U.S. Department
of Transportation
National Highway
Traffic Safety
Administration

NHTSA

DOT HS 812 445

August 2017

Interlock Data Utilization

DISCLAIMER

This research was supported by the National Highway Traffic Safety Administration, under Contract No. DTNH 22-06-D-00035, Task 21. This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its content or use thereof. If trade or manufacturers' names or products are mentioned, it is because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Suggested APA Format Citation:

Taylor, E., Voas, R., Marques, P, McKnight, S. & Atkins, R. (2017, August). *Interlock data utilization* (Report No. DOT HS 812 445). Washington, DC: National Highway Traffic Safety Administration.

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
DOT HS 812 445		

4. Title and Subtitle	5. Report Date
Interlock Data Utilization	August 2017
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Eileen Taylor, Robert Voas, Paul Marques, McKnight, S. (PIRE), Randolph Atkins (NHTSA)	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
Pacific Institute for Research and Evaluation (PIRE) 11720 Beltsville Drive, Suite 900 Calverton, MD 20705-3111	11. Contract or Grant No. DTNH 22-06-D-00035, Task 21

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
National Highway Traffic Safety Administration 1200 New Jersey Avenue, SE Washington, DC 20590	FINAL REPORT
	14. Sponsoring Agency Code

15. Supplementary Notes

Randolph Atkins was the Contracting Officer's Representative for NHTSA.

16. Abstract

The objectives of this exploratory study were to determine (a) how ignition interlock data is used for DWI offender monitoring and offender-related programs, such as screening, assessments, and treatment for alcohol abuse problems; and (b) if the interlock data can be used effectively to reduce alcohol-impaired driving recidivism. The objectives were met by identifying nine States with large numbers of interlocks in use including two States that use interlock data in systematic or unique ways. The nine States selected for study were Arizona, Colorado, Florida, Illinois, Maryland, North Carolina, New Mexico, Texas, and Washington. Discussions were conducted with a variety of key interlock informants in each State, and site visits were made to two States (Florida and Colorado). Short descriptions of interlock program practices from other States are featured, as well. Additional information was compiled from public sources and interlock publications.
This report:

- Describes the uses of data that logged onto the alcohol-ignition-interlock device recorder to monitor driving by DWI offenders and explores the issues surrounding the best use of this data.
- Examines the procedures for using the data from both court-based and administrative-based interlock programs and the use of this data to monitor, sanction, and extend the interlock installation period.
- Compares the similarities and differences in how States, courts, and interlock companies define a violation and the combination of violations that trigger an interlock extension or consequence.
- Explores the issues created by the variety of violation report formats and violation definitions that ultimately affect the use of the data.
- Identifies the challenges and trends related to managing, interpreting, monitoring, and using interlock recorder data to make informed decisions about a DWI offender's readiness to come off the interlock.
- Features two States in detail, Florida and Colorado, describing their uses of the interlock recorder data in treatment settings.
- Describes various ways in which the interlock data can be analyzed effectively to track and evaluate program success.
- Compiles a list of issues that prevent more effective use of the interlock data and potential remedies, including options that new device and software technology might allow.

17. Key Words	18. Distribution Statement
Ignition interlock devices, alcohol treatment, interlock data reports, evaluation, DWI recidivism	Document is available to the public from the National Technical Information Service, www.ntis.gov.

19 Security Classif. (of this report)	20. Security Classif. (of this page)	21 No. of Pages	22. Price
Unclassified	Unclassified	269	

Executive Summary

Background

Driving-while-impaired (DWI) offenders present a high risk to themselves and other highway users. Drivers convicted of DWI are 4.1 times more likely to be involved in a fatal crash while intoxicated by alcohol than are average licensed drivers (Hedlund & Fell, 1995). Up to 40 percent of all fatally injured drinking drivers are estimated to have had at least one prior DWI offense (Simpson, 1995; Vingilis, Stoduto, Macartney-Filgate, Liban, & McLellan, 1994). It is estimated that the United States could be saving 800 lives per year if all convicted drinking drivers were prevented from being involved in a fatal crash (Lund, McCartt, & Farmer, 2007). Vehicle alcohol-ignition-interlock programs have proven to be one of the most effective methods for reducing recidivism among convicted DWI offenders. In two meta-analyses (Elder et al., 2011; Willis, Lybrand, & Bellamy, 2004) of the large number of interlock evaluation studies conducted, the authors have concluded that interlocks, while on the offenders' vehicles, reduce recidivism by two thirds. As of 2012, all U.S. States have provisions for interlock programs in their laws, and, in 2013, approximately 313,400 interlocks were in use covering about 20 percent of convicted impaired drivers (Roth, 2013).

Chapter 1. Objectives and Methods

The objectives of this exploratory, descriptive study were to determine (a) how ignition interlock data are being used for DWI offender monitoring and offender-related programs, such as screening, assessments, and treatment for alcohol abuse problems; and (b) if the interlock data can be used effectively to reduce alcohol-impaired-driving recidivism.

We identified nine States with large numbers of interlocks in use for inclusion in this study. The nine States selected were Arizona, Colorado, Florida, Illinois, Maryland, North Carolina, New Mexico, Texas, and Washington. Florida and Colorado were selected for site visits due to their use of interlock data in systematic or unique ways, with a particular interest in jurisdictions that link the data with the treatment needs of interlock users and the consequences for non-compliance. Short descriptions of noteworthy interlock practices from several other States are described, as well.

A Discussion Guide (Appendix A) was developed for use in discussions with key interlock informants and for site visits. The discussion guide topics covered procedures and issues related to the use of and access to interlock log data, interlock data definitions and report formats, interlock violation definitions and consequences, vendor roles, links to treatment, barriers to better use of the data, ideas for more effective use of the data, and suitability of data for future outcome studies. Additional information on the uses of interlock data was compiled from public sources, such as department of motor vehicles' (DMVs') websites and interlock-related publications by NHTSA and others.

The information collected was used to develop an *Interlock Data Use Profile* for each State (Appendix B). Each profile provides an overview of the interlock laws and data use highlights, including monitoring procedures by court and driver-licensing agency personnel, data-sharing issues, vendor roles, and suggestions by key informants for better use of the data. Previous or pending interlock evaluations are also described. Useful examples and sample forms from the States are included in additional appendices.

Information from the nine States' *Interlock Data Use Profiles* was used to organize topics into chapters and tables to examine common and different practices related to uses of the data for monitoring, reporting, and sanctioning among the various users of the data as well as challenges related to the variations in data report formats. Violation definitions among interlock vendors and States and courts were identified and as were barriers to more simultaneous use of the interlock report data and treatment. A summary of issues by category was developed, followed by a list of recommendations suggested by the findings or available remedies.

Chapter 2. History, Status, and Effectiveness of Interlock Programs

The alcohol ignition interlock is designed to control offenders who drive while impaired by alcohol. While installed on a vehicle, an interlock prevents the engine from starting until the driver blows into a sensor, providing a breath sample that registers a breath alcohol concentration (BrAC) of less than a predetermined lockout level. Since interlocks first began to come into general use by the courts in the 1990s, numerous evaluation studies have determined that interlock programs produce reductions ranging from 40 to 90 percent in DWI recidivism, relative to non-interlock controls, while the devices are installed (Beirness & Marques, 2004; Elder et al., 2011). The major limitation on the effectiveness of the interlock is that, with rare exceptions, the benefits are limited to the period that the interlock is installed on the offenders' vehicles. However, there is still an overall net interlock safety benefit when combining both the on-interlock and post-interlock periods (NHTSA, 2010a). NHTSA summarized the status of interlock programs in its December 2007 report to Congress by indicating that they are effective in reducing impaired-driving arrests, but noting that their benefits disappear following interlock removal (Compton & Hedlund, 2007).

In a typical year on an interlock program, an interlock device stores approximately 2,500 BrAC tests. The patterning of the tests by hours of the day is remarkably similar across jurisdictions in the United States and Canada (Marques & Voas, 2005). Three interlock measures have been shown to predict future recidivism: the percentage of all breath tests that are positive, the number of vehicle lockouts, and the percentage of morning tests from 7 to 9 a.m. that are positive for alcohol. These findings have led a number of States to use the interlock recorder data in two ways: to extend the time on the interlock for users with a high number of interlock violations, and to a much lesser extent, to use of interlock performance to trigger a requirement for attendance at a treatment program.

From the initiation of interlock programs, States have had to establish procedures to prevent or at least detect and sanction egregious procedural violations, such as intentional circumvention of the interlock device. States have varied; however, in how they act on the reported BrAC test information. Some courts and States with programs that require abstinence have used the interlock recorder as one method for detecting drinking. Most States have used the interlock

record primarily to detect users who are having a problem adjusting to the device, as evidenced by continued lockouts. The time on the interlock of such offenders is generally extended in an effort to force them to adjust their drinking and driving to avoid lockouts. To date, there has been only one study on the significance of monitoring user performance. Zador et al. (2011) in a Maryland study showed that regular feedback to the offender on their performance each month, with admonitions for poor performance and congratulations for good performance, reduced lockouts. The persistence of elevated BrAC attempts to start the vehicle is a sign that the users are having difficulty controlling their drinking. Thus, aside from using interlock breath-test data to sanction inappropriate behavior, such data suggest a need for education and/or treatment to assist offenders in gaining control of their drinking. States are therefore beginning to consider linking treatment to interlock programs. However, progress in this area has been slow because traditional treatment programs have been separated from sanction activities. When this study was finalized, three States (South Carolina, Virginia, and West Virginia) were known to have links between interlock violations and treatment requirements; however, only two U.S. jurisdictions (Colorado and Florida) were identified to have programs that fully integrated the use of interlock logs with treatment for alcohol abuse. The programs in these two States are described in Chapter 6.

Chapter 3. Interlock Data Reporting Variations

This chapter reviews some of the history and current considerations in the communication of interlock reports among interlock vendors and the State and court officials and others who use this information. Because 10 to 12 interlock companies are marketing their devices, each with a variety of operational differences, and each State has its own specific requirements for reporting and certifying an average of 5 to 6 interlock vendors, this produces a vast lack of uniformity in reporting. Each vendor issues different report formats—the information arranged differently, sometimes defined differently with various violation filtering methods, and reported via different methods (e.g., online, e-mail, facsimile)—to one or more authorized recipients. This information is received by various groups that monitor DWI offenders on interlocks (e.g., probation, DMV staff, case managers, and a limited number of treatment providers) who have differing levels of training about how to interpret the data.

A multiplicity of factors has produced heterogeneity in interlock data-reporting systems. Among these are variations in State laws or program policies with such basic factors as the definition of the BrAC lockout level. Further complexity for reporting is added by jurisdictions where the device also is used to enforce abstinence, a goal for which the interlock device was not originally intended. Different types of reports required by the various monitoring agencies also add to the complexity of the information system for vendors and monitors alike. More variation has recently been added with the advent of new interlock technology, such as remote and real-time reporting from interlock devices, photo-identity systems that produce a picture for verifying the individual that provides the breath sample, and global positioning systems so that vehicles can be tracked. Efforts have been made to systematize vendor reports to reduce the interpretational burden on monitoring authorities. The need for using standardized definitions in reporting is likely to increase given the approximate 10 percent annual growth in the number of interlocks in use and the increasing richness of the data being collected by interlock devices.

Chapter 4. State Interlock Laws and Performance Standards

This chapter explores the various definitions of interlock violations or combinations of violations that trigger consequences among the States' administrative programs. Consequences are usually an extension of the interlock-installation period of varying lengths; however, there is no strong common trend. Some States seem to recognize that an initial grace period is needed as interlock users learn how the device works and how to avoid lockouts. States also provide for a variety of avenues to appeal interlock extensions. Some unique features of the monitoring schemes are discussed, as well, such as the early release from the interlock requirement for 4 consecutive violation-free months in Colorado and a requirement in Washington that only the final 4 months must be free of breath-test failures.

Current evidence is strong that several measures of interlock performance predict future recidivism (Marques, Tippetts, & Voas, 2003), so it is logical to measure performance and design interventions to apply to poor performers while they are still on the interlock in the hope that it will reduce their future recidivism. Despite the wide use of interlock-performance measures, we have little understanding of the underlying process through which users adapt to the interlock. Although it is generally assumed that they reduce their drinking, biomarker evidence is emerging that alcohol consumption remains constant through the time on the interlock (Marques et al., 2010). If this is the case, it suggests that one reason for the failure of the lower recidivism rates to continue after interlock removal is that offenders can adjust to the interlock without dealing with the drinking problem that resulted in their conviction. Consequently, treatment interventions may be appropriate that can be imposed based on interlock performance. However, the ability to use performance measures in managing DWI offenders will continue to be limited until there is a better understanding of the process that offenders go through in adapting or failing to adapt to driving with an interlock.

Chapter 5. Interlock Data Use Monitoring and Issues

This chapter describes current systems that interlock data monitors can use to access and process interlock data and related issues. It includes a section on court use of interlock data to monitor DWI offenders, as court officials and administrative monitors use these data differently.

In the 2007 expert panel report, *Key Features of Ignition Interlock Programs* (NHTSA, 2010b), identified the need to ensure shared access to interlock reports for government agencies and treatment professionals, but it appears that little information is currently being shared. Advances in information technology, however, have led to the availability of interlock vendor websites that interlock monitors can access with proper authorization to view offender interlock data reports.

Despite the current trend towards automated upload of vendor data to central State databases, the staff resources needed to monitor and verify violations and follow up on appeals is still substantial. The variety of monitoring programs described in this chapter illustrates the lack of consensus on the type of monitoring of interlock data that is most cost-effective for application to an interlock program. When comparing the various State-monitoring methods, costs and staffing levels appear to be affected by the level of vendor involvement in filtering the data for violations and other administrative functions; the more the reliance on vendor filtering and assistance in performing administrative functions, the more costs can be reduced, in most cases.

Vendor filtering of data, however, can introduce many inconsistencies (as described in Chapter 3) and raise questions of conflict of interest.

As the optimum level of supervision remains to be determined, significant differences in the use of interlock data between the States are likely to continue. Several factors appear to be important in determining the extent to which interlock data are used in monitoring: State law or court policy, court and motor vehicle department resources and staffing levels, level of vendor data screening, and the extent to which counseling and treatment programs are integrated with the interlock program. Sometimes turf and cost issues and technical capabilities between the courts and the States' driver-licensing agencies can naturally arise and prevent coordination and data sharing. Neither interlock legislation nor administrative code usually specifies who else may access interlock data, other than the State-monitoring authority and courts. Thus, the ease of getting approval for access to interlock data varies from State to State, court to court, and vendor to vendor, based on various policies and laws including State and Federal Privacy Acts and the Health Insurance Portability and Accountability Act of 1996 (HIPAA) laws.

The use of interlocks and interlock data in a court setting is very different from procedures used by administrative programs. Practices vary widely within and among court jurisdictions among the nine States. Some offenders are court ordered to install an interlock, but are monitored by the driver-licensing authority; others are monitored by the court, usually as a condition of unsupervised or supervised probation.

Even in States that are considered as being mainly administrative interlock jurisdictions, State laws often allow judges to impose the interlock as a court condition of bail, sentence, or probation. Judicial practices related to court-ordered and -monitored interlocks vary, depending on the specifics of the interlock law, the preferences of individual judges, or occasionally according to guidelines developed by court staff. Judicial discretion, rather than standardized imposition of penalties, is favored to allow flexibility to fit the individual circumstances of offenders.

Chapter 6. Interlock Data Use for Referrals and Treatment

A major limitation in the effectiveness of interlock programs is the tendency of interlock users to abandon the controls on their drinking that they developed during interlock installation. As DWI offenders will continue to drive for many years, this lack of a long-term effect is an important problem (Marques & Voas, 2012). It appears that offenders are not dealing with their underlying drinking problem while on the interlock—a possibility which is supported by evidence that users do not reduce their alcohol consumption while in the interlock program (Marques et al., 2010). This suggests the need to combine treatment for alcohol use disorders with the interlock program, a need that has been recognized for some time but rarely has been realized because of the lack of coordination of sanctioning and treatment programs for DWI offenders. This chapter focuses on two states (Florida and Colorado) that have been taking steps to integrate treatment with their interlock programs.

An alcohol education/treatment program is a standard feature of DWI sanctioning programs in all the States. However, treatment programs specifically designed for application to interlock

users are rare. In part, this results from the traditional separation of such programs from direct management by the courts (Voas & Fisher, 2001). Because of this separation, information on the sanctions imposed and the status of the offender's compliance with them may not flow to the treatment provider, and the treatment provider's reports have typically been limited to the offender's attendance at sessions, without significant information on progress in treatment. Only recently, with the growth of DWI courts, have treatment programs been brought into the sanction management process. Despite the support of DWI court organizations, such as the National Association of Drug Court Professionals and National Center for DWI Courts, a number of structural barriers exist that impede the integration of treatment with the interlock. This study revealed that five of the nine States in this study have potential conflicts with combining treatment with the interlock record, either because State requirements for a period of hard suspension delay the interlock beyond the time when treatment is completed or because completion of treatment is required to qualify for installing an interlock.

This chapter provides illustrations of the two basic approaches to applying a treatment intervention to an interlock program: requiring it for all interlock users or providing for interlock performance to determine entry into treatment. The Colorado Interlock Enhanced Counseling (IEC) is an example of a program that plans to treat all participants regardless of their interlock performance (currently, it is one of several options for meeting treatment requirements). IEC is a brief intervention that combines motivational interviewing, cognitive behavioral treatment, and harm reduction. In contrast, the Florida program has implemented a "medical model" of treating only those encountering problems with the interlock. Interlock performance determines the level of intervention, and interlock users who avoid lockouts are not required to participate in treatment as part of their interlock program.

This chapter also highlights a number of issues that arise for treatment providers in using interlock data. To make use of interlock reports, therapists must be trained in how interlocks function, in court or DMV policies, and perhaps most importantly, in how to interpret interlock reports. The latter issue becomes particularly significant if the therapists are required to go to the vendor's website to download information on their clients because of the variations in vendor record formats. Training sessions in the interpretation of vendor data would generally be needed. Additional training of the therapists may also be needed to assist them in using interlock data efficiently in their standard treatment protocols.

DWI courts use a team approach that includes judicial supervision and alcohol treatment to focus on repeat or high-BrAC impaired driving offenders that likely have substance abuse or dependency issues. Offenders meet frequently with the DWI court-monitoring team consisting of a judge, district attorney, probation officer, and alcohol treatment professional. A system of graduated sanctions and incentives is used to supervise the DWI offender in the community, usually in lieu of a jail sentence. The use of interlocks in DWI courts is not widespread but may be growing in popularity. This chapter describes an example of the recent successful and effective statewide use of interlocks in DWI courts in Michigan.

Chapter 7. Evaluation of Interlock Data

This chapter describes considerations and methods that will be helpful in planning and conducting analyses of interlock programs. The range of interlock data needs and evaluation

systems can extend from the macro to the micro; that is, from policy implications for program structure and management at the State level to supplemental interventions within an interlock program to improve individual performance analysis. In this chapter, the data requirements and analytical procedures have been organized with four users in mind: *State-level policymakers, local and State program managers, treatment program managers, and researchers conducting program evaluations.* Much of this proposed evaluation work can be accomplished with interlock data and summarized enforcement data. However, evaluations of recidivism require the matching of data from driver records with those of the interlock program, which may require considerable effort and may be impossible where dates of interlock installations are not maintained.

State policy directors can use national records of the number of interlocks being used in each of the 50 States to compare their programs with other States based on population and the number of DWI convictions. *Program managers* can determine the extent to which interlock enrollment rates match court conviction rates to detect the extent to which offenders are avoiding the installation of interlocks. They can also determine whether those on interlocks are learning to conform to the interlock requirements by determining whether the number of lockouts is decreasing as a function of time in the interlock program. The *effectiveness of treatment providers* can be gauged by the extent to which offenders in treatment increase their conformity to interlock requirements. Such process measures can give a rough indication of program progress and effectiveness that is useful to program managers. However, to *scientifically evaluate* the effectiveness of interlock programs and of adjunct treatment programs, relatively elaborate statistical methods are required, which are not usually readily available to program managers.

Chapter 8. Interlock Data Use Issues, Recommendations, and Conclusions

This chapter attempts to summarize the main issues related to the use of interlock data for program management, offender treatment, and evaluation identified during this exploratory study. The information is based on the feedback and experiences of informants in the nine States information gathered on other States with innovative program features, and research findings. For each issue, selected suggestions for system improvement are listed. ***(See Chapter 8 for a complete list.)***

Automating Data Delivery Issues

More efficient methods for processing large quantities of information can be developed based on the experiences of other States.

- A manual for developing a model system for downloading interlock data could save development costs for State program managers. A TIRF publication provides a guide and checklist for developing an automated data system (Robertson, Holmes, & Vanlaar, 2013).

- As an accompaniment to the manual, the development of a flexible software package would be helpful for States or courts to centrally process and monitor all the log data consistently and efficiently.
- Ideally, the software would filter the data to identify only valid violations to minimize the number of appeals (thus, saving time and costs), and automatically notify offenders and other monitors of violations.
- The software should produce the data needed to identify patterns of violations and include all data elements needed for evaluation.

Sharing Data Issues

Sharing of interlock data can be expanded.

- If the State driver-licensing agency is the designated recipient of interlock data, legislation should include the option of receiving and maintaining court-monitored interlock data and the sharing of interlock data with court officials (although cost and technical capabilities would be concerns).
- Interlock legislation or administrative code should allow access to interlock data for treatment professionals via the vendors with appropriate consent procedures.
- A survey of probation staff and DWI court staff could help characterize and quantify the informal sharing of interlock data that is currently occurring and possibly lead to guidelines for more regular sharing.

Definition of Interlock Data Elements and Violations

The inconsistencies in definitions for interlock data elements and violations can be minimized.

- Although total consistency among all possible interlock data elements may not be feasible, AIIPA developed and released a set of recommended standardized BAIID vocabulary terms and best practices at its 2nd Annual Conference in May 2014 (AIIPA, 2014). If adopted universally, these standard terms and practices will be helpful to monitors and vendors alike, for intra- and inter-State consistency. However differences among States' rules and regulations about what *defines a violation* and the resulting consequences continue to vary widely.
- Chapter 3 of this report identifies two possible methods for minimizing differences in violation definitions among vendors and monitors within a State; a field test of devices and an Excel template that could be used to compare device operational differences.

Report Format Differences

More uniformity would encourage use by treatment professionals and perhaps more courts.

- Massachusetts has required all vendor websites to use the same vocabulary and content within report tabs.

- The current report formats are not conducive to easily seeing patterns of behavior over time. The development of a report format or website tab that could display the BrAC data in weekly and monthly calendar formats over a specified period (e.g., 6 months, 1 year) would assist monitors and treatment providers in particular. A sample format is provided in Chapter 6.

Nonuse of the Interlock Vehicle Issues

This is the most difficult circumvention method to monitor. Programs differ in the criteria they use.

