems.
- > **Treatment data.** These systems are rare outside of the context of a DWI tracking system or an offender tracking system in a court or corrections department. Where they exist, they may contain valuable data on substance abuse assessments, treatments entered into, and successful completions. Knowing what treatments a recidivating offender has already been through and to what extent the treatment was effective (in the short-term) can be instructive.

- > **Injury surveillance.** Medical records in EMS, emergency departments, trauma registries, and hospital discharge datasets contain details of crash-related injuries and treatments, as well as alcohol and blood test results. Many states are able to link de-identified medical records with similarly redacted crash data in order to develop a clearer picture of the consequences of alcohol-involved crashes than is possible with either dataset in isolation. There are numerous programs promoting this data linkage – the most prevalent being the Crash Outcome Data Evaluation System (CODES) – but all aim to support reporting of state-specific, detailed injury and resulting treatment cost information.
- > **Data analysis systems.** There are numerous state and local systems that support analysis of the datasets listed here. The most advanced are those, like CODES, which support analysis of linked data to provide decision-makers with an enhanced view of the safety experience in a state or local jurisdiction. The Data Driven Approaches to Crime and Traffic Safety (DDACTS) is one such effort in law enforcement agencies. By jointly considering arrest and citation data,



DDACTS enables agencies to better deploy their resources and address problems that are common to both crime and traffic safety concerns in their jurisdiction. Linking crash and driver history data, states have found new ways to identify the highest risk drivers and ensure that they are handled appropriately at all steps in the criminal justice process.

Federal/National Systems:

- > **FBI Uniform Crime Reports.** In 1930, the Federal Bureau of Investigation was tasked with collecting, publishing, and archiving uniform crime statistics in the United States (FBI 2010). Since that time, every year statistics are released that have been compiled from data from more than 17,000 law enforcement agencies across the country (which accounts for 90% of agencies). The annual Crime in the United States report identifies the number of DWI arrests that occur in the U.S. every year. To view the most recent copy of the UCR, please visit: www.fbi.gov/about-us/cjis/ucr/ucr.
- > **Fatality Analysis Reporting System (FARS).** FARS is a nationwide census that provides the National Highway Traffic Safety Administration and the general public with annual data regarding fatal injuries suffered in motor vehicle crashes across the United States. This data includes demographic information about drivers and notes whether or not the crash was alcohol-related (it also includes a BAC or a BAC estimate derived through the multiple imputation method). To view FARS data, please visit: www.nhtsa.gov/FARS.

- > **Driver License Compact (DLC).** The Driver License Compact is an interstate compact used by 46 states to exchange information about driver license suspensions and other traffic violations, including impaired driving, of non-residents (AAMVA 2011). The information concerning these violations is forwarded to the home state (or state of origin for the offender) which then takes appropriate action based on their state laws. Under the DLC, a home state must have an equivalent statute to the state where the offense took place in order to penalize the offender for impaired driving or other offenses.
- > **Non-Resident Violator Compact (NRVC).** The Non-Resident Violator Compact is another interstate licensing compact used in 44 states. The purpose of the NRVC is to standardize methods utilized by the various jurisdictions to process non-resident violators who are cited in another member state and either fails to pay a ticket, fails to appear, or otherwise fails to comply with any outstanding moving traffic summons (AAMVA 2010). The NRVC allows participating jurisdictions to inform each other's motor vehicle administration when a resident of one jurisdiction does not comply with the terms of a citation. Upon notification, the home state will then suspend the driver's license until the offender complies with the citation in the other state.
- > **Driver License Agreement (DLA).** The Driver License Agreement is meant to supersede both the DLC and NRVC and represents a new interstate compact. According to AAMVA (2010), in an effort to create a "one driver, one record" system, the new compact will be a more efficient and effective agreement for the sharing of driver and conviction information across jurisdictions. The new DLA requires each state to report traffic convictions to the licensing state and requires each state to maintain a complete driver's history. Each state will still apply its own laws to out-of-state convictions.

What are the features of an ideal system for coordinating data collection with crash and driver licensing?

An ideal data collection system for impaired driving would include a variety of features and also linkages between multiple agencies within the DWI system. The following features should be integrated into such a system:

- > roadside data collection (e.g., citation, arrest, crash, incident, other);
- > automated data collection (e.g., scanning/swiping the driver's license, scanning registration, plate recognition, GPS location, driver's license validation, identity verification);
- > electronic citation/arrest information, electronic crash reports, and contacts;
- > citation and DWI tracking;

- > real-time DMV access to validate the driver information available at the scene;
- > vehicle file links (e.g., owner information, plate and registration look-up, insurance verification, VIN number, make/model/color of vehicle);
- > driver history file lookup (e.g., driver identity confirmed through data and digital photo, contact information, conviction history, license status);
- > real-time NCIC and state JIS access to discover wants and warrants and access the criminal history of violators;
- > law enforcement agency contacts database to identify violators who have been encountered previously in the same jurisdiction;
- > links to court case management (citations would automatically be transmitted to court clerks and officers in the field could review any pending cases against the violator);
- > links to prosecutors (for jurisdictions where prosecutors file charges);



- > links to other law enforcement agencies to determine if there were prior contacts outside the local jurisdiction; and,
- > links to external agencies (e.g., electronic submissions to the courts, shared data with prosecutors, test results from laboratories/hospitals, updates on court dispositions, probation status, citizen tips).