- Two data elements that should be standard on all reports are some measure of recorded mileage and number of starts for each reporting period.
- Research is needed to determine the extent to which odometer mileage or interlock engine starts are a valid measure of nonuse.
- The emergence of photo-identification systems provides the means to verify that the DWI offender is driving the interlock vehicle (along with positively confirming the identity of the breath-test provider.)

Manpower/Cost Issues

The extent to which the costs of data monitoring are borne by the government.

- Resources will dictate how States approach interlock data monitoring. A significant cost factor will be the extent to which interlock vendors are relied on to do data filtering (validating violations), thereby relieving the government of that expense, and possibly placing it on the offender through user fees.
- Research is needed to determine the extent to which treatment should be based on interlock performance rather than specifying it for all offenders.

Treatment Provider Access to Data Issues

Treatment providers may not be aware of the possible usefulness of the interlock data in a therapeutic setting.

- Collaborations among monitoring authorities, vendors, and treatment agencies should be encouraged to help make treatment providers aware of the possible benefits of linking counseling with the objective data provided by interlock data reports, and to develop training opportunities.
- Legislation, administrative codes, and court restrictions should not preclude treatment providers' access to reports.
- To date, no treatment program tied to an interlock program has been scientifically evaluated. Research is needed to establish the effectiveness of efforts, such as those in Florida and Colorado, that specifically link interlock data events and patterns with treatment.

Treatment Timing

Frequently, treatment occurs or is required before the offender enters the interlock program.

- Significant reduction of license suspension periods to incentivize interlock installation is conducive to having treatment and interlock occur simultaneously.
- Institutional or legal barriers to the simultaneous occurrence of interlock and treatment will need to be studied in each jurisdiction to investigate the feasibility of their removal.
- New technology such as real-time interlock monitoring (which provides for instant messaging when a violation occurs) and educational/interventional application software (mobile or otherwise) may provide future additional opportunities for using the interlock data for real-time behavioral interventions with interlock users.

Court Issues

Courts handle consequences for interlock violations case by case, sometimes in a strictly punitive way.

- A survey of probation and DWI court practices regarding the use of interlock data for treatment referrals and sanctioning could help develop guidelines to assist judges, prosecutors, and probation staff to look for patterns of behavior that indicate a need for interventions.

Evaluation Issues

Scientific evaluation of interlock programs and associated treatment efforts requires more extensive data than is normally collected for monitoring.

- States and courts need assistance in setting up data management systems that will assist in tracking interlock success and contain important data elements for evaluation. Chapter 7 of this report provides the details.
- If funded, an evaluation of the IEC program in Colorado would provide outcome data on the value of training therapists to use the interlock data therapeutically using a defined protocol. Measures of quantity and quality could be easily defined for an IEC evaluation.
- A forthcoming study of the Canadian Province, Nova Scotia, by TIRF, will inform the value of linking interlock data with treatment. This program requires regular review of the interlock data concurrent with the treatment needs of DWI offenders, who also must remain in treatment for 6 months post-interlock.

Conclusions

In this exploration of how ignition interlock data are being used to monitor DWI offenders, it is clear that the data are widely used, but there are substantial differences among jurisdictions in the extent and manner of usage. This study has identified progress in the application of interlock data to program management and offender treatment and identified trends that point to the next steps. State administrative programs now use a variety of combinations of interlock violations during a specified period to extend the period of interlock installation in an attempt to monitor readiness of the offender to drive safely without the device. Automated upload of interlock data to State

central databases has helped to process large numbers of interlock users and improve consistency in applying consequences, but this process is expensive and leads to many appeals to the automated extensions. Automation theoretically would lead to more sharing of the data among agencies, but this is not happening for the most part. State data are not being shared with the courts or others. The States that do not use automated central databases use less expensive monitoring methods that rely on various levels of filtering of the data for valid violations by interlock vendors. Some jurisdictions have chosen to monitor only tampering and circumvention violations, preferring to let the device serve its functional purpose to separate drinking from driving.

Because of the discretionary nature of sentencing in courts, it is hard to characterize what is happening widely without a survey, but probation officers are generally accessing data via e-mailed reports from interlock vendors. Violations are variously met with extensions (if the law allows), additional sanctions or other alcohol-monitoring devices, short jail sentences, and/or requirements for additional treatment. Alternatively, some courts do not have the resources to monitor interlock violations and simply attempt to ensure their interlock installation. Some probation staff do share the results of interlock data with treatment professional informally, but with no apparent guidelines. The use of interlocks in DWI court programs is growing to include the monitoring of daily abstinence and driving.

The imposition of interlock time extensions is based on the literature showing that several measures of interlock performance predict future recidivism. However, there has been no study that demonstrates that extending offenders with high levels of lockouts reduces their future recidivism. We still have little understanding of the underlying process through which interlock users adapt to the interlock. Further, time extensions on the interlock involve additional cost for the offender and for the monitoring agencies. Concentrating resources on increasing the interlock installation rate might be more cost effective.

A multitude of things add to the inconsistency and workload in monitoring interlock data by State and court monitors, including varying definitions of violations and variations in report formats from the multiple interlock companies. If the reports are not user friendly, they are unlikely to be used or understood. Technology has provided for interlock vendors to maintain websites that can be accessed with proper authorization and consent forms, but arranging access to multiple websites with different formats is also an impediment to using the data. A data report that uses a calendar format to show patterns of breath test warnings and failures over time is proposed in Chapter 6 to be more useful for treatment providers and other monitors. In 2014, AIIPA compiled a list of standard interlock vocabulary terms which, if universally adopted, could help reduce data inconsistencies across States and vendors. As seen in Chapter 3, what constitutes a violation, however, still varies widely according to the law, regulation, or administrative rule as defined by a state or jurisdiction.

If alcohol treatment and interlock programs are to be integrated, the impediments to the simultaneous timing of both activities, such as long hard license suspension periods and requirements to complete treatment before becoming eligible for the interlock, will need to be removed.

There appears to be little awareness among treatment professionals about the possible value of interlock data reports to provide objective feedback on client behavior. Unless procedures are

institutionalized for easy access to the data, easy execution of appropriate consent documents, and ready access to appropriate training to interpret the data, more use of the data by treatment professionals is unlikely. The successful and effective use of interlocks in DWI courts in Michigan points to a promising use of interlocks in an intensive supervision setting that includes treatment professionals.

States often have to link data from multiple databases to conduct evaluations. This report attempts to identify important data elements needed for evaluating recidivism that often are not entered or retained in State data systems. Automated upload of interlock data has made it easier to track program statistics and success, but it remains to be seen if it is more conducive to conducting evaluations of recidivism. Only one State's automated system in this study includes court-monitored interlocks in its database and shares it with the probation department. Issues related to turf, cost, privacy laws, and technological impediments may contribute to this lack of coordination and sharing in other States. If manuals and software were developed, these tools could assist other States to automate for more efficiency, sharing, and easier evaluation.

One caveat is that the speed of technological advancements may already be outdating the current automated systems and the few available protocols for using the interlock data therapeutically. Nonetheless, increases in real-time interlock-violation reporting capabilities and the possibilities for real-time interventions are exciting prospects on the horizon for increasing the effectiveness of ignition interlocks.

Table of Contents

List of Tables:

List of Illustrations:

Appendices:

List of Acronyms

AA ..... Alcoholics Anonymous
AAMVA ..... American Association of Motor Vehicle Administrators
AIIPA..... Association of Ignition Interlock Program Administrators
ANOVA ..... analysis of variance
ASAP ..... Alcohol Safety Action Program
APPA ..... American Probation and Parole Association
BrAC..... breath alcohol concentration
CDC ..... Centers for Disease Control and Prevention
OBH..... Office of Behavioral Health
DCF ..... Department of Children and Family
DDMP..... Drinking Driver Monitor Program
DMV ..... departments of motor vehicles
DHSMV ..... Department of Highway Safety and Motor Vehicles
DRI ..... Driver Risk Inventory
DWI ..... driving under the influence
DWI ..... driving while intoxicated
EtG..... Ethyl glucuronide
FARS ..... Fatality Analysis Reporting System
FAIDC ..... fatal alcohol-impaired-driving crash
FTP ..... file transfer protocol
g/dL..... grams per deciliter
GPS..... Global Positioning System
HIPAA ..... Health Insurance Portability and Accountability Act of 1996
ICADTS ..... International Council on Alcohol, Drugs and Traffic Safety
IEC..... Interlock Enhancement Counseling
IID..... ignition interlock device
IEC..... Interlock Enhancement Counseling

MOU ..... Memorandum of Understanding
MVA ..... motor vehicle administration
MVD ..... motor vehicle department
NADCP ..... National Association of Drug Court Professionals
NHTSA ..... National Highway Traffic Safety Administration
NIAAA ..... National Institute on Alcohol Abuse and Alcoholism
OIS ..... Online Interlock System
OLS ..... ordinary least squares
OPCA ..... Office of Probation and Corrections Alternatives
PBT ..... preliminary breath test
PPD ..... Parole and Probation Division
SCRAM ..... Secure Continuous Remote Alcohol Monitor
SES ..... socioeconomic status
SSS ..... Special Supervision Services
SIP ..... Support for Interlock Planning
SMEs ..... subject matter experts
SOCRATES ..... Stages of Change and Treatment Readiness
TIRF Traffic Injury Research Foundation
WTSC ..... Washington Traffic Safety Commission

1. Introduction

Driving-while-impaired offenders present a high risk to other highway users. Drivers convicted of DWI are 4.1 times more likely to be involved in a fatal crash while intoxicated by alcohol than are average licensed drivers (Hedlund & Fell, 1995). Up to 40 percent of all fatally injured drinking drivers are estimated to have had at least one prior DWI offense (Simpson, 1995; Vingilis et al., 1994). It is estimated that the U.S. could be saving 800 lives per year if all convicted drinking drivers were prevented from being involved in a fatal crash (Lund et al., 2007). Vehicle alcohol ignition interlock programs have proven to be one of the most effective methods for reducing this problem because research evidence indicate that they reduce recidivism while on the offender's vehicle by two thirds (Elder et al., 2011; Willis et al., 2004). As of 2012 all U.S. States have provisions for interlock programs in their laws and, as of 2013, approximately 313,400 interlocks are currently in use covering about 20 percent of convicted impaired drivers (Roth, 2013). This is an exploratory study of how the breath-test data collected by the interlock device is being use to manage convicted DWI offenders.

The alcohol-ignition-interlock device is designed to control DWI offenders who drive while impaired by alcohol. The interlock device is installed under the dashboard and works like a breath testing device, but is connected to the vehicle's ignition switch. Before the vehicle will start, the driver must first exhale into a mouthpiece with a sensor; if the BrAC result is greater than the programmed pre-set level, usually .025 g/dL, the device prevents the engine from being started. At random times after the engine has been started, the device will prompt the driver to provide additional breath samples (a retest). If the breath sample is not provided, or the sample exceeds the interlock's preset BrAC level, the device will log the event on a data recorder, and depending on the device settings, will warn the driver in some way, such as a beep or flashing lights.

The data recorder logs the date and time of all attempts to start the vehicle, initial breath tests, required and missed retests, battery power losses, and any attempts to tamper with or circumvent the operation of the device. By keeping such a detailed registry or log of events, the data recorder can produce a report with a timeline of all uses of the interlock-equipped vehicle that can then be reviewed and assessed by courts, probation, driver-licensing, and treatment professionals. This study explores the issues related to use of the interlock data recorder reports.

Objectives

The objectives of this exploratory effort were to determine (a) how alcohol ignition interlock data are being used for offender monitoring and offender-related programs, such as screening, assessments, and treatment for alcohol abuse problems; and (b) if the interlock data can be used effectively to reduce alcohol-impaired driving recidivism.

In this report, we have addressed those objectives as follows:

1. Described the uses of data that are logged onto the alcohol-ignition-interlock device recorder to monitor driving by individuals convicted of driving while intoxicated (DWI) and explored the issues surrounding the best use of these data.

2. Identified nine States with a large number of interlocks in use, including States that use the interlock data in systematic or unique ways. Included short descriptions of featured interlock program practices from several other States. Examined the procedures for using the data from both court-based and administrative-based interlock programs and the use of these data to monitor and sanction offenders, to extend the interlock installation period, and to refer some DWI offenders to treatment.

3. Compared the similarities and differences in how States, courts, and interlock companies define a violation and the various combinations of violations that trigger an interlock extension or consequence. Explored the issues created by the variety of violation report formats and violation definitions that ultimately affect the use of the data.

4. Identified the challenges and trends related to managing, interpreting, monitoring, and using interlock recorder data to make informed decisions about a DWI offender's readiness to have the interlock removed, while balancing the need to comply with the legislative requirements and the efficiency and cost-effectiveness of using the interlock data.

5. Featured two States in detail, Florida and Colorado, describing their uses of the interlock recorder data.

6. Described various ways in which the interlock data can be analyzed effectively to evaluate program success and changes in recidivism, including the effects of treatment on recidivism.

7. Compiled a list of issues that prevent more effective use of the interlock data and potential remedies, including options that new software and interlock device technology might allow.

8. Provided, in the appendices, detailed *Interlock Data Use Profiles* for each of the nine study States and examples of forms and documents that could be useful to other jurisdictions.

Methods

Site Selection

Selecting a set of States to study the uses of interlock data was initiated by reviewing data from those States with first-offender interlock laws because they presumably would have a large number of interlocks in use. Those States selected were crossed-checked against States with high numbers of total interlocks and interlocks per capita. Letters were also sent to the NHTSA Region offices to ask for suggestions of States or jurisdictions that use ignition interlock data for more than just general offender monitoring, with a particular interest in jurisdictions that use the

data for screening, assessment, and treatment for alcohol-abuse problems. The nine study States (Arizona, Colorado, Florida, Illinois, Maryland, North Carolina, New Mexico, Texas, and Washington) selected for in-depth study are not a comprehensive list of States that use interlock recorder data for monitoring DWI offenders, but these nine States do broadly represent what States are doing with interlock data. Based on mid-2012 estimates, these nine States represent 66 percent of interlocks in use nationwide at that time (183,434 of the 279,394 estimated national total (Roth, 2012a). This list also includes a mix of States whose interlock programs are court-based, or administrative-based, or a combination or "hybrid" program that includes both court and administrative features. Further, additional States, though not ranked among the top States insofar as the number of interlocks in use, are using the interlock recorder data in a systematic or unique way. Some of the interlock program features of these States or jurisdictions are also discussed in this report.

To understand current practices regarding interlock recorder data use and the issues surrounding the use of those data, a series of key topics was developed for use with key informants. In addition, site visits were made to two States, and other information was compiled from public sources.

Key Informant Discussions

Discussions were conducted by telephone or in-person with key informants who produced, reviewed, managed, or followed up on violations "flagged" in the interlock data reports from the interlock manufacturers or service providers or who were involved in the sanctioning or monitoring of offenders on the interlock device. Key informants were contacted, including Governor Highway Safety Representatives; interlock company representatives; interlock coordinators for State or county agencies; departments of motor vehicles (DMV) staff; DMV hearing officers or medical review staff; court staff (judges, probation, prosecutors); DWI court staff, defense attorneys, alcohol treatment professionals, data analysts, and researchers.

A Discussion Guide (Appendix A) was developed for use in contacting key individuals who would logically be involved in the process of reviewing or managing the interlock recorder data. The Discussion Guide topic areas related to the use of interlock recorder data included:

- Features of the interlock law;
- Interlock data-reporting requirements;
- Interlock data report users, formats, and methods of access;
- Interlock data-monitoring methods;
- Uses of the interlock data by various users;
- Interlock data element definitions;
- Interlock violations, consequences, and appeals;
- Links to treatment;
- The role of interlock manufacturers (referred to hereafter as interlock "vendors");
- Ideas for more effective use of the data;
- Previous evaluations conducted; and
- Availability and suitability of interlock data for future outcome studies.

Site Visits

Site visits were made to Colorado and Florida because they were identified as two known States that use the interlock recorder data for alcohol treatment purposes. Key officials participated in discussions on the topics outlined in the Discussion Guide. These site visits provided an opportunity to have interlock program managers, data monitors, data managers, and those responsible for alcohol treatment plans around the same table for a more integrated discussion of the procedures and challenges related to the use of interlock data. In Florida, it also provided an opportunity to observe the process by which staff receive and screen the interlock recorder data and to discuss the steps for monitoring and referring those with violations for additional monitoring and treatment. In Colorado, a meeting with treatment providers led to the development of a draft interlock data summary report that could be useful for clinicians in a treatment setting, as well as for other data monitors.

Other Sources of Information

Some information about the operation of interlock programs was obtained from other sources, such as DMV websites, State program reports, conference presentations by key State officials about their interlock programs, and interlock related publications by NHTSA and others.

Organization of the Report

A background section was written to provide some history on interlock research and how the results of the interlock data recorder are now being used to assess the status and risk of drivers in the interlock programs.

The information collected from key informants was first used to develop an *Interlock Data Use Profile* for each State (Appendix B), which provides an overview of the interlock law and data use highlights in each State, including monitoring procedures by court and driver licensing agency personnel, data sharing issues, vendor roles, and suggestions by key informants for better use of the data. Previous or pending interlock evaluations are also described. Useful examples and sample forms from the States are included in additional appendices.

Information from the nine States' Interlock Data Use Profiles was used to organize topics into chapters and tables to examine common and different practices related to uses of the data for monitoring, reporting, and sanctioning among the various users of the data. The challenges related to the variations in data report formats and violation definitions among interlock vendors and States and courts are discussed, along with some suggested ideas for standardization.

The practices in Florida and Colorado were described in depth in a chapter on interlock data use for referrals and treatment, along with information on probation practices and DWI courts. Barriers to more simultaneous use of the interlock recorder data and treatment were also examined.

A chapter on evaluation was written on ways in which the interlock data can be analyzed and used effectively to evaluate changes in recidivism, including the effects of treatment on recidivism. Approaches useful to policy makers, programs managers, treatment mangers and program evaluators are described. Finally a summary of issues by category was developed

followed by a list of recommendations suggested by the findings or available remedies already in place.

A substantial appendix is included to separately describe practices in each of the nine States. Appendix B includes a 5-12 page *Interlock Data Use Profile* on each State, including:

- Number of interlocks in 2010, 2011, 2012, and 2013;
- Number of interlock vendors;
- First and multiple offender requirements or eligibility options for interlock;
- BrAC-related violations and consequences;
- Background highlights on interlock related features;
- Interlock data monitors;
- Data sharing;
- Barriers to better and more use of interlock data;
- Data for evaluation; and
- Previous evaluations.

2. History, Status, and Effectiveness of Interlock Programs

This chapter reviews the basic developmental research and some of the program consequences that have resulted from the use of the data that is logged onto the alcohol-ignition-interlock device recorder. Research has shown that the recorder information about BrAC test performance and procedural violations, such as failing to take a retest, is useful in assessing the status and risk of drivers in ignition interlock programs. In this chapter, we use a historical developmental approach to describe the issue. The topics follow:

1. Basic status and effectiveness of an interlock to control DWI
2. Determining the relationship of interlock breath-test patterns to recidivism
3. Discerning temporal patterns in the interlock BrAC test record
4. First evidence for scaling driver risk through study of the interlock BrAC test record
5. Use of the interlock data record: State actions and monitoring evidence
6. Presenting and using interlock data to effect behavioral change through monitoring and treatment

1. Basic Status and Effectiveness of Interlocks to Control DWI: 25 Years After the First State-Sponsored Pilot Program

The alcohol ignition interlock is designed to control offenders who drive while impaired by alcohol. While installed on a vehicle, an interlock prevents the engine from starting until the driver blows into a sensor with a breath sample that registers a BrAC of less than a predetermined lockout level. Each U.S. State sets its own pre-set point, but most States have adopted the NHTSA recommendation of .025 g/dL, as found in the Model Specifications for Breath Alcohol Ignition Interlock Devices published in 1992 (57 Federal Register, 67, 1992), or a lockout limit very close to it. The new NHTSA Model Specifications recommends a lock point of .02 (78 Federal Register, 89). The most widely used lockout levels range from .02 to .04 g/dL in the United States and Canadian programs. Florida used to be the exception to this trend with a .051 g/dL lockout, but in July 2013 changed its lockout point to .025.

Numerous evaluation studies have determined that ignition interlock programs lead to reductions ranging from 40 to 90 percent in DWI recidivism, relative to non-interlock controls, while the devices are installed (Beirness & Marques, 2004; Elder et al., 2011). Most interlock studies have involved the use of statistical controls to equate groups since random assignment is difficult to achieve in court programs. Based on the large number of interlock evaluations conducted over the last two decades, two meta-analyses studies—Willis, Lybrand, and Bellamy (2004) and Elder et al. (2011)—have summarized the reductions in recidivism. Each of these studies reported similar 64 percent recidivism reduction rates while the units were on the offender's vehicles. In December 2007, NHTSA summarized the status of interlock programs in its report to Congress by noting their effectiveness in reducing impaired-driving arrests but noted that their benefits

disappear following interlock removal (Compton & Hedlund, 2007). With rare exceptions, all interlock studies demonstrating a reduction in recidivism for offenders have indicated that the benefits are limited to the period that the interlock is installed on the offenders' vehicles. Recidivism has been found to return to control rates after the interlock has been removed. Even though the rate of recidivism returns to control levels, there is still an overall net interlock safety benefit when combining both the on-interlock and post-interlock periods (NHTSA, 2010a).

Two studies have evaluated the effectiveness of issuing licenses with an interlock restriction where offenders are not required to install an interlock, but under the license restrictions, they cannot drive any vehicle that does not have an interlock installed. Two random assignment studies comparing the effectiveness of requiring an interlock restriction for driving under a court-monitoring supervision program where the participants were allowed regular driver's licenses have been conducted in Maryland by Beck, Rauch, Baker, and Williams (1999) and Rauch, Ahlin, Zador, Howard, and Duncan (2011). In each study, approximately half of the offenders who were assigned to the interlock-restricted license group did not install interlocks; nevertheless, in the 1999 study, those with restricted licenses had 64 percent lower recidivism than the control group, whereas in the 2011 study, 36 percent had lower recidivism rates than the control group. An important additional finding in the 2011 study was that it produced a 26 percent reduction in recidivism relative to the control group *in the 2 years following removal of the interlock.*

2. Determining the Relationship of Interlock Breath-Test Patterns to Recidivism

As interlocks were introduced during the 1980s and 1990s, the research effort was devoted to an analysis of their efficacy in reducing recidivism. An initially unappreciated aspect of the interlock device was its stored record of BrAC tests that contained a continuous record of the offender's performance while the device was installed. In one year in a typical interlock program, an interlock device stores approximately 2,500 BrAC tests, half of which are driver BrAC levels during startups. Following an evaluation of the Alberta ignition interlock program (Voas, Marques, Tippetts, & Beirness, 1999), the study's investigators began an analysis of the logged BrAC data and described daily and weekly patterns of BrAC test failure rates. From the patterns of the failure rates, they conjectured that these log files might provide future drinking-driving risk information about drivers required to use the interlock. In a series of research studies conducted over the next 4 years, it became evident that the fail-rate patterns could supplement other risk indicators, such as the number of prior DWI offenses, and could help identify drivers at a higher risk of future recidivism (Marques, Voas, Tippetts, & Beirness, 1999).