Important data elements that should always be collected by law enforcement include personal

identifiers, demographic data, report numbers (e.g., citation, arrest, crash), date/time of incidents, and location of incidents.

Summary

The importance of high quality data to inform decision-making and strengthen the DWI system cannot be overstated. Good quality data are essential to understanding the magnitude, characteristics, and trends of the impaired driving problem. It is needed to both guide and drive the research process and to set policy priorities. Greater efforts are needed to strengthen existing data systems and encourage coordination and data sharing across agencies where feasible to get the most out of available resources and provide a more complete picture of the problem. Data are a critical tool that can help jurisdictions better manage budgets and develop strategies to do more with less, which is increasingly important in these challenging economic times.

REFERENCE LIST

- Alexander, R. (2000). *Counselling, Treatment, and Intervention Methods with Juvenile and Adult Offenders*. Belmont, CA: Wadsworth.
- Allen, J. (1991). The interrelationship of alcoholism assessment and treatment. *Alcohol Health & Research World*, 15, 178–185.
- American Association of Motor Vehicle Administrators (AAMVA) (2010). *Driver License Agreement (DLA)*. <http://www.aamva.org/KnowledgeCenter/Driver/Compacts/Driver+License+Agreement+%28DLA%29.htm>
- American Association of Motor Vehicle Administrators (AAMVA) (2010). *Non-Resident Violator Compact (NRVC)*. <http://www.aamva.org/KnowledgeCenter/Driver/Compacts/Nonresident+Violator+Compact+%28NRVC%29.htm>
- American Association of Motor Vehicle Administrators (AAMVA) (2011). *Driver License Compacts: Jurisdictional Agreements*. <http://www.aamva.org/KnowledgeCenter/Driver/Compacts/>
- American Probation and Parole Association (2010). *Hardcore Drunk Driving Community Supervision Guide: A Resource Outlining Probation and Parole Challenges, Effective Strategies, and Model Programs*. Washington, D.C: The Century Council. Available online: <http://www.centurycouncil.org/files/material/files/HCCDD-Community-Supervision-Guide.pdf>
- American Probation and Parole Association (2010). *Probation and Parole FAQs*. http://www.appa-net.org/eweb/DynamicPage.aspx?WebCode=VB_FAQ
- Andrews, D., & Dowden, C. (2006). Risk principle of case classification in correctional treatment: A meta-analytic investigation. *International Journal of Offender Therapy and Comparative Criminology*, 50(1), 88-100.
- Anglin, M. (1988). The efficacy of civil commitment in treating narcotic addiction. In D. Leukefeld & F. Tims, (Eds.) *Compulsory Treatment of Drug Abuse: Research and Clinical Practice*. Rockville, MD: National Institute on Drug Abuse, Division of Clinical Research.
- Anglin, M., Prendergast, M., & Farabee, D. (1998). "The Effectiveness of Coerced Treatment for Drug Abuse Offenders." Paper presented at the Office of National Drug Control Policy's Conference of Scholars and Policy Makers, Washington, D.C., March 23-25, 1998.
- Anton, R., O'Malley, S., Ciraulo, D., Cisler, R., Couper, D., Donovan, D., Gastfriend, D., Hosking, J., Johnson, B., LoCastro, J., et al. (2006). Combined pharmacotherapies and behavioral interventions for alcohol dependence. *The Journal of the American Medical Association*, 295(17), 2003-2017.