While trying to understand the relationship between offender characteristics and the continuing chance of recidivism after interlock removal, investigators often have conducted survival analyses using Cox regression procedures. These studies (Marques, 2009; Marques, Tippetts, Voas, & Beirness, 2001; Marques, Voas, & Tippetts, 2003; National Highway Traffic Safety Administration, 2010b) have reported a relationship between interlock breath-test performance (rates of warns and failed BrACs) and the prediction of subsequent recidivism after the interlock had been removed and no longer constrained the offender's drinking-driving behavior.

3. Discerning Temporal Patterns in the Interlock BrAC Test Record: When Do DWI Drivers Fail BrAC Tests?

The pattern of breath-test results logged on the interlock recorder provides a unique window into the drinking-driving proclivity of that offender if he or she only uses the interlock-equipped vehicle and if he or she is the majority user of that vehicle (unpublished user surveys suggest this pattern is the most common use). Previous research has shown a consistent pattern of elevated BrAC tests for both day of the week and hour of the day. The weekends had the highest *proportion* of all start attempts with positive BrAC tests (higher than .02 g/dL), and Tuesdays had the lowest proportion of positive tests (Marques et al., 2001; Marques et al., 1999). These findings mapped perfectly onto data from the Fatality Analysis Reporting System (FARS NHTSA, 2011), maintained by the Department of Transportation. FARS data indicate that weekends (Saturdays and Sundays) have the highest number of road fatalities, and Tuesdays have the lowest road mortality. Thus, the alcohol-use patterns from the interlock-equipped vehicles are a microcosm of the larger societal problem of impaired driving.

The initial 1999 interlock report of patterns was based on approximately 2,000 interlock-using DWI offenders in Alberta. A subsequent analysis was conducted on a data set from Quebec's program that included 7,300 offenders. Quebec's data set, at 18 million, provided more than three times the number of interlock-using offenders studied in Alberta and more than four times the number of breath tests. Even though the numbers from Quebec were much higher than those from Alberta, the investigators found the day and hour patterns were largely the same (Marques, Voas, et al., 2003). In Alberta and Quebec, there was a clear weekday spike in the *number of elevated BrAC tests* from 7 to 9 a.m. (presumably the first vehicle start of the day for most people), and the largest *number of total BrAC tests* occurred from 4 to 6 p.m. These spikes occurred for both the Quebec and the Alberta data. If the schedules of working people account for this pattern of breath tests, then driving to work led to more lockout events than returning home after work. Not everyone works the 8-to-5 shift; however, so that rationale cannot serve as the complete explanation. Another clue was found in the Saturday and Sunday patterns. On those 2 days, the BrAC test patterns shifted such that both the number of all tests and the number of elevated tests peaked around noon. It was therefore surmised that the workday morning elevation in positive BrAC tests served as evidence of drinking the previous night, and the weekend peak occurring from 11 a.m. to noon further demonstrated this interpretation, as the average driver starts the day a little later on Saturday and Sunday. Subsequently, these studies determined that the overall rate of failed BrAC tests and the occurrence of morning failed BrAC tests both entered into survival analyses as factors accounting for post-interlock recidivism (Marques, Voas, et al., 2003). The patterns and significant contribution of morning failed BrAC tests to the prediction of recidivism was subsequently repeated in a study of the interlock in New Mexico (NHTSA, 2010a).

Alberta and Quebec, though both Canadian provinces, are culturally and linguistically distinctive. Nonetheless, the interlock BrAC patterns were consistent. Later, our investigators evaluated data from Texas. The Texas data set, larger than both Canadian data sets, contained approximately 11,000 DWI offenders, of which about one third were Latinos (in contrast to the Anglo Alberta population and the French Quebec population). Upon analysis, the Texas data proved to be consistent with the pattern found in Canada. This information and the similarity of patterns are portrayed in Figure 1. The figure shows two curves for each jurisdiction, *solid lines*

that plot the proportion (0 to 1) of all tests in each jurisdiction relative to the time of day when the highest count of tests occurred. In addition, a separate set of *three dashed lines* for each jurisdiction is shown that plots the proportion of all tests ≥ .02 g/dL relative to the time of day when the highest count of positive BrAC tests occurred. All three jurisdictions had a peak count of positive BrAC tests at 8 a.m.; Quebec and Alberta had a peak of all tests at 4 p.m. and Texas at 5 p.m. These curves represent the data from approximately 20,000 DWI offenders who took 38 million breath tests. A similar pattern has since been found in New Mexico based on the records of 5,000 interlock users (NHTSA, 2010b). The only difference in the New Mexico data was the morning peak, which occurred 1 hour earlier. Otherwise, both the weekday and the weekend data were identical in both pattern and magnitude.

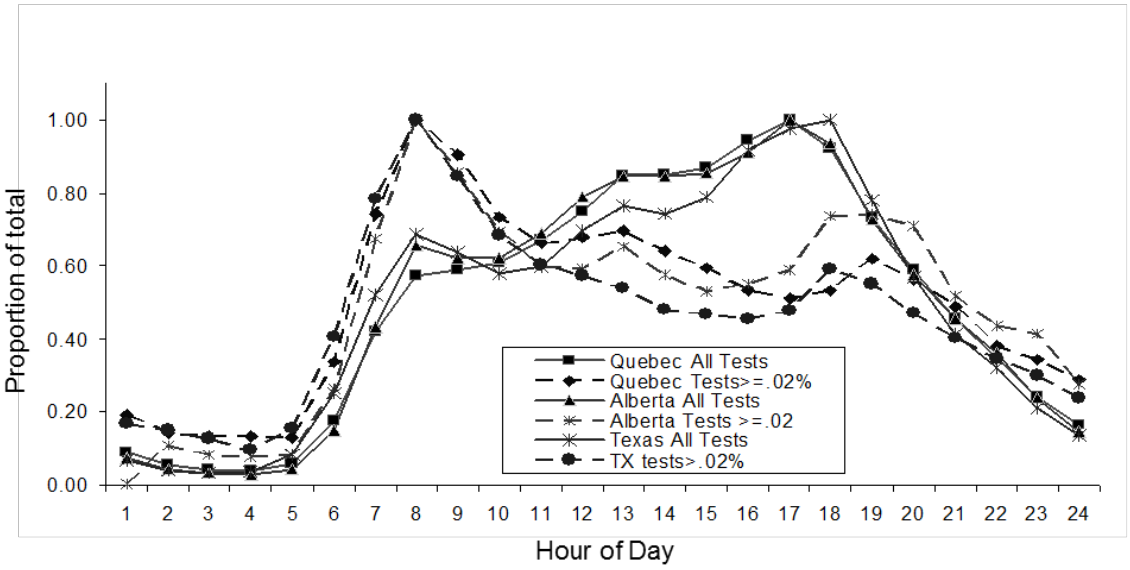


Figure 1. Relative rates of interlock BrAC tests >.02 g/dL (dashed lines) and all tests taken (solid lines) over 24-hour periods, Monday to Friday, in Quebec, Alberta, and Texas. Sampling base = 38 million breath tests (Source: Marques & Voas, 2005).

4. First Evidence for Scaling Driver Risk Through Study of the Interlock BrAC Test Record: Implications for Targeting Interventions

The discovery that elevated interlock BrAC tests occurred most frequently in the morning hours, when most people start their vehicles to drive to work, led to the conjecture that DWI offenders who have positive morning BrAC tests are more likely to be alcohol dependent or episodic heavy drinkers and thus more likely to become DWI recidivists. Figure 2 combines data from Quebec and New Mexico to show the relationship between the rate of blowing positive BrAC tests (>.02 g/dL) during the interlock-installed period and the recidivism rate during the 2 years after removal of the interlock when licenses were reinstated. Data in Figure 2 are arranged in deciles [1] of greater rates of positive BrAC tests while on the interlock on the X-axis, with 2-year

[1] A decile is any of the nine values that divide the sorted data into ten equal parts, so that each part represents 1/10 of the sample or population.

recidivism rates plotted on the Y-axis. As noted, Quebec data are based on 18.8 million BrAC tests provided by 7,200 offenders; New Mexico data are from about 5,000 offenders providing 12,000 BrAC tests. In Quebec, the lockout point is .02 g/dL, whereas in New Mexico, the lockout point is .025 g/dL. Accordingly, these are not all failed BrAC tests, but those tests at .02 or higher. Another difference is the earlier demonstrations of patterns in the interlock record derived from one or two interlock suppliers, whereas New Mexico has six interlock suppliers operating within the State.

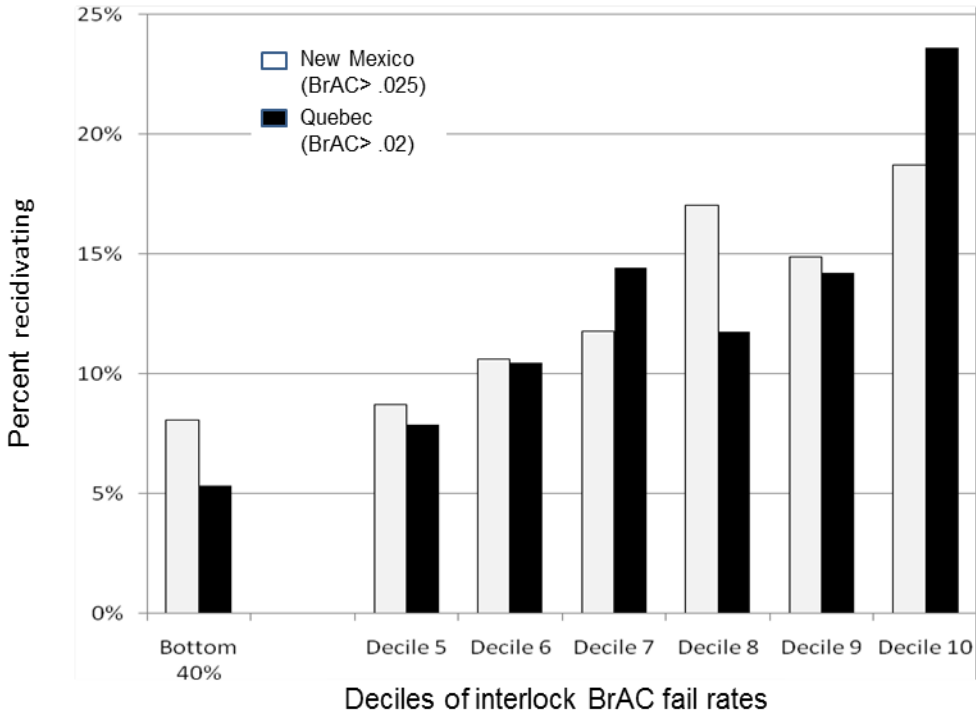


Figure 2. Deciles of offenders rates of failed BrAC tests in both New Mexico (light bars) and Quebec (dark bars) plotted against 2-year post-interlock recidivism after interlock removal. Each bar represents ≈ 500 offenders in New Mexico and ≈ 720 offenders in Quebec (Source: National Highway Traffic Safety Administration, 2010a)

The interlock BrAC performance often focuses on recidivism after interlock removal. Recidivism does occur while the interlock is installed but at lower levels. Earlier in this report, we summarized the studies of the interlock control benefit to be about 64 percent reduction in recidivism, not 100 percent. The data shown in Figure 3 provides a look at the difference between on-interlock and post-interlock recidivism broken out by the deciles of failed BrAC test rates (NHTSA, 2010a). The left chart panel portrays recidivism during the on-interlock period, and the right panel, the post-interlock period. The bold line in each panel represents the group average, and much like in Figure 2, the highest rates of recidivism are found among those in the high deciles, especially the top 30 percent. The steeper slopes of the post-interlock lines reflect the loss of the interlock restraining effect once the program ends. Further, a comparison of the difference in recidivism rates for the group averages at the 6- and 12-month points during interlock and after interlock provides a clear example of how quickly the interlock benefit is lost after device removal.

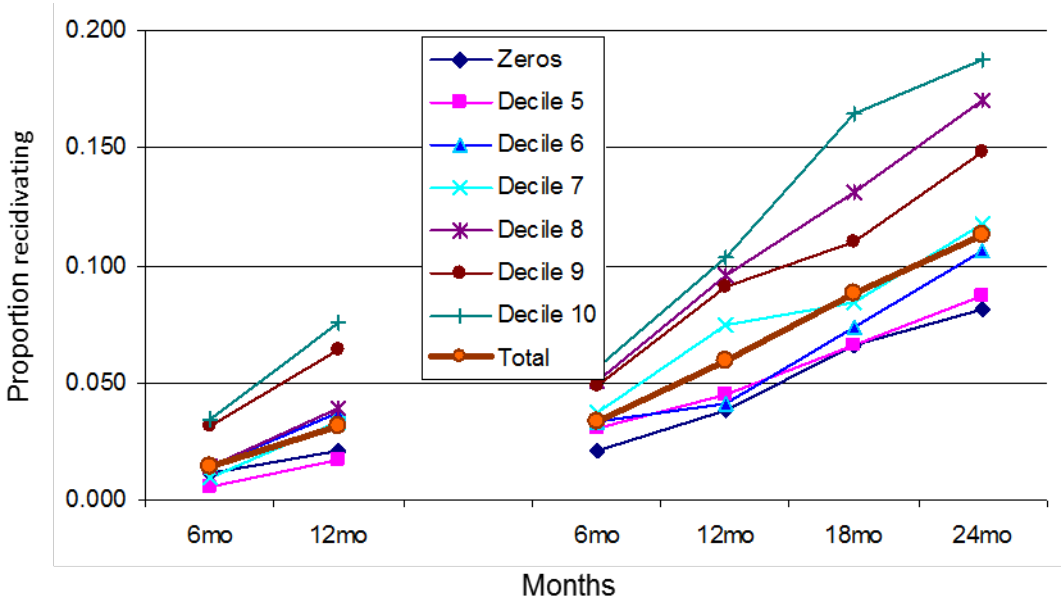


Figure 3. New Mexico recidivism rate (Y-axis) 6 to 12 months during interlock (left), up to 24 months after interlock (right) by deciles of failed BrAC tests (≥.025 g/dL). Heavy line is the overall rate (Source: Marques, 2012).

Despite their informative value, some jurisdictions do not examine or use the data in the breath-test records for decision-making. Thus, they reissue unrestricted driver's licenses to offenders completing an interlock program for whom there may have been ample evidence from the interlock BrAC record to question the safety of doing so. The record provides some advance knowledge that certain offenders are still attempting to drink and drive, even if sometimes inadvertently, such as those who have lockouts at 8 a.m. Evidence such as this suggested the possibility of creating performance-based programs in which offenders would be required to continue to drive with an interlock until they demonstrate an ability to control their drinking and to avoid lockouts. Following these demonstrations of the uses of the interlock data, some States began to make full, unrestricted license restoration conditional upon interlock performance.

5. Use of the Interlock Data Record: State Actions and Monitoring Evidence

Before the initiation of this Interlock Data Utilization study, many States had already started programs that used or were planning to use information in the interlock log files to adjust the required duration of interlock sentences. For example, the NHTSA document "Key Features of Ignition Interlock Programs" (NHTSA, 2010b); hereafter referred to as "*Key Features* report"), using data collected in 2006 and 2007, reported that Colorado, Florida, Michigan, Pennsylvania, Virginia, and West Virginia had interlock extension provisions. At that time, other States were planning or had recently implemented extension rules (i.e., Arizona, Illinois, Maryland, South Carolina, and Washington).

The use of the BrAC test record to adjust sentences is a new development that began to take shape in the mid-decade years (2004-2007). When the 2007 data were collected (summarized in

the *Key Features* report), interlock program administrators who conducted a review of the BrAC test record sometimes imposed various consequences on drivers for failing BrAC tests. These actions were taken to limit the number of failed BrAC tests permitted within a set timeframe and sometimes sought to limit the number of procedural violations, such as failure to perform required retests[2] or failure to take the tests within the appropriate interval. A few States permitted no failed BrAC tests under any circumstances without triggering a complete reset of the required interlock program period. In contrast, some States took no action when the offender repeatedly failed BrAC tests as long as the interlock prevented driving—the simple task these devices were designed to accomplish. Is it important for the State or court authority to conduct monitoring and take action when an interlock user fails a BrAC test, fails to abide by the strictures of the program, or both? What might be the effect of repurposing a device, such as the interlock that was developed to prevent impaired driving, to serve as a source of evidence that a DWI offender is not abstinent or attempts to operate a vehicle after drinking? There is no consensus among States, but if there were a trend, it seems to be moving toward a wider role for the interlock data as a monitoring and sanctioning adjunct.

Almost all States with interlock programs, then as now, have had consequences for egregious procedural violations, such as intentional circumvention of the interlock device with forced air contraptions or requesting an unimpaired person operate the interlock device while the offender drives the vehicle. The consequences previously included removal from the interlock program and fines paid to the vendor. Today, extension on the interlock for any type of violation instead of removal is becoming more common as the idea that an interlock-controlled offender is safer than an uncontrolled offender is starting to take hold. However, in their NHTSA sponsored interlock technical assistance efforts to approximately 20 States, Traffic Injury Research Foundation identifies the quick removal from the interlock of non-compliant offenders as a continuing challenge for interlock programs. They note that interlock administrators may not have the authority to extend time on the device if sanctions are too prescriptively specified in legislation or administrative rules (TIRF, 2010). Maryland provides one current example of a middle ground. If an offender is removed from the interlock for non-compliance, the individual is eligible to apply for an interlock again after 30 days.

Zador et al. (2011), in what may be the only systematic investigation of interlock-offender monitoring by the responsible authority, showed that the extent of the Maryland MVA's interlock program control over an offender's performance depends on the level of monitoring by the responsible authority. They demonstrated that better adherence to interlock program expectations occur when the monitoring authority actively communicates with the interlock-stipulated offenders. By examining the data from the interlock data recorder log, Zador et al. found that communication was initiated when a participating offender failed to comply with the program rules. The data elements in the study included failed BrAC tests and failure to perform requested tests when required. When failure to comply was found with either category of events, a warning letter was sent to the offender describing the violation and the possibility of additional sanctions. Offenders were also issued congratulatory letters when a month of data in the interlock log file showed no violations. Accordingly, the investigators measured compliance by the rates of BrAC test failures and the rates of various procedural violations. Closer monitoring

[2] A "retest" is also known as a "poststart retest." This feature requires additional breath tests at random intervals once the vehicle has been started. This test prevents the driver from drinking after the vehicle has been started and detects a rising BrAC level if there is one.

was found to improve compliance with the interlock program rules. Their study confirmed that interlock programs, rather than being fully self-supporting, may need State resources to effectively monitor the DWI offenders in the program. An important caveat, however, is that Zador et al. did not address whether closer monitoring had a beneficial effect on recidivism after the interlock period. Although it has not yet been demonstrated by research, it is possible that closer monitoring might be the first step toward improving post-interlock recidivism and therefore an important step toward establishing a basis for a more enduring behavioral change, similar to a change that may occur because of behavioral interventions, such as counseling or treatment. Monitoring, especially self-monitoring, is often the first step toward recognizing a drinking problem. The Zador et al. work demonstrates one of the ways in which the logged data in an interlock-device recorder can be used to achieve a higher level of compliance with the expectations of the program. Another method, still largely unexploited, is to join closer offender monitoring with a treatment or counseling intervention program.

In a recent summary of the effect of the interlock on recidivism, Elder et al. (2011) commented that the benefits of the interlock in reducing recidivism are quite clear but with an important caveat: it requires monitoring. The expectation that interlocks will effectively reduce recidivism among the broader offender population is hampered by the need for sufficient administrative resources to monitor participants. Thus, any increase in program scope that is not accompanied by an increase in administrative resources may result in decreased effectiveness. Elder et al. noted that an essential element of successful interlock programs is some form of intensive supervision and monitoring for their fuller potential to be realized. This raises the question as to whether monitoring and supervision can be integrated gradually with treatment and counseling interventions. In addition to potentially improving compliance, another potential benefit is that, by linking the remediative intervention in the clinic to the DWI control intervention, some costs of treatment services might be billable to third-party payers (e.g., health insurance providers). Both safety and health stakeholders in the community would likely benefit from successful efforts to reduce recidivism among these DWI offenders.

6. Using the Interlock Data to Effect Behavioral Change Through Monitoring and Treatment: Challenges Ahead in Meshing the Sanctioning and Helping Systems

Societal problems with alcohol use are manifested through alcohol-related criminal and health problems. The crime of impaired driving is well known among those working to reduce the toll exacted by drinking-driving crashes. The health aspect is important, too, and often a key part of the efforts to attain long-term resolutions to the impaired-driving problem, because successfully treating alcohol-dependent DWI offenders can often end the cycle of recidivism. Although the courts can exert a strong incentive to promote offender behavioral change, these efforts are often insufficient to usher in the behavioral change for those who have significant alcohol problems. The courts are arguably more effective in encouraging behavioral change than the licensing authority, but many offenders are not motivated to change their behavior by decree. That role is more effectively handled by DWI-specific court programs where, in a coordinated effort, the judges and/or probation and treatment professionals intensively supervise DWI offenders with substance abuse and dependency issues.

Most professionally staffed treatment programs have only modest success in facilitating behavioral change. In her often cited meta-analysis, Wells-Parker (1994) studied the effectiveness of mandatory treatment in the criminal justice arena and found a beneficial effect of only 9 percent. Accordingly, even with services provided by professionally trained counselors, the benefit may be only modest. There is no guarantee that a court order to stop drinking or an interlock program that requires abstinence to remain in good standing can implement the desired change simply by demanding it or facilitating access to treatment resources.

Linking interlock and treatment programs ideally would allow the treatment providers to benefit from the interlock recorder data, especially failed BrAC tests, as an indicator of clinical progress. Although many relicensing programs require evidence of treatment completion before reissuing an unrestricted license, few simultaneously link the treatment services to the interlock program and make the recorder data available to the counseling staff. In a pilot program sponsored by NIAAA, judges from three counties in east central Texas (Collin, Dallas, and Tarrant) sentenced offenders to a joint interlock and motivational intervention program from 2000 through 2003 (Timken & Marques, 2001a, 2001b). Based in part on the findings and experience from the Texas study, a fully interlock-linked treatment program option was initiated in Colorado in 2011 (Timken, Nandi, & Marques, 2012a, 2012b).

Although not every State was reviewed for this study on interlock data utilization, several U.S. jurisdictions were identified as having some type of link between interlock user requirements and treatment programs. Although not extensively studied for this report, as their numbers of offenders on interlock are on the lower end of the scale, South Carolina, West Virginia, and Virginia all have links to treatment. South Carolina uses a point system under which interlock violations can accumulate to trigger a treatment requirement. West Virginia requires interlock users to enroll in their alcohol education/treatment program *while* on the interlock; certain violations trigger additional treatment requirements. The Virginia Alcohol Safety Action Program monitors all interlock offenders statewide and works in conjunction with the courts; interlock violations trigger a reclassification of substance abuse needs and referral to treatment for those under court supervision.

The interlock program in the Canadian Province of Nova Scotia provides an example of a program that covers both the on-interlock and post-interlock periods. It currently requires treatment while the interlock is installed and for 6 months after the interlock has been removed. TIRF is currently conducting an evaluation of the Nova Scotia program.

Florida and Colorado install large volumes of interlocks statewide and have a strong integrated interlock/treatment link. Florida has a well-defined set of conditions that trigger an interlock user's return to treatment, with a concurrent requirement to meet monthly with a case manager (trained in the interpretation of interlock logs) who routinely documents the review of the interlock data and sets goals with the interlock user to eliminate further violations. Although not yet a requirement for interlock users, Colorado's new Interlock Enhancement Counseling (IEC) program provides interlock training to treatment providers and direct access to the log reports that then become an integral part of individual and group counseling. These two States are featured in more detail in Chapter 6.

The unique aspect of the Colorado and Florida programs is not just the concurrency of the counseling intervention and the interlock program, but also the standardized procedures that

make review of the interlock logs an integral part of the counseling process. Because many States make treatment completion a condition of interlock eligibility, there may be statutory or administrative impediments to easy implementation of these linked programs. A key question is whether the treatment-related services that are triggered by a DWI offense can be delivered with some overlap to the interlock program so counselors and others can regularly review the log data with the interlock users on their caseloads. There is also the question of restrictions related to laws or policies that would prevent the sharing of interlock records.

As program authorities became interested in using the interlock data for evaluating interim progress of interlock offenders (whether for monitoring or treatment), a need arose for service providers operating within a State to provide more uniform reports to those authorities. The interlock providers have been making monthly or bimonthly reports to State monitors since the origins of interlock programs, but interlock companies design most of those reports. Consequently, there was little motivation for the service providers from different companies to coordinate the type of report produced or to define the key concepts reported (e.g., circumvention, BrAC warnings, lockout triggers). When each private company separately conceives a meaning for each of those variables, it is inevitable that a variety of definitions will prevail.

The International Council on Alcohol, Drugs and Traffic Safety Interlock Working Group (Marques, 2005) raised this issue as a forthcoming problem, and it was discussed in some detail in the *Key Features* report. The need was described for standard operational definitions of interlock functions across all interlock companies for a common understanding of technical words for the benefit of both monitors and evaluators (NHTSA, 2010b). More recently, the NHTSA *Case Studies of Ignition Interlock Programs* report analyzed the needs of the interlock programs in six States and also identified the need to develop uniform reporting criteria for all vendors (Fiedler, Brittle, & Stafford, 2012). AIIPA's 2014 publication of recommended standardized BAIID vocabulary and best practices for testing and performance is a great first step to alleviating the problem of lack of reporting uniformity among vendors and States (AIIPA 2014).

> AIIPA recognizes that BAIID programs differ from one State or jurisdiction to another for a variety of reasons. Differences are found in regard to legal issues (statutory language, rules and regulations, case law, etc.) and scientific issues (instrumentation, documentation, certification, testing, etc.) (AIIPA, 2014).

Another aspect of the same reporting problem is the format. Although clear definitions and consistency are important to common interpretation, understanding of any given offender's performance while on the interlock device also would be facilitated by consistency across vendors' reporting formats. When there are multiple interlock providers operating within a State, it would be a great convenience and timesaver for monitoring authorities to have only one format to decipher and upon which to act. Currently, there is no common format, although some States (e.g., California, Oklahoma, New York, Michigan) have created their own report format that interlock vendors must use. Most interlock vendors also provide web-based access to interlock log data, but negotiating 5 or 6 different web formats in a State can be an issue for monitors. Florida reduces the problem by using only two vendors statewide. Massachusetts has tried to

alleviate this problem by requiring vendors to conform to a prescribed web format with tabs defined and named by the monitoring authority. As discussed later in this report, the issue of format may become less of an issue as more States move toward automated systems where all data is uploaded by vendors to a central State database in a specified format. The American Association of Motor Vehicle Associations has initiated researching the issue of possibly creating a national database of interlock data that would theoretically provide standardization of data elements across all vendors and States and a centralized source of data.

NHTSA has sponsored a number of regional and national summit meetings, which have included State ignition interlock authorities. These meetings have led to discussions among State authorities and an effort by them to identify common ground on the issue of reporting and report formatting. At a NHTSA-sponsored meeting in November 2010, representatives of most State interlock programs attended, and discussed a wide variety of topics, including commonality of reporting. Apparently, the widespread consensus was that, for staff training alone, common formats (i.e., ones that report on commonly agreed-upon and defined data elements) would reduce the administrative cost burden of managing the interlock programs (GHSA & NHTSA, 2010).

Summary

In the 26 years since 1986, when the first State interlock pilot program was initiated in California, evidence has accumulated that the interlock, as a DWI intervention, has substantial benefit while installed, but has little or no enduring effect on behavior once it is removed. A 64 percent reduction in recidivism while on the interlock is followed by little difference in recidivism between interlock and non-interlock controls once the devices are removed from the vehicles. Nonetheless, jurisdictions that succeed in drawing a substantial number of their DWI offenders into the interlock programs can expect a substantial control benefit that reduces the rate of alcohol-related crashes.

In the late 1990s, the first report emerged, suggesting that analysis of the stored BrAC test record logged while offenders were enrolled in interlock programs might reveal important information about the post-interlock risk of drivers. Studies in multiple jurisdictions in both the United States and Canada have demonstrated that the rate of failed BrAC tests predict the likelihood of post-interlock recidivism. Those who fail more overall and those who fail more in the morning hours are the most likely to become post-interlock recidivists.

States have begun to act on the stored BrAC test information and other information bearing on adherence to program expectations. When an offender has had an unacceptable number or rate of failed BrAC tests or other types of procedural failures, many States are extending the required interlock period, as this report will confirm. In the past, these interlock offenders might have been removed from the interlock program.

As States grapple with finding an acceptable, cost-manageable way to monitor offenders for both the States and the offenders in the interlock programs, efforts have been directed toward encouraging interlock providers to offer more uniform and understandable periodic reports to monitoring authorities. Reports from the interlock companies can help facilitate the therapeutic conversation between counselors and offenders, a value-added benefit to the offenders' performance reports that could help improve the effectiveness of treatment services for DWI

offenders, whose counseling interventions are linked to the required interlock-installed period. Better monitoring information and wider use of the BrAC performance reports might help improve the motivation for offender self-change in drinking and thereby reduce the rate of reoffenses.

Alcohol-impaired driving and the problem drinking that sometimes leads to it, lies at the intersection where the interests of the health and criminal justice functions of society converge. Interlock programs and the performance reports that identify patterns of behavioral change progress during those programs, when fully integrated, have the potential to help reduce the cycle of recidivism among repeat DWI offenders and thereby improve highway safety.

3. Interlock Data Reporting Variations

At least three elements define how a State-level interlock program operates.

1. How the State certifies the adequacy of the hardware that each manufacturer uses in the State.
2. How often the State periodically inspects or qualifies service providers that deliver the State-approved program to DWI offenders.
3. How the interlock service providers report to the State or monitoring authority that has the regulatory or judicial responsibility to monitor the DWI offenders on interlock.

This report focuses on element 3. This chapter reviews some history and considerations in the structuring of interlock reports between interlock providers and State and court officials, and others who use this information. It discusses the multiple report formats and varying violation definitions that make it more difficult for interlock data monitors to do their work efficiently. It also documents ways to improve the reporting process with suggestions for improvement. Specifically, the following topics are discussed.

- Bootstrapping the State interlock programs
- Reporting basics
- Reporting variations among the nine States
- BrAC set points and violations
- Vendors' data elements similarities and differences
- Improving the reporting process
- Steps toward establishing standards
- Widely used and useful report elements
- Report considerations for treatment providers

Bootstrapping the State Interlock Programs

NHTSA's 1992 *Model Specifications for Breath Alcohol Ignition Interlock Devices* (57, Federal Register, 67) and the recently published updated 2013 Model Specifications provide recommended performance criteria and test methods for BAIIDs. Most States have followed these recommendations with relatively minor variations. Because most interlock manufacturers are marketing units in more than one State, national model specifications can reduce manufacturing costs by avoiding the need to produce multiple designs and possibly allowing qualification testing in one State to be accepted in other States. The model specifications identify only the minimum key interlock performance features that manufacturers should make available. Such features include acceptable breath-test lockout levels precision requirements and acceptable performance in varying hot and cold environments. Also included are anti-circumvention features, such as the retest; vibration resistance; and a data recorder log that tracks all breath tests and other events with a date and time stamp. The data recorder contents are essential to this

report on data utilization. However, the model specifications do not recommend program features (operational procedural protocols for using the interlock), such as the format of the data log reports or actions to be taken by the monitoring agency for violations that influence the various reporting requirements established by the courts and driver-licensing agencies. The Model Specifications do suggest some definitions for the more commonly used terms for reporting, such as *alcohol set point, retest, tampering,* and *circumvention*.

The 2013 NHTSA BAIID Model Specifications continue to emphasize device performance criteria, allowing States and local jurisdictions the flexibility to design and conduct their own interlock programs. Two notable changes, however, between the 1992 and 2013 Model Specifications are a *reduction* of the BrAC lockout point from.025 to .02 g/dL and the inclusion of an altitude test (78 Federal Register, 89).

In 2012 the U.S. Congressional Appropriations Committee requested that NHTSA provide some guidance for interlock program operations to encourage consistency and efficiency among the States. NHTSA published *Model Guidelines for State Ignition Interlock Programs* in November 2013.

Reporting Basics

Neither the model specifications nor most of the initial State certification standards fully describe how the service providers (and the manufacturers who supply the equipment to them) must define and report the interlock performance of the DWI offenders they manage. A review of the Administrative Codes for the nine States in this study reveal that most have started to provide specific interlock data elements to be reported and the mode of report delivery, but they seldom specify the specific format for the material to be delivered. In the meantime, interlock service providers, particularly the 10 to 12 manufacturers or vendors of interlock equipment (hereafter referred to as "vendors"), have substantially added to the data they are collecting and to their capability to automate data delivery. Recently, for example, manufacturers have been adding remote and real-time reporting to their devices such that a retest failure or a failure to respond to the breath-test requirement is reported to the provider's data system immediately. Other manufacturers have installed photo-identity systems that produce a picture for verifying the individual that provides the breath sample. Still others have added a Global Positioning System (GPS) to their systems so that vehicles can be tracked.

Generally, interlock manufacturers compete for State contracts or individual court programs, but the equipment is delivered through local service center providers that may be owned by the manufacturer or is a manufacturer's franchisee; often, however, the service provider is a completely independent small company that manages one manufacturer's product. Device manufacturers generally have a standard format for reporting interlock data, which must be modified to fit the requirements of a specific State. A few States (e.g., California, Georgia, Oklahoma – see Appendix C) require the vendors to use the State-issued form for reporting specific violation data. Some States have worked collaboratively with interlock vendors to establish an agreed-upon common report format for use by all vendors in the State (e.g., Colorado, Texas, New York – see Appendix D). As private businesses, the manufacturers have a strong incentive for their interlock programs to run well and to be effective to maintain their legitimacy with the public. Manufacturers have varying control/influence over the providers who

install and service interlocks and provide reports to monitoring authorities that depend on their relationship to the provider. Providers have varying capabilities to take advantage of the full functions provided by the manufacturers and generally must compete in price with other providers licensed by the State. The large variety of vendor and service provider report formats may explain why some States now specify the report format and contents, rather than simply accepting the vendors' versions.

Current interlock record systems can provide breath-test and engine ignition information in detail by day of week and time of day. The information needed by program managers depends upon the State law or court probation requirements and the staffing resources available for monitoring interlock users. Summarized reports are a necessity in the monitoring process because the raw data (a simple printout or the data file of all events contained in the data log of the interlock devices) would pose an unreasonable burden on program monitors to review and digest. Where personnel resources are limited, monitors frequently want only exception (violation) reporting to simplify monitoring. In DWI courts and adjunct treatment programs, where information for prevention counseling is important, additional details are generally needed. Ideally, these reports would condense most of the technical information into a consistent, readable, and easily digestible summary of the prior month's performance for each offender in a caseload.

Reporting Variations

Few States have only one interlock vendor (as North Carolina did for many years), and relatively few have only two providers. Most States have an open marketplace where providers whose equipment meets State certification standards can compete for business (e.g., in 2012 New Mexico had six; Colorado, five). A lack of uniformity is the norm when there are multiple interlock providers and each provider issues different report formats—the information arranged differently, sometimes defined differently, and reported via different methods (e.g., online, paper, fax)—to one or more authorized recipients. Various groups that manage DWI offenders on interlocks (e.g., probation, DMV staff, case managers, administrative hearing officers, and a limited number of treatment providers) have differing levels of training about how to extract meaning from the reports. To reduce administrative burdens for both training and interpretation, there ideally would be some convergence around at least a core of information to be contained in a regular report.

Interlock monitoring authorities would prefer a standard monthly report format and standard terminology used by the 12 or more interlock vendors that operate in the United States. Currently, the multiple report formats and varying violation definitions make it more difficult for interlock data monitors, who must review reports regularly, to sort through and interpret reports. Most vendors do provide a website portal to access the data, adding another potential report format that interlock data monitors must negotiate if using web access. The States studied for this report have an average of four or five interlock vendors providing service. This adds to the possible variations if the number of report formats is multiplied by differing company-specific definitions of interlock events and by the various device settings.

Standardization of monitoring reports among interlock vendors seems like a simple goal, and some interlock vendors would like more standardization as well, but attaining it will not be easy. Interlock vendors try to be flexible to accommodate the varying requirements and requests of

their State and court-monitored interlock customers, but the process can be unwieldy. A vendor may have up to 30-plus report formats for special reporting requirements for States that have primarily court-administered interlock programs. Even in States that have primarily State-administered interlock programs, the courts usually still have discretionary authority to order interlocks and may have their own report specifications and even a different BrAC lockout level than the State monitoring authority. In addition to the issues of report formats and violation definitions, each vendor has many additional reporting and technical requirements in its contracts with each State or court system. These requirements add to the number of differences vendors must track when attempting to meet all the requirements of multiple States and court systems.

This multitude of variations in the interlock-reporting process can affect the data log report output and, subsequently, how the data are used. Each State interlock monitoring authority has its own interlock program specifications that trigger a violation and the consequences for those violations. The actual logging of the violation event, however, is a function of interlock device itself. The operation of the device is dependent upon the proprietary software and device features. Each company also has its own database designed to produce and deliver log data reports and often its own web portal to provide access for authorized data monitors.

Thus, a long list of differences could potentially thwart efforts to standardize report formats, definitions, data output, and ultimately, the use of the data for monitoring and follow-up actions. The potential differences previously discussed are listed here, along with some additional variations that could affect use of the log data.

- Legislative and administrative code definitions and requirements.
- Monitoring agency policies, practices, and needs.
- Vendor policies, practices, and capabilities.
- Individual vendor log event definitions.
- Vendor report format and website format differences.
- Device configuration and software differences.
- Device setting and calibration differences.
- Device capabilities, such as photo capture of the driver with each breath test, real-time reporting, and GPS with cell technology.
- State device-configuration requirements for the certification process and the concomitant field test results (if performed).
- Interlock vendor centralized control of all raw data versus various service centers' involvement in managing and reporting data to monitors.
- The use of vendor-filtered violation-only log data versus the use of all raw log data applying State violation filters. (Filtering can occur at the vendor's corporate or service center level.)
- Automated versus non-automated data systems.
- Interpretation of data differences among service center staff, central vendor staff, and monitoring agencies.

BrAC Set Points and Violations

Each State defines through legislation and/or administrative codes what events or event combinations are considered an interlock violation, whereas the recording of the event is a

function of interlock device programming. Vendors operating in a State must program their devices to meet the legislated requirements. At the simplest level, one State may require a lockout at .025, whereas another State may require a lockout at .030.

Table 1 illustrates the differences and similarities among the nine States in this study in their definitions of three most common interlock reporting functions:

- Startup lockout BrAC—the maximum BrAC at which the vehicle will not start, thus causing a temporary lockout.
- BrAC-related violations—startup failures, failed or missed retests, or a combination of events.
- Early recall triggers—varies; a cross between the jurisdictional requirement, the vendor recommendations, and the device capabilities.

The practices among States regarding some type of minimal vehicle usage record are included in Table 1, potentially indicating that the offender is driving a non-interlock-equipped vehicle.

These interlock data elements for each State are more fully discussed in the following the table. In addition, major violations, such as tampering with the device or trying to circumvent the intended use of the device (not included in this table), are addressed following the discussion of the common interlock data elements shown in this table.

Table 1. Start-Up Lockout and BrAC-Related Violation Triggers, 2012

State	Startup lockout BrACs	BrAC-related violations	Early recall triggers	Minimal vehicle usage recorded
Arizona (admin)	.03	≥ .08 BrAC – Failed retest – Missed retest	– 6 failed BrACs – Failed retest – Missed retest	Not required. Some vendors flag low mileage.
Colorado (admin)	.025	– 3 lockouts[a] above ≥ .025 BrAC in any 3 months. – Failed retest – Missed retest	≥ .08 BrAC – Failed retest – Missed retest – Additional combination of events varies by vendor.	Not required. Some vendors flag low mileage.
Florida (admin)	.025[b]	– Failed retest – Missed retest – 2 startup fails in 4 hours	– Failed retest – Missed retest – 2 startup fails in 4 hours	Not required. Some service centers flag low mileage.
Illinois (admin)	.025	≥ .05 BrAC – Failed retest – Missed retest – 5 plus start fails in 24 hours. – 10 plus start fails in 30 days	≥ .05 BrAC	Not required. An automated check is being developed.
Maryland (admin)	.025	– ≥ .025 BrAC not "voided" with 5-minute retest	– Vendors use their own early recall settings.[c]	Less than 50 starts per month flagged by automated system.

State	Startup lockout BrACs	BrAC-related violations	Early recall triggers	Minimal vehicle usage recorded
		– Failed retest – Missed retest		
North Carolina (admin)	.04 first offenders >.00 multiple offenders	– 1 failed retest (license reinstatement applicants) – 1 failed start or retest (conditional license applicants) – Missed retest	≥ .08 BrAC	Not required. Vendor flags low mileage.
Washington (admin)	.025	≥ .04 BrAC [d,f] – Failed retest [d,f] – Missed retest [d,f]	≥ .04 BrAC	Less than 50 starts in 60 days reported by vendors.
New Mexico (hybrid)	.025	– Courts—Case-by-case consequences for events – 1 failed BrAC ≥.025 for Bernalillo Metro Court[e] – MVD—No BrAC violation triggers for reinstatement cases[f]	– 6 start fails in 3 hours or 10 initial or retest fails within 30 days.	Vendors are required to record mileage since last service visit.
Texas (court)	.03	– Courts—case-by-case consequences for events – Some courts enforce consequences for positive tests below .03	– Five or more violation points for: an illegal start, failed test, or missed retest within 15 minutes.	Not required. Some vendors flag low mileage.

[a]Lockouts caused by three consecutive failed startups within 15 minutes of the previous test.
[b]Abstinence required for some multiple offenders. Start-up BrAC recently (July 2013) changed from .051 to .025.
[c]Maryland receives raw interlock data daily, so violations can be handled in a timely way.
[d]Final 4 months of interlock installation.
[e]Bernalillo County Metro Court encompasses the largest population in New Mexico.
[f]Violations are triggered only for tampering and circumvention of the device.
Note: In column 1, "admin" refers to administrative States, where interlocks are monitored largely by the State licensing authority. "Court" refers to States where interlocks are monitored largely by the court probation department; and "hybrid" refers to States where both the courts and the State licensing authority are substantially involved.

Startup lockout BrACs. The *Startup Lockout BrAC* column in Table 1 lists the BrAC maximum that causes a temporary lockout (15 to 60 minutes) when the vehicle will not retest. The BrAC level specified in the NHTSA model standard is .025, but every physical measurement has some error. Therefore, an allowance for measurement error was provided by the specification that 99 of 100 tests at a BrAC of .030 must result in a lockout. The vehicle will start at BrAC levels below the .025 set point, which is similar among seven of the States. This level allows small amounts of residual alcohol in the mouth from things like toothpaste and mouthwash.

There are two exceptions to the .025 to .03 BrAC startup point range among the nine States included in this study: Florida had a set point of .051 BrAC for many years (but recently moved to .025 as of July 2013), and North Carolina has two startup set points: .04 for first offenders and .00 for multiple offenders. These two States also provide examples of jurisdictions that use the interlock as one method to monitor the State requirement for abstinence from alcohol by DWI offenders. In Florida, abstinence is required for multiple offenders who have been convicted for high-BrAC DWI offenses if they apply for an interlock license. *Any* positive readings above .00 are reviewed by special supervision specialists and have a consequence in Florida. (More details

are provided in Chapter 6 and Appendix B-3) Abstinence is also apparently closely monitored in North Carolina where the startup BrAC is .00 for multiple offenders. Any positive reading over .00 BrAC is grounds for suspension of the interlock license, although there is an appeal process. (North Carolina Profile, Appendix B-6) These two States also illustrate monitoring systems that require detailed breath-test data rather just the recording of lockouts.

Monitoring abstinence. Because interlock users may not attempt to use their cars every day of the week, standard interlock units do not monitor abstinence. This is a goal that vendors say the device was not designed to meet. However, interlock devices equipped with photo monitoring can be adapted to that purpose by requiring the offender to start the car at regular intervals 7 days a week. Some DWI courts in Michigan use this method to monitor driving *and* abstinence. (See Chapter 6 for a description.)

The interlock device also is used to enforce abstinence in some court programs. In Bernalillo County, New Mexico, the probation department requires that interlock providers inform it within 48 hours of any positive breath test, even those below .025. Some judges in Texas add sanctions, such as additional alcohol-monitoring devices (transdermal ankle device), and additional treatment for BrACs lower than the State's startup set point of .03 BrAC. In addition, a limited number of DWI courts that use the interlock as part of their program also use the device to monitor complete abstinence (see Chapter 6).

BrAC violations. In the *BrAC-related Violations* column of Table 1, in addition to startup failures, failed or missed retests are common interlock violation triggers. In several States among the nine studied, a combination of events is required to trigger a violation and subsequent consequence (consequences for violations are discussed in Chapter 4). This generally produces a requirement for the provider to identify the multiple criterion events in reports to the monitoring agency. This can be done through an algorithm in the interlock recorder itself or pose a preliminary analysis requirement on the provider. The complexity of some of the interrelated measures that define violations may hinder accurate reporting. Some examples follow:

- Two States specify the number of startup failures within a certain period that trigger a violation: (a) Florida—2 startup fails within 4 hours, and (b) Illinois—5 startup fails within 24 hours, and/or 10 within 30 days.
- Even though the startup BrAC lockout levels in most States are .025 to .030, retest BrAC readings at higher levels can trigger additional violations: ≥ .04 in Washington, ≥ .05 in Illinois, and ≥ .08 in Arizona. Thus, interlocks must have varying set points depending on the circumstances.
- Illinois provides an example where an interlock user can incur a violation for five startup fails of ≥ .025 in 24 hours. Any retest ≥ .05 would be a separate additional violation, thereby requiring the interlock algorithm to distinguish the same set level based on vehicle motion.