- Arias, A., & Kranzler, H. (2008). Treatment of co-occurring alcohol and other drug use disorders. *Alcohol Research and Health*, 31(2), 155-167.
- Baker, S., Braver, E., Chen, L., Li, G., & Williams, A. (2002). Drinking histories of fatally injured drivers. *Injury Prevention*, 8(3), 221-226.
- Beck, A. (1993). *Cognitive Therapy and the Emotional Disorders*. New York: Penguin..
- Beck, K., Rauch, W., Baker, E., & Williams, A. (1999). Effects of alcohol interlock license restrictions on drivers with multiple alcohol offenses: A random trial in Maryland. *American Journal of Public Health*, 89, 1696-1700.
- Beirness, D. (2001). *Best Practices for Alcohol Interlock Programs*. Ottawa: Traffic Injury Research Foundation.
- Beirness, D., Simpson, H., & Mayhew, D. (1998). Programs and policies for reducing alcohol-related motor vehicle deaths and injuries. *Contemporary Drug Problems*, 25, 553-578.
- Berglund, M., Thelander, S., Salaspuro, M., Franck, J., Andreasson, S., & Ojehagen, A. (2003). Treatment of alcohol abuse: An evidence-based review. *Alcoholism: Clinical and Experimental Research*, 27(10), 1645-1656.
- Blincoe, L., Seay, A., Zaloshnja, E., Miller, T., Romano, E., Luchter, S., & Sipcer, R. (2002). *The Economic Impact of Motor Vehicle Crashes 2000*. DOT HS 809 446. Washington, D.C.: U.S. Department of Transportation (National Highway Traffic Safety Administration).
- Bock, S. (2003). Michigan DOC Runs BETA test of New Remote Transdermal Alcohol Monitoring System. *The Journal of Offender Monitoring*, Winter/Spring 2003, 2-6.
- Borkenstein, R. (1975). Problems of enforcement, adjudication and sanctioning. In: S. Israelstam & S. Lambert (Eds), *Alcohol, Drugs And Traffic Safety*. pp. 655-662. Toronto: Addiction Research Foundation of Ontario.
- Bouffard, J., & Richardson, K. (2007). The effectiveness of drug court programming for specific kinds of offenders. *Criminal Justice Policy Review*, 18(3), 274-293.
- Bouffard, J., Richardson, K., & Franklin, T. (2010). Drug courts for DWI offenders? *Journal of Criminal Justice*, 38(1), 25-33.
- Breckenridge, J., Winfree, L., Maupin, J., & Clason, D. (2000). Drink drivers, DWI "drug court" treatment, and recidivism: Who fails? *Justice Research and Policy*, 2(1), 87-105.
- Brown, T., Ouimet, M., Nadeau, L., Gianoulakis, C., Lepage, M., Tremblay, J., & Dongier, M. (2009). From the brain to bad behaviour and back again: Neurocognitive and psychobiological mechanisms of driving while impaired by alcohol. *Drug and Alcohol Review*, 28(4), 406-418.
- Brown, T., Dongier, M., Ouimet, M., Tremblay, J., Chanut, F., Legault, L., & Ng Ying Kin, N. (2010). Brief motivational interviewing for DWI recidivists who abuse alcohol and are not participating in DWI intervention: a randomized controlled trial. *Alcoholism: Clinical and Experimental Research*, 34(2), 292-301.
- Carroll, K. (1996). Relapse prevention as a psychosocial approach: A review of controlled clinical trials. *Experimental Clinical Psychopharmacology*, 4, 46-54.

- Carroll, K. (1998). *A Cognitive-Behavioral Approach: Treating Cocaine Addiction. Therapy Manuals for Drug Addiction*, Manual 1. NIH Pub. No. 98-4308. Rockville, MD: National Institute on Drug Abuse.
- Castle, S., Thompson, J., Spataro, J., Sewell, C., Flint, S., Scirmer, J., Justice, M., & Lacey, J. (1995). Early evaluations of a statewide sobriety checkpoint program, *Proc. 39th Annual AAAM*, 65-78.
- Chanut, F., Brown, T., & Dongier, M. (2005). Motivational interviewing and clinical psychiatry. *Canadian Journal of Psychiatry*, 50(9), 548-555.
- Clark, M. (2001). Influencing positive behavior change: Increasing the therapeutic approach of juvenile courts. *Federal Probation*, 65(1), 18-27.
- Coben, J., & Larkin, G. (1999). Effectiveness of Ignition Interlock Devices in Reducing Drunk Driving Recidivism. *American Journal of Preventative Medicine*, 16(1S): 81-87.
- Connors, G., & Volk, R. (2003). Self-report screening for alcohol problems among adults. In: *National Institute on Alcohol Abuse and Alcoholism (NIAAA) Assessing Alcohol Problems: A guide for clinicians and researchers (2nd ed)*. U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. 22-35. Available online: <http://pubs.niaaa.nih.gov/publications/Assessing%20Alcohol/index.htm>
- D'Onofrio, G., & Degutis, L. (2002). Screening and brief intervention for alcohol problems in the emergency department: A systematic review. *Academic Emergency Medicine*, 9, 627-638.
- DeMichele, M. (2007). *Probation and Parole's Growing Caseloads and Workload Allocation: Strategies for Managerial Decision Making*. Lexington, KY: American Probation and Parole Association.
- Dill, P., & Wells-Parker, E. (2006). Court-mandated treatment for convicted drunk drivers. *Alcohol Research and Health*, 29(1), 41-48.
- Division of Community Corrections (2000). *Annual Report Fiscal Year 1999-2000*. Department of Correction, State of North Carolina.
- Dunlap, K., Mullins, T., & Stein, M. (2008). *Guidelines for Community Supervision of DWI Offenders*. Lexington, KY: American Probation and Parole Association (APPA).
- Elder, R., Shults, R., Sleet, D., Nichols, J., Zaza, S., & Thompson, R. (2002). Effectiveness of sobriety checkpoints for reducing alcohol-involved crashes. *Traffic Injury Prevention*, 3(4), 266-274.
- Elvik, R. (1999) *Cost-benefit analysis of safety measures for vulnerable and inexperienced road users*. Work package 5 of EU-project PROMISING. Report 435. Institute of Transport Economics, Oslo.
- European Road Safety Observatory. (2006). *Cost-benefit analysis*. Available online: http://ec.europa.eu/transport/road_safety/specialist/knowledge/measures/cost_benefit_analysis/index.htm
- Federal Bureau of Investigation (2010). *Uniform Crime Reports*. <http://www.fbi.gov/about-us/cjis/ucr/ucr>

- Federal Bureau of Investigation (FBI) (2010). *Uniform Crime Statistics: 2009*. Available online: <http://www2.fbi.gov/ucr/cius2009/index.html>
- Fell, J., Lacey, J., & Voas, R. (2004). Sobriety checkpoints: Evidence of effectiveness is strong, but use is limited. *Traffic Injury Prevention*, 5(3), 220-227.
- Fell, J., Tippetts, S., & Langston, E. (2011). *An Evaluation of Three Georgia DUI Courts*. DOT HS 811 450. Washington, D.C.: Department of Transportation. Available online: <http://www.nhtsa.gov/staticfiles/nti/pdf/811450.pdf>
- Flango, V. (2004). *DWI Courts: The Newest Problem-Solving Courts*. National Center for State Courts. Available online: http://www.ncsconline.org/WC/Publications/KIS_ProSol_Trends04-DWI.pdf
- Flango, V., & Cheesman, F. (2009). The effectiveness of the SCRAM alcohol monitoring device: A preliminary test. *Drug Court Review*, 6(2), 109-134.
- Fleming, M., Mundt, M., French, M., Manwell, L., Staauffacher, E., & Barry, K. (2002). Brief physician advice for problem drinkers: Long-term efficacy and cost-benefit analysis. *Alcoholism: Clinical and Experimental Research*, 26(1), 36-43.
- Fuller, R., & Gordis, E. (2004). Does Disulfiram have a role in alcoholism treatment today? *Addiction*, 99(1), 21-24.
- Fuller, B., Carey, S., & Kissick, K. (2008). *Michigan DUI Courts Outcome Evaluation: Final Report*. Portland: NPC Research.
- Garbutt, J., Kranzler, H., O'Malley, S., Gastfriend, D., Pettinati, H., Silverman, B., Loewy, J., & Ehrich, E. (2005). Efficacy and tolerability of long-acting injectable Naltrexone for alcohol dependence. *The Journal of the American Medical Association*, 293(13), 1617-1625.
- Gendreau, P., & Andrews, D. (1990). Tertiary prevention: What the meta-analysis of the offender treatment literature tells us about "what works." *Canadian Journal of Criminology*, 32(1), 173-184.
- Gerstein, D., Johnson, R., Harwood, H., Fountain, D., Suiter, N., & Malloy, K. (1994). *Evaluating Recovery Services: The California Drug and Alcohol Treatment Assessment (CALDATA)*. Sacramento: California Department of Alcohol and Drug Problems.
- Gerwin, C. (Spring 1998). Crime and consequences. *Commonwealth Magazine*.
- Glaze, L., & Bonczar, T. (2010). Probation and parole in the United States, 2009. *Bureau of Justice Statistics Bulletin*. Available online: <http://bjs.ojp.usdoj.gov/content/pub/pdf/ppus09.pdf>
- Governors Highway Safety Association (GHSA) (2010). *Sobriety Checkpoint Laws*. Retrieved from: http://ghsa.org/html/stateinfo/laws/checkpoint_laws.html
- Griffin III, L., & DeLaZerda, S. (2000). *Unlicensed to Kill*. Washington, D.C.: AAA Foundation for Traffic Safety.
- Guerin, P. (2002). *Evaluation of the Bernalillo County Metropolitan DWI/Drug Court*. University of New Mexico Institute for Social Research, Center for Applied Research and Analysis.