Early recall triggers. In the *Early Recall Trigger* column of Table 1, there is a surprisingly wide variation among settings that are determined by a jurisdiction's requirement, vendor recommendations, and/or device capabilities. Early recall criteria are programmed into the interlock device that recognizes the triggering event(s) and notifies the user to report to the service provider earlier than the normal service date: immediately, within hours, or within a certain number of days, usually 5. Failure to return to the service center within the specified time

results in a device setting to impose a permanent engine lockout until the service provider is called for an emergency override code or the vehicle may need to be towed at the interlock user's expense. The interlock user must return to the service center to have an inspection of the vehicle, a download of the log memory, a calibration check, and the completion of an event report explaining the interlock user's actions leading to the events that triggered the violation.

In Florida, the events that trigger a violation and the early recall trigger are the same. For the other States, however, there are differences. In States where the courts play a large role in monitoring interlocks, a judge may require notification of positive readings as soon as possible or within 48 hours of download of the data, rather than rely on the delivery of monthly reports. Many courts, however, have insufficient staff resources to follow up on each positive reading and do not request these types of notifications. Some interlock providers are incorporating electronic transmission features into their units that do real-time reporting of BrAC test and violations to meet such rapid reporting requirements.

Minimal vehicle usage. Documenting "low mileage" or minimal vehicle use is an important element to record because it indicates that the DWI offender might be avoiding the interlock requirement by driving a non-interlock-equipped vehicle even though this constitutes driving while suspended and is subject to significant penalties. Research has shown that most DWI offenders will elect to risk driving while suspended rather than install an interlock if they have the option to do so (Roth et al., 2009). This therefore could be a significant problem for interlock program managers. There is no direct way in which to determine whether an offender is using another car. However, the interlock does record every vehicle start, and low frequency of trips can be an indicator of the substitution of another vehicle. The providers can be required to record the vehicle odometer readings when it is serviced. Among the nine States, there is no common definition of what constitutes low mileage or nonuse of the vehicle. This lack of a standard may be related to varying definitions of infrequent use, which may vary for individual interlock users.

As shown in the *Minimum Vehicle Usage Recorded* column in Table 1, two States do provide a specific flag for low use: fewer than 50 starts per month in Maryland and fewer than 50 starts in 60 days in Washington. Illinois is in the process of developing an automated low-use flag to go along with its automated central database of interlock data. In New Mexico, service providers are required to record the odometer reading at each monthly service visit so that it can be compared with the previous month. Several States leave it to the vendors to flag low mileage in their reports, but it is not a requirement. One vendor routinely records the number of engine starts and will add a note of "caution" if there are fewer than 2.25 engine starts per day. Other vendors may use similar warnings in their monitoring reports. A recent interlock evaluation program report by the Washington Traffic Safety Commission underscores the importance of this measure. It found that the lower the number of vehicle start attempts, the higher the likelihood of recidivism (Grondel, 2014).

Tampering and circumvention. Although not included in Table 1, tampering with and circumventing the interlock device are considered major violations that usually result in an interlock license revocation, either temporarily or permanently. A review of the administrative code definitions for the terms "tampering" and "circumvention" reveals multiple differences among the States. Sometimes only one of the terms is used; sometimes, two terms are used but not defined; and sometimes, they are used interchangeably in the code language. New Mexico differentiates by defining "circumvention" as an electronic bypass, bogus sample, push start, or

hotwire; "tampering" is defined as trying to alter, disable, or remove the device. Colorado includes altering the device in its definition of "circumvention," but also includes the operation of a non-interlock-equipped vehicle and failure to provide a retest when requested in the definition. North Carolina designates tampering and circumvention of the device as a separate criminal offense.

The NHTSA 2013 Model Specifications provide suggested definitions for tampering and circumvention:

> *Tampering* - an attempt to physically disable, disconnect, adjust, or otherwise alter the proper operation of the BAIID.
>
> *Circumvention* – an attempt to bypass the correct operation of a BAIID, whether by use of an altered breath sample, by starting the vehicle by any means without first providing a breath sample. 78 Federal Register, 89)

AIIPA's 2014 recommended standardized vocabulary of BAIID terms for "tampering" and "circumvention" essentially coincides with the NHTSA 2013 Model Specifications suggested definitions of these terms. Because each State interlock law has certain legislative requirements and because the limits and capabilities of interlock devices vary, coming to a consensus on all interlock-recorded events, as discussed in the next section, may be difficult. Having the AIIPA recommendations, however, will be a helpful guideline for jurisdictions.

Vendor Similarities and Differences

States with automated interlock data program management processes, by necessity, have collaborated extensively with interlock vendors, not only on technical data transfer issues, but also on data element and violation definitions. Often, monitoring agencies and interlock vendors conduct ongoing collaborations, such as in Colorado, Florida, and the Metro Court in Bernalillo County, New Mexico. Some State monitoring authorities and/or probation managers included in this study meet with vendors regularly to troubleshoot and to work towards more uniform procedures.

Table 2 illustrates an ongoing collaborative effort between one State's interlock program managers and five interlock vendors to move towards uniformity among interlock device configurations while allowing some flexibility for providers. Table 2 provides an example of the types of issues that could arise when trying to set a common vocabulary for interlock data elements; it is not always as simple as agreeing on the definition of a word, but also involves interlock device configurations and capabilities. The differences are related to hardware, software, and policies among the various vendors. For example, vendor 5 has a shorter timeframe for the first and subsequent retests (second and third rows of Table 2), but this is a matter of vendor policy and not considered an issue that needs resolving. The three areas (highlighted in grey in Table 2) were not uniform among the five companies when this report was written, including (a) the number of violations that trigger a lockout; (b) notification of a battery power interruption longer than 5 minutes; and (c) total number of violations before the early recall sequence is activated.

Table 2. Example of data element similarities and differences among five interlock vendors in one State,[a] 2012

Ignition interlock device configurations by vendor	Vendor 1	Vendor 2	Vendor 3	Vendor 4	Vendor 5	Uniform
Initial test fail level	0.025	0.025	0.025	0.025	0.025	Y
First retest occurs randomly within 15 minutes	5-15 mins	5-15 mins	5-15 mins	5-15 mins	4-8 mins	**N**
Subsequent retests occur randomly within 45 minutes	15-45 mins	15-45 mins	15-45 mins	15-45 mins	5-30 mins	**N**
Time allowed to take any retest before a "missed" retest is logged	5 mins	5 mins	5 mins	5 mins	5 mins	Y
Amount of time allowed to restart the engine (free restart/stall protect) without having to provide a breath test	2 mins	2 mins	2 mins	2 mins	2 mins	Y
Free restart above does not apply if device is in retest mode	correct	correct	correct	correct	correct	Y
Number of "consecutive" fails that trigger a temporary lockout condition	3	3	3	3	3	Y
Length of time of temporary lockout condition after blowing 3 consecutive fails	15 mins	15 mins	15 mins	15 mins	15 mins	Y
Events considered a "violation" by the device and trigger an early recall:						
Fails >.024	No	No	No	No	No	Y
Fails >.050	No	No	No	No	No	Y
Fails >.080	Yes	Yes	Yes	Yes	Yes	Y
Missing or refusing a retest	1	1	1	1	1	Y
Start violations	1	1	1	1	1	Y
Failed retest	1	1	1	1	1	Y
Lockouts (3 trigger a violation)	Yes	Yes	Yes	No	Yes	N
Power interruption > 5 mins	Yes	NA	Yes	No	Yes	N
Total number of violations allowed before device enters early recall for violation lockout (resets with download)	NA	NA	any combo of 3 or 1 start violation	any combo of 6	1 circum/ 3 startup	N
Grace period allowed before a lockout condition occurs after using the allowed number of violations	5 days	5 days	5 days	5 days	5 days	Y
Grace period allowed before a lockout condition occurs for missing a scheduled download/service visit	5 days	5 days	5 days	5 days	5 days	Y
Warning notification of pending service lockout condition—number of days before scheduled appointment date	7 days	7 days	7 days	7 days	7 days	Y

Ignition interlock device configurations by vendor	Vendor 1	Vendor 2	Vendor 3	Vendor 4	Vendor 5	Uniform
Anticircumvention features to deter bogus breath samples	Blow/suck	Blow/suck	Blow/hum	Blow/hum	Blow/suck or blow/hum option	Y
Device can be deactivated by service center	No	No	No	No	No	Y

[a]The names of the State and vendors are not provided to protect information that is potentially proprietary among interlock vendors. Grey shading indicates areas that are not uniform among the five interlock vendors.

Because the goal of interlock programs is to modify DWI offender behavior by separating drinking and driving, standardization of *all* possible differences among vendors may not have important safety implications. However, differences among vendors that suggest less-intensive monitoring and less inconvenience for clients could become a sales incentive and lead to less-effective control of drinking and driving.

Table 2 reflects one State's efforts through regular meetings with the State's five certified interlock vendors to minimize differences that affect data log reports and thereby allow the monitoring authority to interpret vendor reports within a common frame of reference.

Improving the Reporting Process

Efforts have been made to systematize vendor reports to reduce the interpretational burden on monitoring authorities. Without specific requirements of format and definitions from each State, however, how should the vendors be reporting? In the earliest years of interlocks, the manufacturers originated the summarized reports they believed would help monitors understand the performance of DWI offenders in the program. There are many specimen reports from different manufacturers, and many contain similar information (Appendix E, Sample Vendor Reports).

The content of these reports represent variables that the manufacturers programmed into their devices. It may appear that all forms report similar information; nevertheless, no external requirements have been placed on the manufacturers to report on events based on an *underlying commonly agreed-upon definition.* According to one major provider of interlock devices, the manufacturers have encouraged States to adhere to common definitions of "lockout," but he notes that there are at least five definitions of a lockout event in different States. This places a burden on the manufacturers to accommodate a wide variety of State and even local preferences for reported information.

One State's Approach

One attempt to minimize differences among vendor violation definitions and reporting was described in Table 2. Oklahoma (not a State included for intensive study this report) provides another approach with its Vendor Field Test (Appendix F). Its plan involves a testing regimen to verify device technical specifications and a set of procedures for certifying service centers for operation in Oklahoma. The plan appears to be unique in scope and specificity as it attempts to ensure the integrity of the overall interlock program.

Under the guidance of the Oklahoma Board of Tests for Alcohol and Drug Influence, a process was initiated whereby vendors undergo a field evaluation to determine if the interlock devices behave in accordance with State regulations. For the initial field test, six devices from different companies were installed and tested in State vehicles. Testers created a list of specific violations, which were compared to the data log reports from the devices.

The test regimen asks 17 specific questions and specifies explicit procedures to evaluate the extent of compliance of a device with a specific element of the State regulation. For example:

- One item requires that the field inspector using an interlock-equipped car do the following: Arrive at your destination, turn engine off, wait 20 seconds, attempt to restart the car without first providing a breath test. Did the vehicle start (Yes/No)? Describe what you heard and saw.
- Paraphrasing another item: Drive until a request for retest occurs, pull over and refuse the retest while leaving the engine running, wait for an indication that the retest was refused. Then turn the engine off, wait 20 seconds, and try to restart (during the free restart interval). Did the engine start?

Because the test regimen used the same configuration file requirements, all manufacturers' devices should have had the same data log results when applying the same field tests. Taylor noted that none of the six vendor devices passed all test elements in his initial evaluation. The devices failed on important things, such as not recording a bypass, retest refusals or failures, incorrect violation reset, and improper violation reporting. Ultimately, the five vendors that passed this field test became certified to operate in Oklahoma (Robertson, Holmes, & Vanlaar, 2011).[3]

NHTSA's Key Features Report

The NHTSA *Key Features* report noted that before discussing how to present information in a consistent format, it is necessary to have a consensus or operational definition of what each of the concepts embodied in a report actually mean. The Oklahoma Vendor Field Test plan took this one step further. Rather than defining the procedural elements, it evaluates how each of the State's interlock providers actually meets (or fails to meet) the elements of interlock performance required by the State hardware certification standards. Before establishing a common reporting format, it will be necessary to determine what will be reported. In a sense, the Oklahoma Oversight Plan is a behavioral assessment of the devices.

Much as was discussed by the *Key Features* report, Oklahoma mounted its test protocols because it discovered the following significant differences:

- How manufacturers define violations.
- If and how violations were explained to interlock users.
- Manufacturers' violation verbiage.
- Interlock device technical response to a violation.

[3] A NHTSA-supported report, Alcohol Interlock Programs: Vendor Oversight, Traffic Injury Research Foundation (2010), provides guidance and sample forms for the vendor certification process (http://www.tirf.ca/publications/PDF_publications/NHTSA_Tech_Assistance_VendorReport_4_web.pdf).

- Violation report filtering.
- When and to whom violations are reported.

Reportedly, during State administrator discussions in Oklahoma, one of the most significant problems uncovered was that the State authority was often not in the reporting loop.

Widely Used and Useful Report Elements

The task of deciding which data elements should be reported and how each element is to be defined will likely require a detailed collaboration between the government and the private sector. However, information provided to or requested by the monitoring authority and that appears on a summary report can be divided into several categories. Following are examples of categories of information that are or could be used routinely.

- The Service Center and the Installed Device
  - Service Center contact information—e-mail address, telephone number, street address, service center contact person
  - Device model, type, and serial number
  - Last device service, last device calibration
  - Last device service expected but not completed
- Client/Offender Information
  - Full contact/ID information: names, addresses, telephone numbers, e-mail addresses, date of birth
  - Vendor case number/identifier
  - Driver licensing agency identifier (e.g., driver's license number)
  - Correctional status
  - DMV status
  - Client installation date for current vehicle
  - Client expected (initial) removal date
  - Any revised or extended removal date and date of revision
- Responsible Monitoring Authority or Authorities (e.g., court, probation, or DMV)
  - Name, address, telephone number, e-mail address, fax number
  - Alternate contact
  - Type of referral (varies by jurisdiction): Pretrial, probation condition, DWI court, DMV administrative license restriction, DMV reinstatement, DMV restricted, Medical Advisory Board
- Vehicle Information
  - Make, model, year, color, vehicle identification number
  - Registered owner, tag number, registration renewal date
  - Vehicle mileage at last service

- Summary BrAC Statistics for Monthly Report for Use in Client Evaluation
  - Total BrAC tests taken, rate of positive tests for alcohol
  - Total startup BrAC tests taken, rate of positive tests for alcohol
  - Total subsequent tests taken (poststart retests)
  - Total BrAC tests failed
    - Total startup BrAC tests failed; note BrAC level, date, time (see detail summary)
    - Total subsequent tests failed (poststart); note BrAC level, date, time (This would be followed by a *detail summary page*, showing events before and after the failed tests.)
- Summary Procedural Statistics
  - Retests at startup taken and passed
  - Retests at startup taken and failed; note BrAC level, date and time (see *detail summary page*)
  - Retests at startup requested but not taken
  - Retests taken and passed
  - Retests taken and failed; (note BrAC level, date, time (see *detail summary page*)
  - Retests requests refused
  - Lockouts related to procedural violations
    - Duration and type of lockout, dates, and times
  - Illegal starts (not preceded by BrAC test), dates, and times
  - Circumventions (however defined)
  - Tampering attempts (however defined)
  - Handset disconnects, dates, and times
  - Power losses, dates, and times
  - Emergency overrides
- Details of Failed BrAC Tests or Suspected Procedural Violations
  - Date, time, and BrAC of all events that are of concern to monitors (e.g., BrAC fails, refused retests). Provide detail on preceding and following five events to add context to the events.
  - Provide text detail of any suspected circumvention or tampering events.

The Colorado Interlock Working Group that includes program administrators and multiple interlock vendors, settled on this standard format in 2011 (Figure 4).

Colorado Interlock Performance Report

Vendor Information:
Name of Vendor
Phone #
Device\Model
Location of Service
City, State, Zip
Date service conducted

Client Information
Installation Date:
- Name of Client
- Address
- City, State, Zip
- DL#
- Phone #

Vehicle Information:
- Year
- Make
- Model
- Tag#
- Color

Summary of Events:

Engine Starts	9999
Mileage	9999999
Pre-Start Tests:	
Pass	9999
Fail	9999
Running Retests:	
Pass	9999
Fail	9999
Missed	9999
Temporary Lockouts	9999
Start Violations	9999
Emergency Overrides	9999
Early Recalls	9999

Continuation or attached sheet with blocks of full log addressing each and every abnormal event plus five events before and after each

Figure 4. Sample of Colorado interlock performance report, 2012

Report Considerations for Treatment Providers

For States or courts providing treatment programs integrated with an interlock program (such as the Interlock Enhancement Counseling program in Colorado, which is described in Chapter 6), special reporting requirements may be appropriate. Morning positive tests may be of particular use in therapy sessions and for marking progress toward a reduction in drinking. A sample interlock report format that displays interlock performance in a calendar format to illustrate patterns over time was developed by PIRE researchers and treatment providers in Colorado (see Chapter 6).

Training in the interpretation of interlock reports is important for their proper use in a clinical setting. Interlock staff, vendors, and clinicians provide training to treatment providers in Colorado as part of its IEC curriculum. In Florida vendors provide training to the DUI caseworkers who examine the logs with interlock users on a regular basis.

Summary

A National Ignition Interlock Summit with key interlock stakeholders from the States was held in 2010. The NHTSA program office also initiated regional meetings between 2009 and 2012 that brought together teams of people from different States to discuss interlock program barriers and solutions.[4] The first meeting of the AIIPA took place in May 2013 in Oklahoma City; the second annual meeting occurred in May 2014 in Baltimore. Thus, some 20 years after the first State interlock programs were initiated, multilevel discussions are being held among interlock stakeholders. In the past, manufacturers and their representatives discussed differences in their methods of logging events and reporting to State authorities, but a standard format for reporting has not evolved. So far, none of the industries associated with the interlock have developed a system that is supported by all manufacturers, and progress in developing common approaches has been slow. Today, however, State interlock administrators have begun having conversations both among themselves and with the interlock service providers operating within their jurisdictions. Although a comprehensive survey has not been conducted, a few States now require a standard report format to be used statewide by all vendors, and a few States have created their own reporting form requiring specific violation information. Further, some States have moved toward more efficiency and consistency by automating the electronic delivery of interlock log data to a central location for processing. These exchanges and developments are timely, especially with interlock installations growing at nearly 10 percent per year.

The 2014 AIIPA recommendations for standard BAIID vocabulary terms and best practices will be an important guide for States and vendors to move towards uniformity. This chapter has attempted to describe some of the challenges that might remain if individual States and vendors are to agree upon common definitions of events logged in the data recorder and a standard report format. Developmental research has shown that this interlock data resource is a potentially valuable source of information about program progress at the aggregate level (e.g., higher total rates of BrAC fails, and higher rates of fails in the morning hours—reflecting heavy prior evening drinking—are both predictive of subsequent post-interlock drinking-driving and recidivism). For that aggregate information to be made meaningful at the individual offender level for use in treatment, however, more effort is warranted to carefully define and report on individual differences, their characteristics, and their long-term outcomes.

Not all States bestow equal importance on the monthly reports. As a form of behavioral feedback to the program participants, it seems worthwhile to engage some categories of DWI offenders in a more focused type of behavioral change intervention that ranges from simple advice to intensive treatment services. Unlike self-report assessments commonly used by clinical service providers, the interlock BrAC test data are usually an actual behavioral record, and thus, a unique

[4] A report prepared by MADD summarizes the findings from these regional meetings, *Ignition Interlock Institutes: Promoting the Use of Interlocks and Improvements to Interlock Programs.(*Mother's Against Drunk Driving, 2013)

and potentially valuable type of objective information for counselors and other monitors not filtered through an offender's self-appraisal.

As States attach more importance to the record of breath-test failures and various procedural violations, the predictive significance of the interlock record may weaken. In other words, as sanctions for program violations become immediate, it is possible that they will suppress the occurrence of violations that are symptomatic of future recidivism once the interlock is removed without changing the underlying drinking problem that produces recidivism. In the meantime, studies as recent as the 2010 evaluation of the New Mexico interlock program (NHTSA, 2010a) are still finding it to be a robust source of recidivism predictors.

4. State Interlock Laws and Performance Standards

Introduction

Whereas Chapter 3 addressed the different State definitions of what type of violation or violation combinations should trigger a consequence, this chapter addresses issues related to the consequences imposed for violations. In practice, the term "violation" has been used to cover a variety of problem behaviors and presumably should have different consequences. Tampering with the unit to prevent it from locking the ignition when a driver with an elevated BrAC attempts to start the car is an overt intent to break the law, whereas being locked out may indicate an inability to control drinking or a lack of understanding of how the interlock works. For the criminal justice system, these represent quite different problems and presumably should carry quite different consequences. Thus, those attempting to circumvent the intended operation of the device should be subject to sanctions of greater severity than should offenders struggling to control their drinking within a system that prevents them from re-offending. The special feature of the interlock is that it provides a consistent low-severity penalty for all users: the blocking of the ignition, which can be a significant inconvenience. The focus of this chapter is on the additional administrative and judicial sanctions being applied by the States.

The four bases for judicial or administrative action identified in this exploration of practices in the nine study States follow. The first two involve "criminal" sanctions for attempting to circumvent the device, and the last two are "performance-based" sanctions that address maladaptive behavior and award good behavior.

- *Sanctions to punish and deter efforts to circumvent the interlock.* Tampering with the equipment or battery, recruiting substitute breath-sample providers, using an alternate non-interlock-equipped vehicle and failure to report for scheduled maintenance sessions are considered violations that are more serious.
- *Sanctions for failure take a retest.* Some jurisdictions define the failure to retest as an effort to circumvent the interlock device. In practice, such failures are relatively frequent because when prompted for retest just before the end of a trip, interlock users neglect to take the retest and turn off the engine.
- *Sanctions for frequent lockouts.* These are based on the evidence that the number of lockouts predict future recidivism (Marques et al., 2001). The sanctions generally applied involve the extension of time on the interlock to ensure adaptation to the interlock before removal of the device.
- *Sanctions for any elevated BrAC test.* Some States, such as Florida and North Carolina, when monitoring repeat offenders and some courts (particularly DWI courts) use the interlock as one method of enforcing abstinence. In these cases, any positive BrAC result, even below the start BrAC set point, is an indication of drinking.