- Henderie, D., Cooper, L., Ryan, G., & Kirov, C. (1998). *Review of the Random Breath Testing Program in Western Australia in 1996-1997*. Nedlands, Western Australia: Road Accident Prevention Research Unit, Department of Public Health, University of Western Australia.
- Hiller, M., & Saum, C. (2009). *Waukesha Alcohol Treatment Court (WATC)*. Philadelphia: Temple University.
- Hingson, R. (1995). Environmental strategies to reduce chronic driving while intoxicated. *Transportation Research Circular*, 437, 25-32.
- Holder, H., Cisler, R., Longabaugh, R., Stout, R., Treno, A., & Zweben, A. (2000). Alcoholism treatment and medical care costs from Project MATCH. *Addiction*, 95, 999-1013.
- Homel, R., Carseldine, D., & Kearns, I. (1998). Drink-driving countermeasures in Australia. *Alcohol, Drugs, Driving*, 4, 113-144.
- Impaired Driving Subcommittee (2006). *Impaired Driving Guidebook: Three Keys to Renewed Focus and Success*. Washington, D.C.: National Highway Traffic Safety Administration.
- International Council on Alcohol, Drugs, and Traffic Safety (ICADTS) Working Group on Alcohol Ignition Interlocks (2001). *Alcohol Ignition Interlock Device Position Paper*. Available online: www.icadts.org/alcoholinterlockreport.pdf
- Johnson, B., Rosenthal, N., Capece, J., Wiegand, F., Mao, L., Beyers, K., McKay, A., Ait-Daoud, N., Anton, R., Ciraulo, D., Kranzler, H., et al. (2007). Topiramate for treating alcohol dependence. *The Journal of the American Medical Association*, 298(14), 1641-1651.
- Jones, R., & Joscelyn, K. (1978). *Alcohol and Highway Safety: A Review of the State of the Knowledge*. Technical Report DOT HS 803714. Washington, D.C.: National Highway Traffic Safety Administration.
- Jones, R., Lacey, J., & Wiliszowski, C. (1998). *Problems and Solutions in DWI Enforcement Systems*. Washington, D.C.: U.S. Department of Transportation.
- Kiefer, F., Jahn, H., Tarnaske, T., Helwig, H., Briken, P., Holzbach, R., Kampf, P., Stracke, R., Baehr, M., Naber, D., & Wiedemann, K. (2003). Comparing and combining Naltrexone and Acamprosate in relapse prevention of alcoholism. *Archives of General Psychiatry*, 60(1), 92-99.
- Knight, K., Simpson, D., & Hiller, M. (2002). Screening and referral for substance-abuse treatment in the criminal justice system. In: C. Leukefeld, F. Tims, & D. Farabee, (Eds). *Treatment of Drug Offenders: Policies and Issues*, pp. 259-272. New York: Springer.
- Lacey, J., Jones, R., & Smith, R. (1999). *Checkpoint Tennessee: Tennessee's Statewide Sobriety Checkpoint Program*. DOT HS 808 841. Washington, D.C.: National Highway Safety Administration.
- Lacey, J., Ferguson, S., Kelley-Baker, T., & Rider, R. (2006). Low-manpower checkpoints: Can they provide effective DUI enforcement in small communities? *Traffic Injury Prevention*, 7(3), 213-218.
- Lapham, S., Smith, E., C'de Baca, J., Chang, I., Skipper, B., & Baum, G. (2001). Prevalence of psychiatric disorders among persons convicted of driving while impaired. *Archives of General Psychiatry*, 58, 943-949.