The NHTSA *Key Features* report recognized *Program Compliance, Noncompliance, and Removal* from the interlock as key issues for interlock programs. The future questions related to interlock performance compliance generated by the report authors and an expert panel in 2007 included the following:

- Should there be different consequences for different types of noncompliance?
- Should there be different performance expectations placed on the offender as a function of time in the program?
- Should programs require a demonstration that a driver is no longer logging alcohol lockouts before ending the interlock requirement and dispensing an unrestricted driver's license?

Subsequently in 2010, NHTSA and the Governors Highway Safety Association sponsored the National Ignition Interlock Summit, attended by key State people involved in the implementation of interlock programs. On the topic of interlock violations, the summit report concluded that the issue is "very complex" and requires significant consideration both of definitions and of consequences.

- Probation violation consequences may be severe and lead to more circumvention attempts.
- Administrative violation consequences may entitle offenders to an administrative hearing (while the resources to meet the policy conditions may be limited) (GHSA & NHTSA, 2010).

One of the recommendations in the NHTSA *Ignition Interlock Institutes* report is a performance based interlock program that offers rewards for compliance and sanctions for non-compliance (MADD, 2013). The idea of incentives for good performance is an idea that has yet to take hold. Colorado does offer first offenders an opportunity to reduce their interlock period by four months if they have performed well without any violations.

Interlock Laws and Violations

Table 3 displays the variety of interlock laws and *consequences for violations* among the nine States. Revocation of the interlock license is discussed later in this section.

- *Column 1*: Lists the State and categorization[5] of the monitoring of interlocks as a*dministrative, court, or hybrid*.
- *Column 2*. Details the interlock installation period required by statute for first and multiple offenders.
- *Column 3*. Indicates whether a period on the interlock is required by the State driver-licensing agency before license reinstatement for first and multiple offenders, regardless of the requirements of the court. Some State laws allow offenders an option to "wait out" the license suspension period before reinstatement, whereas other States do not.

[5] All States have some involvement of both the court systems and the State licensing authority in the processing of DWI offenses. In *administrative* States, interlocks are monitored largely by the State licensing authority; in *court* States, interlocks are monitored largely by the court probation department; and in *hybrid* States, both the courts and the State licensing authority are substantially involved.

- *Column 4.* Lists the number of violations that trigger consequences and the length of the interlock extension period, along with other details related to consequences for violations.
- *Column 5.* Provides the available information on the percentage of extensions that are appealed and percentage of appeals that are voided or cancelled upon appeal.

Table 3. Interlock laws and consequences for interlock violations, 2012

State	Interlock installation period	Required for reinstatement	Extensions for violations	Appeals
AZ (Admin)	First: 1 year optional Multiple: 12-24 months	First: Yes Multiple: Yes	6 months for 2 violations 6 months for 1 violation (aged 20 and younger)	Vast majority voided
CO (Admin)	First: 9 months optional Multiple: 12 months or longer for high BrAC	First: No Multiple: Yes	12 months after any 3 months with violations, although hearing officers can adjust the number of months. Early release for 4 consecutive clean months for first offenders (high-BrAC offenders excluded).	50% of offenders appeal violations 50% of those appeals voided
FL (Admin)	First: 6 months Multiple: 2-5 years	First: Yes Multiple: Yes	Violations linked to increasing case management/treatment requirements. After third violation, extended 1 month for each violation and/or until treatment successfully completed.	No formal hearing process, but interlock staff review challenges.
IL (Admin)	First: 6-12 months Multiple: 12 months	First: No Multiple: No	3 months for each violation	66% of appeals voided
MD (Admin)	First: 6-12 months Multiple: 12-18 months	First: High BrAC Multiple: Yes	1 month for every month there is a violation.	90% of appeals voided
NC (Admin)	First: 1 year Multiple: 1-4 years	First: High BrAC Multiple: Yes	No extensions for violations; license is suspended. First offenders: suspended for retest violations only (.04). Multiple offenders: suspended for start and retest violations (.00).	85% of offenders appeal violations 65% of those appeals are voided
NM (Hybrid)	First: 1 year Multiple: 2 years to lifetime	First: Yes Multiple: Yes	– The MVD extends only for tampering and circumvention; no extensions for BrAC related violations.	– MVD: % appealed not available Probation Hearings – – Judges may ask vendors to provide

State	Interlock installation period	Required for reinstatement	Extensions for violations	Appeals
			– No statutory authority for judges to extend, but judges may impose other consequences and require additional treatment.	information or to testify. Data on outcome not available.
TX (Court)	First: 50% of probation term Multiple: 50% of probation term	First: If court ordered Multiple: If court ordered	Discretionary individual court requirements. Judges may require interlock for the full probationary period rather than half as required by law. May impose other consequences and require additional treatment.	Probation Hearings—Judges may ask vendors to provide information or to testify. Data on outcome not available.
WA (Admin)	First: 1 year Multiple: 5-10 years	First: Yes Multiple: Yes	Last 4 months must be violation free or result in a 4-month extension. This process can be repeated indefinitely.	No appeals process, but complaints about vendor reports are investigated.

Note: "High BrAC law" refers to arrest BrACs between .15 - .18 BrAC, depending on the State.

Extensions

As shown in the *Extensions for Violations* column in Table 3, each State has its own scheme for administratively monitored violations within an interlock reporting period (usually 30 days) that triggers varying lengths of interlock extensions. There is a great variety of triggers and consequences, even among just nine States with no strong common trend, but there does seem to be recognition by some States that a grace period is required as interlock users learn how the device works and how to avoid lockouts.

- *Arizona* – Extends upon the second violation.
- *Colorado* – Extends after any 3 months with violations.
- *Florida* – Extends upon the third violation.
- *Washington* – Extends if the final 4 months are not violation free.

When asked for ideal device settings, one interlock vendor's chief executive officer provided this suggestion:

- A temporary lockout after two initial test fails at .025 or above.
- The lockout would be for 15 minutes to dispute any arguments about mouth contaminants.
- Early recall for a lockout violation for four or more initial test fails between service visits.

Many interlock programs make a conclusion about a given point in time; e.g., the time of that one test or event. By looking at the data logs over time, if a pattern continues, it indicates who is still having a problem. A violation should not result in removal from the program as that goes against the purpose of the device to separate the drinking from the driving.

For some States an initial grace period for violations is not part of the plan (e.g., Illinois, Maryland, or North Carolina). However, there is an appeal process, and "voiding" of violations upon appeal is frequent, as shown in the *Appeals* column of Table 3.

Although only nine States were studied, several features of the monitoring schemes stand out as potentially unique:

- *Arizona* – A different standard for extensions for those younger than 21 (one violation instead of two).
- *Colorado* – Early release from interlock for four consecutive violation-free months for first offenders.
- *Florida* – Links extensions with additional case management counseling and treatment requirements.
- *North Carolina* – Different BrAC set points for first offenders (.04) and multiple offenders (.00). Only retests are monitored for first offenders. For violations, the license is suspended rather than extending the interlock period.
- *New Mexico* – No extensions for BrAC violations under the administrative program.

Violations for court-ordered and court-monitored interlocks are handled case-by-case, depending on the conditions of probation, the policies, and the philosophies of probation officers, prosecutors, and judges. In Texas (a court interlock State), the law provides for the imposition of the interlock for "half of the probation term," but allows the interlock requirement to be extended to the full probation period. In New Mexico, judges do not have statutory authority to extend the interlock period, but they can impose other consequences for positive BrAC readings for those on probation, including additional treatment requirements. In both Texas and New Mexico interlock violations may be reviewed during a probation violation hearing before a judge and prosecutor. An interlock vendor may be asked to testify at these hearings about the interpretation of the violation report, validity of violation(s), and calibration of the device. In at least one State (Florida), courts do not accept the interlock BrAC readings as "evidential;" thus, they cannot be entered in court proceedings or used to revoke an interlock-restricted license.

One interlock vendor CEO had this observation on the variety of responses to interlock violations:

"The jurisdiction's motivation for the violation event (consequence) is not always well constructed. Sometimes it is an immediate 'punishment' for an action or set of actions; others use it as a trigger for remedial measures including reporting and counseling by designated personnel; others have no follow-up action since it is simply a tug on a short leash."

Appeals

The trend in administrative States is toward automated download of interlock vendor data (Arizona, Colorado, Florida, Illinois, and Maryland) to centralized State systems designed to reduce administrative burdens. However, discussions with key people indicate that extensive time is required to process the appeals by interlock users who challenge the automatic extensions for violations. Although statistics on the percentage of violations that are appealed and the outcome of the appeals are not often readily available, a majority of interlock violations appear to be "voided" or "cancelled" upon appeal in most of the States. Where the data was available or could be estimated, the *Appeals* column in Table 3 illustrates that a majority of contested violations is voided.

Missed retests are reportedly a common reason for voiding violations; interlock users tend to turn off their vehicles, rather than retest when prompted, when they are near their final destination. An elevated start BrAC is another common violation that, in some States, can be voided with a second low or zero BrAC breath test within 5 minutes (or some other specified time limit). This is a common reason for voided violations upon appeal in Illinois and Maryland where they monitor raw data, rather than the "filtered data" provided to other States by the interlock vendors. Depending upon contractual agreements with the State monitors, the vendors may or may not report (filter out) what appears to be a result of mouth alcohol, which is defined as an initial positive breath test, quickly followed by a zero BrAC reading, and subsequent zero readings on retests.

The mechanisms for appealing an interlock extension vary among the administrative States, sometimes involving one to three levels of review, which affects the amount of staff time needed to process them. Licensing division or interlock unit staff or appeals/hearing officers review the pattern of BrAC readings to confirm whether there has been an attempt to circumvent the required breath tests or the operation of the device. (The appeals processes for each State are discussed in more detail in the State Profiles – Appendix B.) Florida, Maryland, and North Carolina have trained staffs who handle initial requests by telephone to review the validity of a violation and to decide whether to void the violation. In Illinois, the offender must provide a written explanation for the violation. This is facilitated by the requirement that the interlock user maintain a journal of events surrounding the recorded violation events. In Arizona, offenders are encouraged to try to resolve any disputed violations with the vendor, but formal hearings with a hearing officer may be requested. In contrast, offenders in Maryland are prohibited from discussing violations with interlock vendors, but they have three levels of opportunity to appeal, and many of the original extensions are voided.

If needed, offenders can follow up with a formal administrative appeal process in most of the administrative States in this study. Washington does not have a formal appeal process for interlock extensions, but program staff will investigate complaints about vendor reports of violations. Although there is no formal appeal process, the Florida Department of Highway Safety and Motor Vehicles has a trained staff who is dedicated to the investigation and follow up on the validity of interlock violations. They meet regularly to discuss unusual cases in an attempt to "void" or "confirm" violations with consistency.

As an example of a method for systematizing the appeals of interlock violations, hearing officers in Colorado have a set of "aggravating and mitigating circumstances" to assist them when

presented with an appeal to an automatic extension for violations. This list of circumstances (Table 4) helps hearing officers decide if an extension is warranted and the length of the extension, up to 12 months. Of note, they look for a pattern of BrAC readings consistent with attempted drinking and driving as an aggravating factor and the initiation of voluntary alcohol treatment or therapy as a mitigating factor.

Table 4. Aggravating and mitigating circumstances for interlock violations, Colorado Code of Regulations ICCR 204-17 (4.6.2.1)

The Hearing Officer may consider the following as **aggravating** when determining an appropriate extension period:

- Two or more lockouts in any 1 month.
- Lockouts in more than 3 of the months under consideration at the hearing.
- A reported breath-alcohol level in excess of .05 grams per 210 liters of breath, which reading contributed to a lockout.
- **A pattern of readings consistent with attempted drinking and driving regardless of whether such readings contributed to lockouts.**
- Lockouts occurring in the final 6 months of an interlock restriction.
- A prior extension or renewal of the interlock requirement.

The Hearing Officer may consider the following as **mitigating** for the purposes of determining an appropriate extension period:

- Only one lockout in each of only 3 months, and none in the other months under consideration.
- Isolated alcohol readings subsequent to the last lockout, such readings indicating that the interlock-restricted driver walked away from an attempt to start the vehicle after consuming alcohol.
- **Initiation of voluntary alcohol treatment or therapy after the last lockout.**
- More than 1 year remaining on the interlock restriction immediately prior to the effective date of the extension under consideration.
- Any other factors that the interlock-restricted driver may submit in mitigation.

Revocations

The triggers for revocations vary among the States, but usually any type of tampering with the operation of the device or circumventing the intended methods for use of the device are common reasons for at least temporary removal of the device and revocation of the interlock license. Some States will permanently revoke the interlock license when there is evidence of serious violations, whereas other States (such as Colorado, Florida, Maryland, and New Mexico) recognize the need to keep these offenders from driving unlicensed and unmonitored and will allow the offender to continue on interlock or, more often, to reapply for an interlock.

Evaluation of Performance-based Removal Questions

A major limitation in the effectiveness of interlocks has been the failure of DWI offenders to carry over the separation of drinking from driving behavior while on interlock to the post-interlock period. Although the behavior does not carry over, it does predict recidivism in that period. This suggests that interlock performance is identifying the problem status of interlock users. Offenders with mild problems have the capacity to exercise sufficient control over their drinking and their driving to avoid lockouts. Those with more debilitating problems continue to

have lockouts. The predictive feature of lockouts and other key risk indicators, particularly early morning lockouts, provides the States with the opportunity to intervene by extending the offender's period on the interlock where recidivism remains at least partially controlled.

The result has been for States to enact laws providing a wide and varied range of extensions and consequences for violations as shown in Table 3, *Extensions for Violations* column. These developments have prompted new research questions. For example, (a) What performance measures are the best indicators of future recidivism? (b) How should the level of performance be related to the extension in length of time on the interlock? and most important (c) Does extending the length of time on the interlock reduce recidivism or is there a limit to the time recidivism can be effectively controlled by the interlock?

Performance-based sanctions raise significant policy and effectiveness issues. The applying of sanctions is obviously directed at obtaining compliance with the interlock requirements, but if the penalties are sufficiently severe that all or at least most offenders become compliant, interlock performance may no longer be predictive of future recidivism. It is also possible that forcing compliance during the interlock period may reduce recidivism while on the device but may not change the underlying problem of the offender, so it fails to be effective in reducing future recidivism.

To date, there have been four basic programmatic responses to offenders' interlock performance. The first of these is to ignore performance because the expense of monitoring to intervene with offenders is not justified by the benefits achieved and that it is more productive to increase the proportion of DWI offenders on interlock. This approach is illustrated by the New Mexico administrative interlock law that allows any driver with a license suspended for DWI to obtain an interlock permit. In that program, the only monitoring is related to detecting tampering with the operation of the unit. Interlock performance is not monitored.

A second, more widely applied approach among the nine States is to extend the length of the required interlock period. This assumes that, at a minimum, during the extended period, the offender's recidivism rate will continue to be reduced and that the extended period will reduce recidivism following interlock removal. Neither of these benefits has been demonstrated conclusively.

A third approach is to increase the intensity of monitoring the offender in an effort to increase compliance with the interlock requirements. This has generally occurred for interlock users who are in a court-monitored program and a few DWI court programs where interlock performance is reviewed regularly as part of the periodic assessments of the offender's progress toward recovery. Intensified monitoring based on interlock performance is also a feature of the Florida administrative interlock program. In Maryland, Zador et al. (2011) have demonstrated that intensified monitoring results in better interlock performance, but intensified supervision is not currently a feature of the State's administrative response to poor interlock performance.

A fourth approach is to require attendance at a treatment program. This is based on the assumption that the failure to accommodate to the interlock reflects a drinking problem that requires treatment to overcome. Florida imposes such a treatment intervention based on fixed performance criterion (three lockouts) on offenders who fail to adapt to the interlock. That program has not been evaluated. Colorado has initiated a special treatment option that integrates

interlock performance reports for therapeutic value, but there is not a specific performance score to trigger a requirement for this special program.

Summary

The evidence is strong that several measures of interlock performance predict future recidivism, so it is logical to use such measures as the lockout rate to design interventions that apply to poor performers in order to reduce their future recidivism. The most widely used of these is to extend the time the offender is required to drive with the interlock. However, the effectiveness of such extensions on reducing recidivism has yet to be proven. This leads to the challenge expressed by some managers and researchers, such as Roth (Chapter 5), that the expense of collecting and using interlock performance data may not be cost-effective relative to investing in programs that increase the number of offenders on interlocks. McCartt et al. (2012) did find a linear relationship between the interlock installation rate and offender recidivism estimated to be a 0.06 percentage point decrease in the 2–year cumulative recidivism rate for each percentage point increase in the proportion of first-time DWI offenders who installed interlocks.

Another possibility is to use lockout data to determine the level of monitoring appropriate for each offender. To date, there has been only one study on the significance of monitoring user performance. Zador et al. (2011) in a Maryland study showed that regular feedback to the offender on their performance each month, with admonitions for poor performance and congratulations for good performance, reduced lockouts. There is a need for research on the effectiveness of such monitoring interventions, as well as the examination of the varying lengths of interlock extensions provided by State laws.

Despite the wide use of interlock performance measures, we have little understanding of the underlying process that offenders use to adapt to the interlock. Though it is generally assumed that they reduce their drinking, biomarker evidence is emerging that alcohol consumption remains constant through the interlock period (Marques et al., 2010). If this is the case, it suggests that one reason for the failure of the lower recidivism rates to continue after interlock removal is that offenders can adjust to the interlock without dealing with the drinking problem that resulted in their conviction. Thus, there apparently is a need for imposition of treatment interventions based on interlock performance. However, the ability to use performance measures to manage DWI offenders will continue to be limited until there is a better understanding of the process that offenders go through in adapting or failing to adapt to driving with an interlock.

The trend toward performance-based interlock removal raises new questions:

- Which type of plan for performance-based removal works best to prevent recidivism?
- Does the incorporation of additional treatment requirements to support interlock users, along with extensions, make a difference after the interlock is removed?
- Does it make sense to require that treatment be completed while the interlock is on the vehicle, instead of during the pre-interlock period, as happens in some States (Chapter 6), and to incorporate an interlock support component?
- Will the new trend toward performance-based removal of the interlock affect the ability to use the pattern of failures to predict recidivism?
- Will multiple extensions for violations while on the interlock discourage offenders from applying for an interlock license or completing the interlock requirement?

- Does an abstinence based interlock program inhibit the “learning effect” of experiencing lockouts and thus the practice of separating drinking from driving?
- Although closer monitoring has been shown to reduce interlock BrAC test failures, is more intensive monitoring of interlock users affordable for States and courts?
- How would incentives for good performance affect interlock user behavior?

5. Interlock Data Use Procedures and Issues

Background

Typically, the traditional interlock devices used for the last 20 years were designed to require the offender to visit the interlock service center monthly for maintenance and integrity checks and for downloading of data to the interlock vendors' database programs. In these systems, violations took up to 30 days to appear on the record. Because monitoring agencies and courts (and legislatures) wanted more rapid reporting of violations, interlock providers built lockout programs with an "early recall" feature into their devices that require the user to bring the vehicle in for service and download of data within a few days or hours of committing certain violations, such as failure to respond to a retest requirement.

Recently, cellular technology has advanced so that the interlock device can be equipped to transmit the occurrence of a violation in real time to the vendor's record system. The value of this enhanced capability is the rapid transmission of violation information from the interlock provider's record system to the monitoring agency (usually by e-mail or text), and the capability of the agency's staff to use the information. The newer real-time reporting devices that include photo capture of the driver are not yet widely used, but they appear to be gaining in popularity (e.g., with probation agencies in New York).

As more States have passed first-offender interlock laws and mandatory interlock laws for multiple offenders, the number of interlocks in use have increased from approximately 212,000 in 2010 to approximately 313,400 in 2013 (Roth, 2013). In an effort to be more efficient in the processing of large volumes of interlock reports, more State driver licensing agencies are requiring frequent electronic file transfers of interlock data to a central State database for processing of violations. The automated systems make it easier for monitors to process large volumes of interlock users and to post or lift interlock restrictions from States driver license files.[6] The automated systems also allow officials to tally violations easily and possibly see patterns of violations to inform their sanctioning scheme.

Despite the development of these automated systems, the staff resources needed to monitor and follow up on violations is still substantial. Despite the need for shared access to interlock reports for courts, government agencies and treatment professionals, apparently very little sharing is taking place. The data is not being shared with court staff that, for the most part, still relies on e-mailed violation reports from interlock vendors. Nor is it being shared with treatment providers. Advances in information technology, however, have led to the availability of interlock vendor websites that interlock monitors can access with proper authorization to view offenders' interlock data reports.

[6] See TIRF publication, *Alcohol Interlock Programs: Data Management System Implementation* (Robertson et al., 2013).

This chapter describes the current systems that interlock data monitors can use to access and process interlock data and related issues. It includes a section on court use of interlock data to monitor offenders, as it is used very differently than by administrative monitors.

Types of Monitors

Although there is the option not to monitor the offender's behavior while on interlock, interlock data log monitors typically include:

- State driver licensing division staff (interlock unit, reinstatement unit, appeals/hearing officers);
- Court staff (probation officers, judges, prosecuting attorneys);
- Pretrial diversion staff (court staff or private contractors); and
- Interlock vendor staff (central and/or local service center staff);

Other individuals who review interlock data identified in this study, although not as typical, include:

- DUI program case managers (Florida);
- Nurse case managers/medical reinstatement reviews (Maryland);
- State police staff (Washington State);
- Treatment staff (Florida and Colorado); and
- State licensing division lawyers (New Mexico).

The main interlock data monitors are DMV staff of various divisions, court personnel, and interlock vendor staff. Features of their involvement in monitoring the interlock data are discussed in the next section. This is followed by a fuller discussion of the involvement of court staff in monitoring interlock data.

Staffing Levels

The type and number of staff to monitor and follow up on interlock violations vary depending on whether monitoring is mainly a function of a State agency, the courts, or some mixture of both. Judges in most administrative interlock States still have the option of ordering interlocks as a condition of probation. Consequently, even in administrative States, there is some mix of State agency and court staff monitoring of interlock data.

The States with administrative programs have varying numbers of interlock staff within their driver licensing divisions. In some States, the personnel are assigned exclusively to monitor interlock data, whereas in other States, employees handling interlock cases have other driver-licensing-related duties. Because some staff have a mixture of duties, it is hard to compare the level of staff effort needed to monitor and follow up on interlock violations among the States in this study, but a list of staffing levels is provided here:

- The four States that use automated upload of data from vendors—Arizona, Colorado, Florida, and Illinois—have four to six full-time staff members to process and monitor interlock data.

- Maryland's driving licensing agency uses an automated system with uploaded vendor data, but employs a staff of 17 workers who, in addition to reviewing the interlock data, have other driver-licensing-related duties.
- The New Mexico driver's license reinstatement division has five to seven staff members who monitor interlock users for tampering and circumvention violations only, but they have other duties as well.
- In North Carolina, there is just one dedicated DMV staff person to monitor e-mailed violation reports from the vendor. The workload is reduced apparently because the interlock vendor flags violations that appear to be "false positives," [7] which reduces the number of violations that have to be reviewed. Further, first offenders are not monitored for start violations; only retest failures. Having just one vendor for many years also simplified the monitoring process.[8]
- In Washington, the workload is reduced and in 2012 monitored by one State police interlock program manager who received e-mailed reports only about tampering, circumvention, or low mileage. Funding was subsequently received for additional State troopers to follow up with violators and do home compliance visits. The Department of Licensing staff determines when an offender can be released from the interlock requirement by relying on the vendors to certify that interlock users are violation-free for the last 4 months during the installation period.

Staffing levels (and cost) are affected by the types of violations monitored (all or just some) and the level of reliance on vendors to screen or filter the violation information that is generated by the interlock device before sending it to the monitoring agency. The North Carolina, New Mexico, and Washington administrative programs are examples of this; they have a much lower staffing level than other States to monitor the interlock records because they rely on vendors to identify interlock violations.

Dr. Richard Roth believes the cost of monitoring interlock data might prevent more interlock installations:

> In my view, many interlock programs are much more costly than they need to be. Many States are spending scarce time and money checking on the compliance of interlocked offenders rather than just getting more interlocks installed and letting the interlock itself do an amazing job as a 24/7 electronic probation monitor. Once installed, interlocks not only provide an immediate sanction to those who try to start an interlocked vehicle after drinking, but they also record every attempt to do so. Extra monitoring and triaging to more stringent sanctions are just not as cost-effective as getting more interlocks installed. The interlock record need only be checked every 6 months to identify those non-compliant offenders who might benefit from more costly monitoring and sanctions. (Roth, 2012b)

In contrast, Zador et al. (2011), in what may be the only systematic investigation of interlock-offender monitoring by the responsible authority, showed that the extent of the Maryland MVA's interlock program control over an offender's performance depends on the level of monitoring by the responsible authority. They demonstrated that better adherence to interlock program

[7] False positives are usually considered to be start violations due to mouth alcohol, followed by lower or zero BrAC readings.
[8] North Carolina recently added another certified vendor.

expectations occur when the monitoring authority actively communicates with the interlock-stipulated offenders. More research on interlock monitoring is needed to address this issue.

Accessing Interlock Log Data

Table 5 displays the variety of ways that interlock monitors access the log data to manage the review of interlock violations and follow up on those violations as required by State statute and/or administrative code.

Table 5. Accessing interlock data, 2012

State	Main data monitors	Central database for log data	Format/ frequency	Type of data/vendor role	Mode of violation notifications	Users of vendor web portal
AZ (admin)	AZ DMV interlock staff	Yes	– FTP upload – Weekly	Vendors use State filter codes	Automated review	Some court staff
CO (admin)	CO DMV interlock staff	No	– FTP upload – Weekly	Vendors filter the data	Automated and staff review	– DMV staff – Hearing officers – IEC treatment providers
FL (admin)	FL DHSMV interlock staff	Yes[a]	– FTP upload – Daily	Vendors use State filter codes	Automated and staff review	– DHSMV staff – DWI case managers
IL (admin)	IL Secretary of State interlock staff	Yes[a]	– FTP upload – Daily	Raw data processed by State	Automated and staff review	Some court staff
MD (admin)	MD MVA interlock staff[b]	Yes	– FTP upload – Daily	Raw data processed by State	Automated review	Not used. Not needed
NC (admin)	NC DMV interlock staff	No	– Violation data sent by e-mail – Weekly	Vendors filter for violations	Staff review	Not used
WA (admin)	WA State Patrol WA DoL	No	– Certain violation data sent by e-mail[c]	Vendors filter for violations	Vendors verify final 4 months violation-free to DoL	State patrol
NM (hybrid)	1. NM MVD 2. Court staff	Yes[d]	– Certain violation data sent by e-mail[c] – As arranged by court staff	Vendors filter for violations	Vendor e-mails or fax	1. Used 2. Not used
TX (court)	Court staff	No	As arranged by court staff	Vendors filter for violations	Vendor e-mails, fax, mail	Not used

[a]Data from court-monitored interlocks not part of the centralized database.
[b]The Maryland MVA has started to share violation information with the probation department for offenders on interlock as a condition of probation.
[c]Tampering, circumvention, and low mileage or low number of vehicle starts only.
[d]Centralized database of log data but not operational as of late 2012.

Central Database of Log Data

As displayed in Column 3 of Table 5, several States maintain a centralized database of interlock data: Arizona, Florida, Illinois, and Maryland. All vendors in New Mexico are also required to upload data to the central Traffic Safety Bureau database, but it is not yet operational. The Arizona, Florida, and Illinois central databases do not maintain log data for court-monitored interlocks, although completion of the interlock requirement is noted on the driver record. Maryland does maintain log data for court-monitored interlocks.

The administrative programs in Colorado, North Carolina, and Washington rely on the interlock vendors to maintain the log data for access if needed. Colorado also designed a web-based portal system into which vendors enter information for monitoring interlock installation and circumvention attempts, but not the entire interlock data log reports.

Format and Frequency

As displayed in Column 4 of Table 5, the format and frequency of accessing the interlock log data varies among the States but is similar for those States with electronic upload of data.

- Driver licensing division staffs from five of the States (Arizona, Colorado, Florida, Illinois, and Maryland) use electronic upload of vendor log data using a specified file transfer protocol (FTP), uploaded weekly or daily. All maintain a central database of log data, except for Colorado where FTP files are used to review violations but are not maintained in a central database.
- DMV reinstatement staff in New Mexico and State patrol staff in Washington receive information on serious violations (tampering and circumvention attempts) by e-mail weekly, or sometimes more frequently.
- North Carolina DMV staff receives weekly e-mails with violation reports that are first screened by the interlock vendor. Those violations that appear to be caused by mouth alcohol are flagged for staff review.
- Court employees in New Mexico, Texas, and other States receive monthly reports or they request violation-only reports, usually by e-mail or facsimile. Some courts request special report formats, conditions, and notification of violations as soon as possible after download.

Types of Data and Vendor Role

At the National Ignition Interlock Summit (2010), there was less agreement on reporting of offender interlock violations than on some other issues. Some States require vendors to filter data and report violations only, and others want the raw interlock data and prefer to use their own (more expensive) automated systems to detect and sanction violators. A technology gap was noted, with the vendors generally having more advanced systems than the monitoring agencies (GHSA & NHTSA, 2010).

As displayed in Column 5 of Table 5, in the process of automating the interlock data review process, some States (Arizona, Colorado, and Florida) developed a coded list of specific violations to be uploaded by file transfer, whereas Illinois and Maryland opted to receive *all* of the log data, unfiltered by codes, as they preferred applying their own violation filters. Developing a data transfer plan from vendors is a complicated process requiring significant time, planning, and collaboration among the State monitoring authorities and interlock vendors, and their database technicians.[9]

Filtering/flagging violations. As listed in Column 5 of Table 5, the States have developed multiple methods for receiving and managing the interlock log data, and each has varying levels of vendor involvement in filtering or flagging the data for violations:

- State-created violation filter codes are used by vendors to upload data to a central State database: *Arizona and Florida.*
- Vendors filter data for violations based on State criteria and send by FTP but not to a centrally maintained database: *Colorado.*
- Accept all interlock data elements (unfiltered or raw data) from vendors, apply violation filters in-house, and maintain a central State data file: *Illinois and Maryland.*
- Receive specified violation data by e-mail: *New Mexico* for reinstatement cases, *North Carolina,* and *Washington.*
- Specific arrangements made with court systems for receipt of interlock data, usually by e-mail: *New Mexico, Texas, and other States for court-monitored interlocks*. Some receive regular monthly or bimonthly reports, whereas others request notification of violations only.

One vendor reported that some jurisdictions specifically request NOT to receive *any* interlock reports of any kind. This could be due to a lack of resources to monitor the reports and related concerns about liability or a stance to let the interlock device do the job of separating drinking and driving.

Filtering of violation data does not happen in a central location for all vendors, perhaps adding more inconsistency to the reporting outcome. Some interlock vendors screen the data for reports at their national headquarters, whereas others screen it regionally, or rely on the individual service center staff to send reports to the monitoring authority.

As previously suggested, the level of vendor involvement in filtering of data often affects the cost of monitoring data because more filtering by the vendor generally means less labor involved for the monitoring authority, particularly in North Carolina, Washington, and the New Mexico administrative program. Courts also often ask for violation reports only to reduce their paperwork.

The level of filtering raises the question of conflict of interest for interlock vendors that continue to receive monthly fees from interlock users whose interlock-installed period is extended for violations. All the States have a vendor certification process and procedures for monitoring the integrity of interlock data reporting,[10] but with varying levels of specificity and intensity. As one

[9] See TIRF report, "The Implementation of Alcohol Interlocks for Offenders: A Roadmap 2010," Step #13 on interlock data management (Robertson, Holmes, & Vanlaar, 2010).
[10] See "Alcohol Interlock Programs: Vendor Oversight," (Robertson et al., 2011).

vendor assured, however, it is in the self-interest of the vendor to screen data with integrity and accuracy to ensure continuation of contracts for service from interlock-monitoring authorities.

Additional vendor involvement. There are varying levels of reliance on the vendors by the States to perform other time-saving administrative functions and to give messages to the interlock user while their vehicle is in the interlock service center for upload of data.

- Some of the automated systems have a return message function when the data are uploaded to the central database. Arizona and Florida use this function. For example, the Arizona system generates a code message "revoked license" when the service center tries to upload the data to the central system. The vendor then tells the offender to contact the DMV.
- One Arizona vendor communicates directly with interlock users. This vendor's system is structured to send an automated message about violations to the interlock user, as well as to other monitors (via text, voice mail, or e-mail), after a data download. It also offers the interlock user an option to enter a note via a web portal with a reason for the violation (e.g., smoothie (a non-alcoholic drink), vehicle service activity, heavy traffic, reached destination). This provides an evidence log with a time and date stamp that can be useful to monitors and hearing officers when reviewing violations. Since the Arizona DMV does not send warning letters before the third violation extension trigger, this is a helpful feature to keep clients informed when they are in danger of receiving an extension.
- In Colorado, vendors directly access a Colorado State web portal, the Online Interlock System (OIS). They enter the driver's license number of the offender to verify installation eligibility, establish financial aid eligibility, check vehicle registration, and then electronically submit installation verification. Vendors document service dates, flag circumvention attempts, and look for any notifications from the Colorado Driver Control Unit that require discussion with the interlock user. This system significantly reduces paperwork and provides timely updates for the Driver Control Unit.
- In Washington, vendors use a Department of Licensing form (Appendix H) to verify that the last 4 months of the interlock installation period are violation free. This is the State's requirement before approving interlock removal.

Mode of Violation Notification

As displayed in Column 6 of Table 5, some systems are set up to generate notices of violation letters automatically; for example, Arizona and Maryland. Figure 5 illustrates Maryland's notice-of-violation letter that provides the specifics of log entry data with time and date.

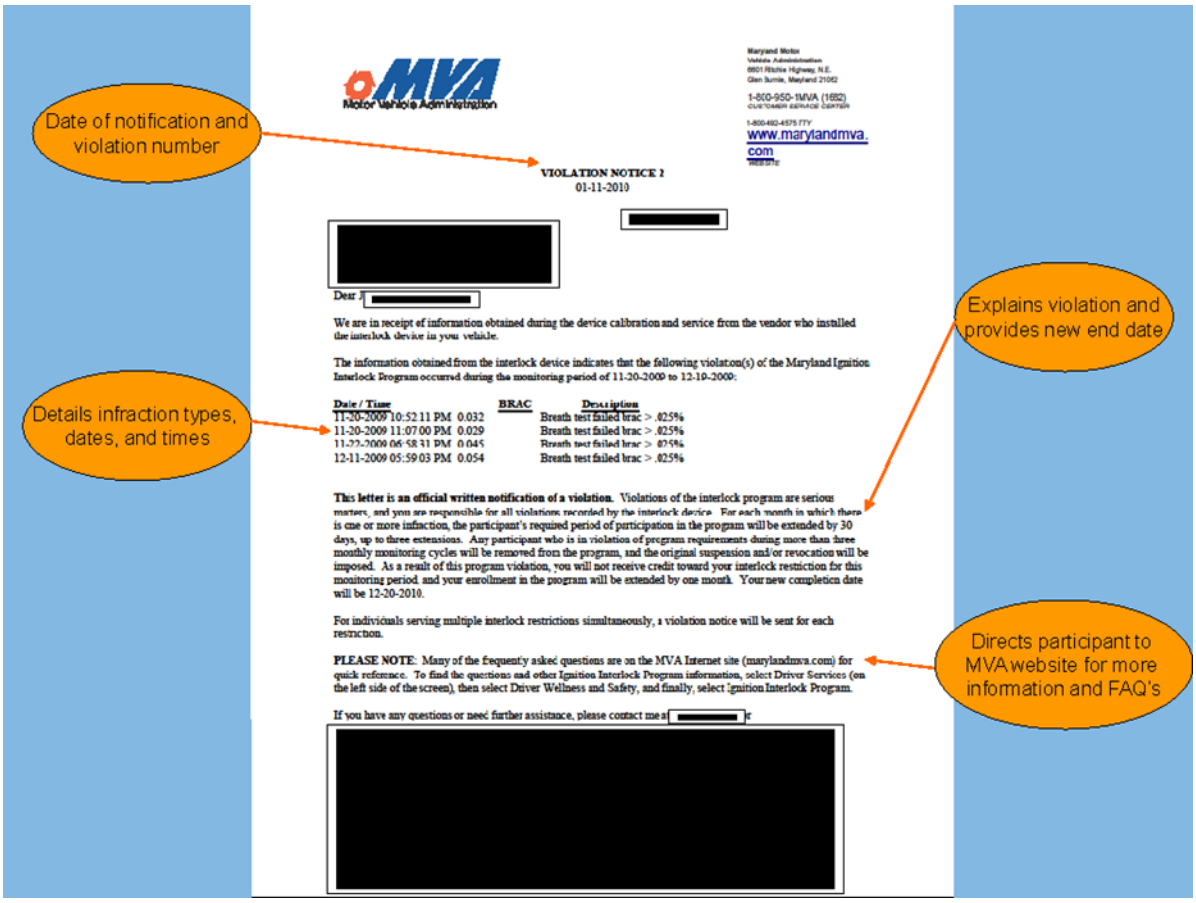


Figure 5. Maryland Violation Notification Letter to Interlock Users

Other States (Florida and Illinois) use some combination of an automated process and staff reviews, before notifying offenders by letter of the violations and consequences (usually an extension).

Users of Vendor Web Portals

Most interlock vendors maintain a web portal to which authorized monitors are given a passcode enabling them to review the details of violations. Each vendor may have its own rules about who can have access, as well as contract restrictions as proscribed by the monitoring authority. Web portals can be a useful and timesaving resource for hearing officers, interlock program unit staff, and the license reinstatement staff who may need to examine the pattern of breath tests and other recorded log events to determine if the violation is legitimate or a user error. As seen in Column 7 of Table 5, apparently court employees rarely take advantage of this resource, as they report that having to be familiar with multiple different vendor websites is too burdensome and prefer e-mailed or facsimiled reports. This same complaint about various websites was heard from some State driver licensing administrative hearing officers. Some vendor web portals for accessing interlock data are reportedly more user-friendly than others.

Although not included for intensive study in this report, Massachusetts has addressed one potential solution to the reluctance on the part of monitors to use multiple vendors' websites to

access interlock data. The Registry of Motor Vehicles Interlock Unit requires that the seven interlock vendors certified to operate in that jurisdiction have consistent definitions of terms, violations, and information tabs on their websites. There must be tabs for *Full Logs, Last 6 Months Logs, All Violations,* and *Installations.* Reportedly, vendors have been somewhat slow in complying as the changes may require significant modifications to their web portals that may apply only in Massachusetts. The Interlock Unit staff is in the process of continuing to refine the requirements.

As discussed in Chapter 6, two States (Florida and Colorado) have procedures that allow access to vendor data web portals for counselors and treatment providers who use the data therapeutically. The DWI case managers in Florida report no major problems in accessing and understanding the web portals of the two certified vendors in that State. The two vendors that operate in Florida provide training to DUI case managers on the use and interpretation of interlock data. Colorado treatment providers are just beginning to use vendor websites to review interlock data, so their experience is too new for feedback from them at this point in time.

Data Access Issues

Coordination

Coordination and sometimes turf issues between the courts and the States' driver license agencies can naturally arise. One issue identified at the National Ignition Interlock Summit (2010) included a suggestion not to combine administrative and judicial interlock applications to reduce confusion. Because interlock sanctions are closely tied to driver licensing functions, it was suggested that State administrative rules would contribute to consistency to cover all uses of interlocks (GHSA & NHTSA, 2010). One State in this study has recently combined administrative and court-monitoring efforts. Maryland extends and processes appeals for violations for interlock users under administrative monitoring *and* court supervision. Other than coordinating for noting interlock license restrictions on the driver record, the administrative interlock programs in Arizona, Colorado, Florida, and Illinois are not involved in the monitoring of violations for those with an interlock installed via probation or other court condition.

Data Sharing

Among the five States with centralized interlock databases (Arizona, Florida, Illinois, Maryland, and New Mexico), as noted, only Maryland now shares interlock log data with the probation department through electronic transfer. In Maryland, where raw event data are uploaded to its central system, the MVA rules on the validity of interlock violations and extensions for violations even for those offenders on probation. Court staffs in Arizona, Florida, Illinois, and New Mexico receive violation reports directly from the interlock vendors. In New Mexico, once the TSB centralized database of interlock data is operational, initial plans are to make the interlock data available to court staff upon request.

As specifically allowed in its administrative code, the Florida interlock unit staff does share information about violations from the central database (but not access to the database) with DUI program case managers who monitor offenders with interlock violations. This sharing is accomplished via phone and email. For regular offender monitoring, however, DUI case

managers access one of the State's two vendor web portals that provide the kind of detail they need to discuss violations.

A recent TIRF publication, *Alcohol Interlock Programs: Data Management System Implementation* (Robertson et al., 2013), highlights the need to interface with multiple agencies to share information in order to track compliance.

Privacy and Consent Issues

Depending on who is asking for access to the interlock reports and for what purposes, multiple policies and laws can affect accessibility to the interlock data.

- State and Federal Privacy Acts
- Health Insurance Portability and Accountability Act of 1996 (HIPAA) laws
- Interlock-related legislation/administrative code
- Interlock-monitoring authority policy (driver's license division and courts)
- Vender Policy
- Vendor Contract with the Monitoring authority

Neither interlock legislation nor administrative code usually specifies who else may access the data, other than the State monitoring authority and courts. Thus, the ease of getting approval for access to interlock data varies from State to State, court to court, and vendor to vendor, based on the policies and laws listed above.

Sharing Data with Treatment Providers

The issues surrounding the sharing of interlock data with treatment providers are discussed in Chapter 6, but summarized here.

Treatment providers are not generally notified by the court or the DMV that an offender is in an interlock program. Those treatment providers who do become aware may not know that a client who is in an interlock program can usually request that the interlock vendor allow his or her treatment provider to access client interlock data via the vendor's website or via e-mailed reports. The vendors have their own release of information forms (sample vendor consents in Appendix I) to facilitate this, but a vendor may also need the approval of the contracted monitoring authority before providing access to an additional monitor.

The Colorado DMV and the Colorado Office of Behavioral Health solved their consent issue with step-by-step instructions for executing two consent forms to allow IEC counselors to access interlock data (Appendix J) via interlock vendor websites. Without explicit directions and forms like these, treatment providers in any jurisdiction are unlikely to follow up on their own clients. Colorado DWI offenders who do not participate in the IEC program may also provide access for their treatment providers, by using an individual interlock vendor's consent forms.

Data Storage Issues

Only Maryland, which collects raw data, mentioned a concern about data storage issues. The States usually require the vendors to store the data for a specified number of years, usually 5 to 7 years. An individual vendor may have its own policies that exceed the number of years required

by the State. As some interlock users do reoffend, it is probably desirable for providers to maintain their records at least as long as their contract with a State is active.

Court Interlock Data Monitoring

The use of interlocks and interlock data in a court setting is very different from procedures used by administrative programs. Practices vary widely within and among court jurisdictions among the nine States. Some offenders are court ordered to install an interlock but are monitored by the driver licensing authority; others are monitored by the court, usually as a condition of unsupervised or supervised probation. In court interlock States, such as Texas, and hybrid States, like New Mexico, court staff play a major role in monitoring the interlock data. This section discusses court supervision practices of DWI offenders on an interlock among the nine States included in this study and in New York, a court-interlock State. (A discussion of DWI courts and the use of an interlock in conjunction with treatment is included in Chapter 6.)

Judges

As previously noted, even in States that are considered as being mainly administrative interlock jurisdictions, State laws often allow judges to impose the interlock as a court condition of bail, sentence, or probation. Some judges and courts favor interlocks more than others, whereas some courts do not have the staff to monitor interlock data at all.

Judicial practices related to court-ordered and -monitored interlocks vary, depending on the specifics of the interlock law, the preferences of individual judges, or occasionally according to guidelines developed by court staff. Judicial discretion, rather than standardized imposition of penalties, is favored to allow flexibility to fit the individual circumstances of offenders.

- Some judges have the statutory authority to impose longer interlock periods than required by the State's licensing authority (e.g., Arizona and Florida), whereas others do not.
- Some judges have statutory authority to extend the interlock installation period for poor performance; others do not. Texas judges do; New Mexico judges do not.
- Some judges may require a different BrAC lockout level than the States administrative program.
- The types of interlock reports (frequency/format/data elements) requested by judges from the interlock vendors varies by the type of court, judicial preferences, type of offender (low, medium, high risk), and the resources available to monitor the reports.
- Judges sometimes construct their own definitions of what constitutes a probation violation related to interlock use or use the interlock violation definition established by legislation and/or administrative code that is used by the State driver-licensing agency.

One judge in a highly populated Texas county orders several hundred interlocks per month, including pretrial bond and post-trial DWI cases. After meeting with interlock vendors in the State, two companies were selected as meeting the judge's criteria for seamless and immediate use of interlock devices and the data reports. The criteria included ease of access to the vendor and availability for interlock users, installation within 4 to 5 days of a court order, daily downloads (preferred) with cell-based interlock devices or at least weekly data downloads, and results sent directly to the court with integrated photographic identification.

A State administrative rule in Texas suggests a lockout level of .03 BrAC and an early recall setting for five or more violation points for an illegal start, a failed a test, or a missed retest within 15 minutes. However, this particular judge does not like it when vendors filter the data for what appears to be mouth alcohol readings, explaining that screening for true violations is the court's job. He and his court coordinator initially monitored violation reports received by e-mail and facsimile from the vendors. The workload grew too great, however, and now the probation department monitors the violation reports and keeps the judge informed of violations. Although the State lockout level is set at .03, he considers BrACs of .02 to be a violation, as do some other judges. He requires that vendors have interlock users sign a document acknowledging that any type of alcohol or alcohol-based product and drugs (other than prescription) are prohibited while on interlock. If the interlock user has *any* positive BrAC readings, additional technological monitoring devices may be required (e.g., in-home breath-testing unit, portable breath-test unit, ankle transdermal alcohol-monitoring device), in addition to some jail time. An alcohol assessment and treatment may be required as well.