- Latessa, E., & Lowenkamp, C. (2005). What are criminogenic needs and why are they important? *For the Record (fourth quarter)*.
- Longabaugh, R., & Morgenstern, J. (1999). Cognitive-behavioral coping-skills therapy for alcohol dependence. *Alcohol Research and Health*, 23, 78-85.
- MacDonald, J., Morral, A., Raymond, B., & Eibner, C. (2007). The efficacy of the Rio Hondo DUI court. *Evaluation Review*, 31, 4-23.
- Mann, K., Leher, P., & Morgan, M. (2004). The efficacy of Acamprosate in the maintenance of abstinence in alcohol-dependent individuals: results of a meta-analysis. *Alcoholism: Clinical and Experimental Research*, 28(1), 51-63.
- Marlowe, D., Festinger, D., Arabia, P., Croft, J., Patapis, N., & Dugosh, K. (2009). A systematic review of DWI court program evaluations. *Drug Court Review*, 6(2), 1-52. Available online: www.ndci.org/sites/default/files/ncdc/DCR%2C%20Vol.%206%2C%20No.%202.pdf
- Marques, P., Tippetts, A., Voas, R., & Beirness, D. (2001). Predicting repeat DWI offenses with the alcohol interlock recorder. *Accident Analysis and Prevention*, 33(5), 609-619.
- Marques, P., Voas, R., & Tippetts, A. (2003). Behavioral measures of drinking: Patterns in the interlock data. *Addiction*, 98 (Suppl. 2), 13-19.
- Maruschak, L. (1999). *DWI Offenders Under Correctional Supervision*. Washington, D.C.: Bureau of Justice Statistics.
- Mayhew, D., Simpson, H., & Singhal, D. (2005). *Best Practices for Graduated Licensing in Canada*. Ottawa: Traffic Injury Research Foundation.
- McCartt, A., Geary, L., & Berning, A. (2003). Observational study of the extent of driving while suspended for alcohol impaired driving. *Injury Prevention*, 9, 122-137.
- McCubbin, T. (2001). *2000 Annual Report*. Franklin County Probation Department and DUI Unit.
- McKay, M. (2010). Commentary: Women and alcohol: increasingly willing to drive while impaired. *Annals of Emergency Medicine*, 55, 211-214.
- McKelvie, A. (2004). *Anchorage Wellness Court Summary of Facts: 2003 Update*. Anchorage: Justice Center, University of Alaska.
- McKelvie, A. (2005). *An Implementation of Remote Alcohol Monitoring in Alaska*. Anchorage: The Alaska Justice Statistical Analysis Center, University of Alaska.
- Mercer, G., Cooper, P., & Kristiansen, L. (1996). A cost-benefit analysis of a 5-month intensive alcohol-impaired driving road check campaign, *Proc. 40th Annual AAAM*, 283-292.
- Miller, T., Galbraith, M., & Lawrence, B. (1998). Costs and benefits of a community sobriety checkpoint program. *Journal of Studies on Alcohol*, 59(4), 462-468.
- National Center for DWI Courts (NCDC) (2010). *About DWI courts*. Retrieved from: <http://www.dwicourts.org/learn/about-dwi-courts>
- National Center for DWI Courts (NCDC) (2010). *FAQs*. Retrieved from: <http://www.dwicourts.org/learn/faqs>

- National Center for DWI Courts (NCDC) (2010). *Talking points*. Retrieved from: <http://www.dwicourts.org/resources/talking-points>
- National District Attorneys Association (NDAA) (2011). *National Traffic Law Center: Resources*. Retrieved from: http://ndaa.org/ntlc_resources.html
- National Highway Traffic Safety Administration (NHTSA) (2002). *Saturation Patrols and Sobriety Checkpoints Guide: A How-to Guide for Planning and Publicizing Impaired Driving Enforcement Efforts*. DOT HS 809 063. Washington, D.C.: U.S. Department of Transportation. Available online: http://www.nhtsa.gov/people/injury/alcohol/saturation_patrols/satpats2002.pdf
- National Highway Traffic Safety Administration (NHTSA) (2004). *Strategies for Addressing the DWI Offender: 10 Promising Sentencing Practices – A compendium of promising sentencing practices proposed at the NHTSA National DWI Sentencing Summit at the National Judicial College, March 15-16, 2004*. DOT HS 809 850. Washington, D.C.: U.S. Department of Transportation. Available online: <http://www.nhtsa.gov/people/injury/enforce/promisingsentence/images/10Promising.pdf>
- National Highway Traffic Safety Administration (NHTSA) (April 2004). *Traffic Safety Facts: Repeat Intoxicated Driver Laws*. Washington, D.C.: U.S. Department of Transportation.
- National Highway Traffic Safety Administration (NHTSA) (2007). *Traffic Safety Resource Prosecutor's Manual*. DOT HS 810 706. Washington, D.C.: U.S. Department of Transportation.
- National Highway Traffic Safety Administration (NHTSA) (2008). *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Offices* (3rd ed.). DOT HS 810 891. Washington, D.C.: U.S. Department of Transportation.
- National Highway Traffic Safety Administration (NHTSA) (2009). *Traffic Safety Facts 2008*. DOT HS 811 155. Washington, D.C.: U.S. Department of Transportation.
- National Highway Traffic Safety Administration (NHTSA) (2010). *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway of Offices* (5th ed.). DOT HS 811 258. Washington, D.C.: U.S. Department of Transportation.
- National Highway Traffic Safety Administration (NHTSA) (2010). *Traffic Safety Facts. 2009 Data: Alcohol Impaired Driving*. DOT HS 811 385. Washington, D.C.: U.S. Department of Transportation.
- National Institute on Alcohol Abuse and Alcoholism (NIAAA) (2000). *10th Special Report to the U.S. congress on Alcohol and Health: Highlights from Current Research*. Available online: <http://pubs.niaaa.nih.gov/publications/10report/intro/pdf>
- National Institute on Alcohol Abuse and Alcoholism (NIAAA) (2005). *Helping Patients Who Drink Too Much: A Clinician's Guide Updated 2005*. Available online: <http://pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/guide.pdf>
- Neito, M. (1996). *The Changing Role of Probation in California's Criminal Justice System*. California Research Bureau.
- Office of Probation Services (2000). *Colorado Probation: Commitment to Performance through Improvement and Innovation – 2000 Annual Report*. Colorado Judicial Branch.

- Ouimet, M., Brown, T., Nadeau, L., Lepage, M., Pelletier, M., Courture, S., & Ng Ying Kin, N. (2007). Neurocognitive characteristics of DUI recidivists. *Accident Analysis & Prevention*, 39(4), 743-750.
- Paparozzi, M., & Lowenkamp, C. (2000). To be or not to be – a profession. That is the question for corrections. *Corrections Management Quarterly*, 4(2), 9-16.
- Paparozzi, M., & Hinzman, G. (2005). Caseload size in probation and parole. Question: Is there an ideal size? Answer: Yes, but only if results matter. *Perspectives*, 29(2), 23-25.
- Petersilia, J. (1997). Probation in the United States: Practices and Challenges. *National Institute of Justice Journal*, 233, 2-8. Available online: <http://www.ncjrs.gov/pdffiles/jr000233.pdf>
- Poldrugo, F. (1997). Acamprosate treatment in a long-term community rehabilitation programme. *Addiction*, 92(11), 1537-1546.
- Project MATCH Research Group (1997). Matching alcoholism treatment to client heterogeneity: Project MATCH post treatment drinking outcomes. *Journal of Studies on Alcohol*, 58, 7-29.
- Raub, R., Lucke, R., & Wark, R. (2003). Breath alcohol ignition interlock devices: Controlling the recidivist. *Traffic Injury Prevention*, 4, 199-205.
- Rauch, W. (2005). Does Alcohol-Impaired Driving Recidivism Among First Offenders More Closely Resemble that of Multiple Offenders? Presented at the 6th International Alcohol Interlock Symposium, Annecy, France, September 25-27. Traffic Injury Research Foundation.
- Rivara, F., Dunn, C., & Deroo, L. (2000). The use of brief interventions adapted from motivational interviewing across behavioral domains: a systematic review. *Addiction*, 96(12), 1725-1742.
- Robertson, R., & Simpson, H. (2003). *DWI System Improvements for Dealing with Hard Core Drinking Drivers: Monitoring*. Ottawa: Traffic Injury Research Foundation.
- Roberston, R., Vanlaar, W., & Simpson, H. (2006a). *Continuous Transdermal Alcohol Monitoring: A Primer for Criminal Justice Professionals*. Ottawa: Traffic Injury Research Foundation.
- Roberston, R., Vanlaar, W., & Simpson, H. (2006b). *Ignition Interlocks From Research to Practice: A Primer for Judges*. Ottawa: Traffic Injury Research Foundation.
- Robertson, R., Simpson, H., & Parsons, P. (2008). *Screening, Assessment, and Treatment of DWI Offenders: A Guide for Justice Professionals and Policy Makers*. Ottawa: Traffic Injury Research Foundation.
- Ross, H. (1992). *The Deterrent Capability of Sobriety Checkpoints: Summary of the American Literature*. DOT HS 807 862. Washington, D.C.: National Highway Traffic Safety Administration.
- Ross, H., & Gonzales, P. (1988). The effect of license revocation on drunk-driving offenders. *Accident Analysis and Prevention*, 20(5), 379-391.
- Roth, R. (2010). *Estimates of Currently Installed Interlocks in the U.S.* (<http://rothinterlock.org/presentations.htm>)

- Sakai, J., Mikulich-Gilbertson, S., Long, R., & Crowley, T. (2006). Validity of transdermal alcohol monitoring: Fixed and self-regulated dosing. *Alcoholism: Clinical and Experimental Research*, 30(1), 26-33.
- Scopatz, B. (2008). *The National Agenda: A System to Fight Hardcore DWI*. The Century Council. Available online: <http://www.centurycouncil.org/files/material/files/HardcoreDrunkDrivingSourcebook.pdf>
- Scott, C., Dennis, M., & Foss, M. (2005). Utilizing recovery management check-ups to shorten the cycle of relapse, treatment re-entry, and recovery. *Drug and Alcohol Dependence*, 78(3), 325-338.
- Shults, R., Elder, R., Sleet, D., Nichols, J., Alao, M., Carande-Kulis, V., Zaza, S., Sosin, D., & Thompson, R. (2001). Reviews of evidence to reduce alcohol-impaired driving. *American Journal of Preventative Medicine*, 21(4), 66-88.
- Simpson, H., & Mayhew, D. (1991). *The Hard Core Drinking Driver*. Ottawa: Traffic Injury Research Foundation.
- Simpson, H., Mayhew, D., & Beirness, D. (1996). *Dealing with the Hard Core Drinking Driver*. Ottawa: Traffic Injury Research Foundation.
- Srisurapanont, M., & Jarusuraisin, N. (2005). Naltrexone for the treatment of alcoholism: A meta-analysis of randomized controlled trials. *International Journal of Neuropsychopharmacology*, 8(2), 267-280.
- Stuster, J., & Blowers, M. (1995). *Experimental Evaluation of Sobriety Checkpoint Programs*. DOT HS 808 287. Washington, D.C.: National Highway Traffic Safety Administration.
- Substance Abuse and Mental Health Services Administration (SAMHSA) (2005). *Substance abuse treatment for adults in the justice system: A treatment improvement protocol TIP 44*. Washington, D.C.: U.S. Department of Health and Human Services. Available online: <http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=hssamhsatip&part=A80017>
- Taxman, F., Young, D., & Byrne, J. (2003). Transforming offender re-entry into public safety: Lessons from OJP's re-entry partnership initiative. *Justice Research and Policy*, 5(2), 101-128.
- Taxman, F., Shepardson, E., Byrne, J., Gelb, A., & Gornik, M. (2004). *Tools of the Trade: A Guide to Incorporating Science into Practice*. National Institute of Corrections, U.S. Department of Justice, Maryland Department of Public Safety and Correctional Services. Available online: <http://www.nicic.org/pubs/2004/020095.pdf>
- Taxman, F. (2007). "Treatment: The What Works Literature." Paper presented at the 4th Annual Meeting of the Working Group on DWI System Improvements, Williamsburg, VA, March 4-6, 2007.
- Taxman, F., Perdoni, M., & Harrison, L. (2007). "Treatment for Adult Offenders: The State of the State," *Journal of Substance Abuse Treatment*, 32(3), 239-254.
- Tippetts, A., & Voas, R. (1997). The effectiveness of the West Virginia interlock program on second drunk-driving offenders. In: C. Mercier-Guyon (Ed.), *Alcohol, Drugs, and Traffic Safety – T97. Proceedings of the 14th International Conference on Alcohol, Drugs, and Traffic Safety*. Annecy, France, September 21-26, 1997. Annecy: CERMT, Vol. 1, 185-192.

- Vezina, L. (2002). The Quebec alcohol interlock program: Impact on recidivism and crashes. In: D. Mayhew & C. Dussault (Eds.), *Alcohol, Drugs, and Traffic Safety – T2002. Proceedings of the 16th International Conference on Alcohol, Drugs, and Traffic Safety*. Montreal, August 4-9, 2002. Quebec City: Societe de l'assurance automobile du Quebec, 97-104.
- Voas, R., & Fisher, D. (2001). Court procedures for handling intoxicated drivers. *Alcohol Research and Health*, 25(1), 32-42.
- Voas, R. & Hause, J. (1987). Deterring the drinking driver: The Stockton experience. *Accident, Analysis, and Prevention*, 19(2), 81-90.
- Voas, R. & Marques, P. (2003). Commentary: Barriers to interlock implementation. *Traffic Injury Prevention*, 4(3), 183-187.
- Voas, R., Marques, P., Tippetts, A., & Beirness, D. (1999). The Alberta interlock program: The evaluation of a province-wide program on DUI recidivism. *Addiction*, 94(12), 1849-1859.
- Vyas, Y. (1995). Alternatives to imprisonment. *Criminal Law Forum*, 6(1), 73-102.
- Wells, J., Green, M., Foss, R., Ferguson, S., & Williams, A. (1997). Drinking drivers missed at sobriety checkpoints. *Journal of Studies on Alcohol*, 58, 513-517.
- Wells-Parker, E., & Williams, M. (2002). Enhancing the effectiveness of traditional interventions with drinking drivers by adding brief intervention components. *Journal of Studies on Alcohol*, 63(6), 655-664.
- Whitten, L. (2006). Court-mandated treatment works as well as voluntary, *NIDA Notes*, 20(6). Available online: http://archives.drugabuse.gov/NIDA_notes/NNvol20N6/Court.html
- Wilk, A., Jensen, N., & Havighurst, T. (1997). Meta-analysis of randomized control trials addressing brief intervention in heavy alcohol drinkers. *Journal of Internal Medicine*, 12(5), 274.
- Williams, D., Simmons, P. & Thomas, A. (2000). Predicting DUI recidivism following an alcohol safety action program. *Journal of Offender Rehabilitation*, 32, 129-145.
- Willis, C., Lybrand, S., & Bellamy, N. (2005). Alcohol ignition interlock programmes for reducing drink driving recidivism (review). *The Cochrane Database of Systematic Reviews*, 18(4), 6-10.
- World Health Organization (WHO) (2010). *Screening and brief intervention for alcohol problems in primary health care*. Retrieved from: http://www.who.int/substance_abuse/activities/sbi/en/



Traffic Injury Research Foundation (TIRF)
171 Nepean Street, Suite 200
Ottawa, Ontario
Canada K2P 0B4

www.tirf.ca
Toll Free: 1-877-238-5235
Fax: 613-238-5292

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