Probation

Probation officers/agents are the main monitors of interlock data among other court personnel (judges, prosecutors, and pretrial staff) as they are responsible for monitoring the court-ordered conditions of probation with DWI offenders, including interlock use. Some States also have dedicated DWI monitoring programs for some classes of DWI offenders, such as the Drinking Driver Monitor Program in Maryland and STOP DWI programs in some New York counties.

Probation officers often handle violations case-by-case in accordance with special conditions of probation and the practices and requirements of the sentencing judge and prosecutor. This allows for individualized responses, although one recent annual report for a large Texas county probation department recommended the establishment of specific interlock periods of installation and a departmental policy that establishes the protocol for violations and failure to comply (Fabelo et al., 2009). New York provides an example of a State-level probation agency that led the development of interlock guidelines for use by county-level probation departments.

New York is one of the court interlock States featured in the NHTSA *Case Studies of Ignition Interlock Programs* report (Fiedler et al., 2012). It describes the interlock-monitoring protocol developed by New York's State probation agency to prepare for the influx of new cases expected with the implementation of a mandatory interlock for first offenders.

The New York State Division of Criminal Justice Services Office of Probation and Corrections Alternatives required each county probation division to submit a plan to OPCA describing how interlocks would be handled, including coordination with the judiciary, offenders, and interlock service providers. Six interlock violations were identified that must be reported by the probation department or other designated monitoring authority to the district attorney and sentencing court. The reportable violations include *failure to install an interlock device, failure to make a required service visit, any attempt at tampering or circumvention, any failed or missed restart test, any failed or missed retest,* and *any lockout or test where the BrAC is .05 or higher.*

In New York, ignition interlock devices are categorized into three distinct classes, based on their features. Offenders who are more likely to recidivate (e.g., repeat offenders or a BrAC > .18 at arrest) may be assigned a more advanced device with features such as cameras, real-time reporting, GPS, and 911 linkages.

Violations in the interlock program may result in graduated sanctions, such as installation of devices of a higher class, additional alcohol treatment, and/or an increase in the interlock installation period. Violations also may result in a revocation of the original sentence and imposition of a new sentence, such as supervised probation or incarceration (Fiedler et al., 2012).

Depending on the arrangements with interlock vendors and the type of interlock, violation reports are generally sent by e-mail, unless there is a real-time device in use. For those not using real-time devices, some probation departments require notification of violations from the vendor within 48 hours of download. The probation officer may contact the vendor for more information about violations before deciding on an appropriate consequence for a particular offender. Among the nine States in this study, their probation officers do not appear to widely use the vendors' web portals to access additional details about violations.

One possible consequence of interlock violations while on probation is revocation of probation and imposition of suspended jail time. Vendors may be asked to testify in court for probation violation hearings about the validity of failed BrAC tests and the calibration of the device. One jurisdiction reported, however, that probation officers and prosecutors are reluctant to move forward on interlock violations and request a probation revocation hearing before the judge because the overall goal is successful completion of probation, which necessarily includes successful completion of the interlock period. Conversely, a director of a large probation department noted that there is usually little tolerance for any BrAC higher than .02 that is

confirmed with a retest. A positive breath-alcohol test might be met with both a sanction, such as a short-term jail sentence, and increased treatment or a new referral to treatment.

The American Probation and Parole Association provided a position statement on the use of interlocks at the National Ignition Interlock Summit (2010). The statement endorses the use of interlocks in conjunction with treatment:

> Ignition interlock can provide the supervision officer with information regarding the offender's compliance with sentencing conditions while the offender is engaged in the process of treatment and other services meant to facilitate long-term behavioral change. Ignition interlock can be an effective tool that assists in the monitoring and compliance of DWI offenders; however, it is not a replacement for good probation supervision practice. The effectiveness of ignition interlock in helping to contribute to long-term change in the drinking and driving behavior of offenders is enhanced when used in conjunction with treatment and other services designed to facilitate those behavior changes. (APPA Ignition Interlock Summit statement on interlocks, 2010)

Discussions with probation staffs among the nine States in this study revealed that, if an offender is in alcohol treatment while on interlock, a probation officer may or may not informally share the violation results with the treatment provider. Generally, a consent form allows discussions of progress between the probation officer and the treatment provider, but practices vary by case, by officer, and by jurisdiction. As discussed in Chapter 6, in a DWI court setting, violation information is always shared with treatment providers during regularly scheduled meetings with the supervising judge.

A representative of the APPA also noted the need for various levels of interlock monitoring depending on the different classification of DWI offenders.

> If the court has granted conditional discharge for a DWI offender considered to be low risk for recidivism, a monthly download of interlock data and report would be sufficient. An offender sentenced to a term of probation would require a higher level of interlock monitoring with a camera feature that captures a photo of the driver at the time of each breath test. Those considered to be at medium or high risk of re-offending would be assigned to intensive supervision and usually require real time reporting, immediate notification from the vendor of any test failure, and immediate access to data by the supervising probation officer. Officers/agents will need to determine if it is a true fail or a false positive; examining the pattern of breath tests assists in this effort. Additional evidence of alleged violations could include a skewed photo or an offender's failure to blow into the instrument on a retest. If it is suspected that the test failure represents a violation, the officer/agent will schedule an immediate office visit for the offender. (Personal Communication, Mary Ann Mowatt, APPA 12/2011) (

The largest judicial district in New Mexico is the Bernalillo County Metro Court (district court) in Albuquerque with more than 1,700 interlocks under supervision in mid-2012. In conjunction with the court's zero-tolerance policy, probation officers are required to monitor and report *any* breath-test fails, lockouts, circumventions, and retest fails. Consequently, offenders under supervision of the Metro court have devices set for early recall for any breath-test failure while the devices for most other courts and MVD reinstatement cases are set for early recall to a service center after 6 start fails in 3 hours or 10 initial or retest fails in 30 days.

The Metro Court also operates a First Offender Enhanced Supervision Program (2,000 annually) for those assessed to be high-risk or high-need offenders; approximately 50 percent have an interlock installed. Approximately 60 probation revocation hearings are generated per month due to interlock violations. State grant funds provide two additional probation officers to six court-funded positions to provide regular monitoring.

The Maryland Division of Probation and Parole has a special unit dedicated to DWI offenders, the Drinking Driver Monitor Program. The DDMP monitors supervise between 1,500 and 2,000 court-ordered interlocks per year. In addition to the interlock, offenders may be required to attend self-help groups, participate in victim impact panels or shock trauma tours, and use a Secure Continuous Remote Alcohol Monitor device. They may be subject to random breath tests with a preliminary breath test unit and urine screens. The DDMP monitors do not make decisions regarding violations, but they must inform the court of a violation within 10 days. The court decides the consequences if any it will impose. In some special cases, the court orders the offender to remain abstinent. For violations, the judge can extend the interlock period, suspend the interlock license, or impose additional counseling or treatment requirements. Any disputes regarding the validity of an interlock violation itself must still be appealed to the MVA.

The Parole and Probation Division upgraded its data systems in 2012. It now uses a FTP system that enables the MVA to submit interlock violation information to the PDD electronically, which will then generate an e-mail with violation information to the DDMP monitors. This system allows monitors to receive regular, automatic updates on violations for those on court-ordered and monitored interlocks.

Pretrial Diversion Programs

Pretrial diversion programs offer DWI offenders a period of monitoring before their case is formally adjudicated. If all requirements of the program are met, the original DWI charge is dismissed or reduced.

All three programs described here require treatment during the interlock-installed period, but positive BrAC readings are responded to in three different ways: (a) additional urine screens and an adjustment is made to the treatment plan; (b) no consequences; and (c) dismissal from program.

Washington

This Clark County pretrial program is referred to as "deferred prosecution" and is available to an offender only once in a lifetime. The program requires 5 years of unsupervised probation, 2 years in treatment, abstinence, and interlock installation depending on the number of previous DWI convictions: 1 year on the interlock for those with one previous conviction; 2 years for a second DWI conviction, and 10 years for a third conviction. A designated deferred prosecution probation officer then notifies the judge of violations and may informally notify the treatment provider. Because these participants have not been convicted and the goal of the program is to address alcohol dependency, there are usually no additional judicial penalties for positive BrAC violations unless the violations are chronic. Random urine screens can be added as part of the treatment program. Positive BrAC readings also prompt the treatment provider to adjust the treatment plan to prevent further relapses. If the program is successfully completed, the judge will dismiss the original DWI charge.

Florida

The Miami-Dade State's Attorney sponsors a pretrial diversion program, "Back on Track," that allows first DWI offenders to participate in a 6- to 12-month program to avoid a DUI conviction. Offenders are required to attend substance abuse classes and counseling, perform community service, submit to drug testing, and pay fines. Those with BrACs $\geq$ .15 or test refusals upon arrest also must have an interlock installed in their vehicles for 6 months. Upon successful completion of the program, the State will amend the DUI charge to "reckless driving." The program is monitored through contractual arrangements with two private, not-for-profit companies. These monitors ensure interlock installation and receive violation reports from the vendors, but reportedly are not required to report interlock violations to the State's attorney.

Texas

Harris County (Houston) has a large probation department, first-offender pretrial diversion program with 1,800 cases per year monitored by the probation department. They conduct a rigorous qualifying assessment process, including six evaluation assessment instruments. For those who are borderline qualified for the program, the probation department looks at motivational and criminal thinking scores to help decide eligibility. Those who score on the low end of a criminal thinking scale instrument are required to be on interlock for 6 months; those who score on the higher end of the scale have a 1-year interlock requirement. There is zero tolerance for BrAC violations while on interlock.

Summary

The variety of programs described in this chapter illustrates the lack of consensus on the type of interlock data monitoring that is best or most cost-efficient. Although court monitors generally

receive notification by e-mail, State agencies manage the monitoring processing in a variety of ways.

Electronic transfer of interlock-event-log data from vendors to State driver-licensing agencies is becoming more common in order to handle large volumes of interlock installations due to more DWI first offender and high BrAC laws, and other mandatory interlock requirements for license reinstatement. In Traffic Injury Research Foundation's Summary of Technical Assistance Findings, after providing NHTSA-funded assistance to seven States, it concluded that, "While costly, the development of an automated reporting system can improve the delivery of devices by streamlining workload, enhancing communication, and facilitating the tracking and management of offenders." However, the process of transferring the data is a huge technological endeavor for a State, given the large number of technical and coordination issues related to the transfer of data from multiple vendors to a State database.[11] An automated notification system of violations to interlock users is another level of effort required, but as discussed in Chapter 4, these automated systems tend to generate a large number of appeals that are eventually voided.

A clear variation among the States is the extent to which they allow and depend on vendor filtering of information on violations. The least cost to the monitoring agency occurs when only exception (violation) information is forwarded for action. This reduces the need for monitors to search through interlock records to identify such events. Allowing the interlock recorder or the vendor's database or staff to filter the data potentially opens another source for error, particularly given the complexity of some State definitions of what constitutes a violation. This should be of concern because most States have contracted with a number of vendors who compete for clients; thus, they are placed in a conflict-of-interest position when reporting violations that lead to extensions for their clients. Balancing this risk is the efficiency of processing data at the vendor level where the data are often best understood and the computational facilities are sometimes superior to those of the monitoring agency.

Which violation filtering method and level of vendor involvement is best? The specifics of the legislative requirements and available resources affect the type of interlock monitoring that is used in each jurisdiction. One vendor suggested that the transfer of the raw data to the State for consistent filtering is the best way to avoid inconsistent application of penalties for violations; this is particularly important if some filtering is done at the service center level instead of a vendor national headquarters level. States without resources to accept all raw data from vendors have had to be creative to accomplish the task of interlock data monitoring. For example, Washington State only monitors for tampering and circumvention, and the interlock vendors then monitor for breath-test and procedural violations during the last 4 months of the installation period.

Some States (e.g., Arizona) have their vendors forward relatively unfiltered data, which frequently produces a heavy load of challenges and violation reversals. To date, it appears that relatively little attention has been given to the quality of the filtering services provided by vendors and the methods they use to ensure that the conflict they face does not affect the quality of their reporting. TIRF does provide a step-by-step process in which the vendors are partners in

[11] See TIRF's "The Implementation of Alcohol Interlock for First Offenders: A Road Map," Robertson, Holmes, & Vanlaar (2010).

creating a vendor oversight plan that can help improve uniformity of data reporting among many other quality control aspects of interlock use ("Alcohol Interlock Programs: Vendor Oversight," (Robertson et al., 2011).

Because each State is developing its own methods for transferring data, adding State filters, and automating violation notification, it might be helpful to have a manual with model software and database system developed or perhaps some already exist in other States that potentially can reduce the number of unnecessary appeals. "One size won't fill all," so such a system would need to be flexible. South Carolina's Department of Probation, Parole, and Pardon Services (PPP) uses a software program that allows interface with the DMV including updated status of the offender and any recent violations. This software program is available to be shared with other interested jurisdictions. TIRF's publication on data management system implementation includes an appendix with details about the operation of South Carolina's automated data management system (TIRF, 2013).

As the optimum level of supervision remains to be determined, significant differences in the use of interlock data monitoring between the States are likely to continue. Multiple factors appear to be important in determining the extent to which interlock data can be used in monitoring: State law or court policy, court and DMV staffing levels, resources available to develop a central State database, extent of provider data screening, and extent to which counseling and treatment programs are integrated with the interlock program. The nine States included in this report provide useful examples of how these factors have influenced the use of interlock data, but none of the States has conducted research-based studies to compare different approaches to monitoring. Nonetheless, they provide an experience base that can provide guidance to policymakers.

The variation in provider data formats has been a problem for probation officers and administrative hearing officers who receive reports directly from vendors or access data from the providers' web sites. In Florida, the DUI program case management staff regularly access data via web portals; thus, they have become quite familiar with the websites, but they have just two sites to negotiate. Massachusetts requires the use of specified formats in all vendor websites.

Rapid growth in interlock technology—the integration of cell-based real-time reporting systems, the use of photography and face recognition for verification of the sample provider, and GPS recording of vehicle location—will substantially increase the amount of data available for the monitoring of interlock users. The increase in ways to gather data about offenders may also extend the ability of probation officers, counselors, and treatment providers to intervene and support behavior change of offenders on interlocks. Exploitation of this extended capacity will probably require more reliance on vendors to produce easily interpretable data. Unless this can be accomplished, probation and other monitors are not likely to take advantage of the opportunity to build new, more effective monitoring and treatment programs around these new technologies.

6. Interlock Data Use for Referrals and Treatment

For this study, two States—Florida and Colorado—were known to be using or were planning to use the interlock data reports in a therapeutic way for referrals to counseling and treatment of DWI offenders during the interlock installation period. We met with key people involved in the development and operations of the interlock programs in Florida and Colorado and conducted additional discussions by telephone and e-mail. Public sources of information also were reviewed, including the NHTSA *Case Studies of Ignition Interlock Programs* (Fiedler et al., 2012) that also features these two States.

The administrative procedures for Florida and Colorado were examined and are described in detail here (Appendix B-2 and B-3 for additional details); however, some courts in these two States and in other States also use the results from the interlock reports to make referrals for additional treatment. Without a comprehensive survey of courts/probation departments, it is not possible to estimate how often this occurs.

Following the descriptions of the Florida and Colorado programs, additional sections include:

- Short descriptions of two additional interlock State programs that require treatment as a consequence for interlock violations: Virginia and South Carolina.
- General issues and barriers related to treatment provider access and use of the interlock data, including consent issues, training, and timing constraints.
- Treatment provider perspectives about interlocks.
- DWI court experiences with interlock as part of the treatment plan.

Florida

Background Highlights

The Florida DHSMV is responsible for administering the State's interlock program of more than 9,000[12] interlocks (2012), including having an integral role in the supervision of DUI offenders while they are on the interlock. The interlock data are used extensively to track offenders' success rates and failures. The DHSMV closely monitors the data for violations using a graduated system of additional requirements, including mandatory referral to DUI case management supervision and additional alcohol treatment. The BrAC readings from the interlock are not considered evidentiary, however. Thus, the readings are not used to revoke the offender's right to use an interlock, but they are used to indicate additional supervision and treatment needs.

[12] The DHSMV is not involved in the supervision or collection of data for those in Florida's limited pretrial diversion interlock programs or the DUI court programs.

After conviction in Florida, the court order specifies, within the guidelines of the law, the length of the license suspension and the length of the interlock requirement. A substance abuse assessment is required, along with education and treatment, if treatment is indicated in the assessment. DUI education and treatment must be completed before applying to the DHSMV for an interlock license. Given the strong DHSMV interlock supervision component conducted in conjunction with the DUI programs in Florida, court involvement with interlocks is not widespread. Though infrequent, judges do have the discretion to order interlocks for any DUI offender and to require a lower lockout BrAC level than the former administrative lockout level of .051 BrAC. Florida legislatively developed an intensive administrative supervision program for multiple offenders (Special Supervision Services program) before DUI courts were in vogue in an effort to prevent unlicensed driving by those with long-term license revocations. Abstinence is required for offenders under the SSS program; thus, *any* positive interlock readings are met with consequences. Often, additional urine or blood testing is required.

Completion of the statutorily required interlock periods in Florida is mandatory; offenders cannot wait out the license suspension period. Even major violations, such as tampering with the device, do not preclude offenders from having to complete the interlock requirement before they can have their driver's license reinstated. The number of months required on an interlock must be continuous to complete the requirement; no credit is given for months completed if the interlock license is rescinded for noncompliance with program rules or if the license is suspended for a variety of other reasons. Program participants can have the interlock revoked for violation of program rules, such as missed appointments, interlock tampering, license suspension for traffic violations, and failure to meet a long list of financial obligations (such as failure to pay child support) for which the State of Florida will suspend a driver's license. If an interlock license is revoked, the offender must reapply once the suspension period is satisfied and must repeat all interlock requirements.

As indicated by statute, Florida uses only two interlock companies: one for the northern half of the State and one for the southern half of the State. This reduces the amount of coordination needed with vendors and simplifies procedures.

Interlock Data Use for Monitoring and Treatment

The DHSMV staff certifies and monitors the 23 private provider DUI programs that provide education and case management services for the State. The DUI program staff collaborates with the State DHSMV staff to help monitor compliance with the interlock program. The State conducts random file audits to ensure that the DUI program case managers are following protocol and completing the required DHSMV-established documentation (Appendix L) forms for each meeting with interlock users.

Because the DHSMV staff interacts and coordinates regularly with DUI program case managers who use the interlock log data to intervene with offenders who have violations, a description of the entire monitoring process is included here.

DHSMV. The DHSMV receives weekly violation reports from the interlock vendors by FTP, which automatically records coded violations to the driver's file and generates extension letters to offenders. In Florida, a BrAC-related violation is defined as two startup failures (≥ .051) within 4 hours, a retest failure, or retest refusal.

The extension letters to interlock users with a violation include instructions to report to 1 of 23 certified private DUI program providers in the State within 10 days, as established in the legislation:

- *First violation*: Report to a licensed DUI program for a one-time discussion of the violation and preventative measures.
- *Second violation*: Report to a licensed DUI program for monthly monitoring until the interlock requirement is complete. Interlock log data are reviewed and a case management plan that focuses on the separation of drinking and driving is developed.
- *Third or subsequent violation*: Continue monthly DUI case management monitoring plus referral to a private treatment provider. The interlock requirement is extended by 1 month for each violation until treatment is successfully completed, whichever is longer.

Four full-time and two part-time ignition interlock device "subject matter experts" (SMEs) are responsible for monitoring the file transfers that are received each week from the interlock vendors. They solve data issues with the two interlock vendors, troubleshoot DUI program issues with the program staff who monitor offenders with two or more interlock violations, and update driver records with corrections and notations. In mid-2012, the SMEs handled an average of 611 interlock-related calls per month.

Correspondence and telephone calls with interlock users and vendors are tracked in a database. If needed, staff also can view details and patterns surrounding violations via vendor web sites for more information about a particular violation. The data for those with second and third violations are reviewed carefully before a letter of extension and instruction regarding the additional counseling and treatment requirements is mailed. After a third violation, because offenders are extended 1 month for each violation or until treatment is complete (whichever is longest), the SMEs manually enter a revised interlock end date after verification has been received from the DUI program staff.

Appeals. There is no formal appeal process for interlock violations; however, staff members respond to telephone calls regarding disputed violations. Further, the violation data are carefully reviewed before extension letters are generated. This procedure appears to replace the high volume of appeals to automatic interlock extension that some other States have to process. Staff members also meet regularly to ensure that unusual cases are handled consistently and fairly.

Vendors. Staff members from the two interlock vendors are available by telephone and e-mail to help DHSMV staff interpret violations, if needed. Further, they meet with DHSMV staff quarterly to discuss any emerging issues. The vendors also provide training to the DUI program staff approximately every 2 years so that new staff can understand the functions of the interlock and interpretation of the violation reports.

DUI program case manager/evaluators. Under contract with the DHSMV, the 23 private DUI programs in the State monitor interlock users who have violations and implement the supervision level (1, 2, or 3-plus violations as previously described) required by legislation. Case management plans include a monthly review of the interlock data and the development of goals that will help offenders avoid drinking and driving. Case managers can access the two vendors' web sites to monitor the recorder data for their clients. As noted, the BrAC readings from the

interlock are not considered evidentiary; thus, violations are not used to revoke the interlock license but to indicate additional supervision and treatment needs. Failure to follow program rules, however, such as missed appointments and tampering with the device can be grounds for suspension of the interlock license.

The DUI program staff receives training from the interlock vendors on how the interlock works and how to interpret the interlock-event data when accessed via the vendors' websites. When questioned about the ease of using the data, the DUI program staff reported having no problems using the data logs via the websites. When trying to interpret "disconnect-related notations" in the data, they find it helpful when the interlock service technician writes into the data record that a paid receipt has been provided to verify legitimate disconnect power issues when the vehicle has been serviced for repairs.

First and second offenders who did not have a high-BrAC conviction are not required to be abstinent but are still accountable for violations defined as two startup fails $\geq$.051within 4 hours or a failed or missed retest. Offenders who receive one interlock violation must attend a one-time meeting with a DUI program case manager to discuss ideas about how to prevent additional interlock failures. A second violation will result in a requirement for monthly case management supervision. A third violation results in a 1-month extension on the interlock, monthly case management supervision, *and* referral to substance abuse treatment with a private clinician until treatment is successfully completed. The DUI program case managers receive monthly reports from the private treatment providers on client progress (generally, an individualized treatment plan, monthly summary/progress of treatment, and the discharge summary) and then notify the Florida DHSMV when the treatment requirement has been met. Offenders pay a supervision fee for each visit; thus, violation monitoring is self-funded.

The interlock is set to give the interlock user a "warning" message for BrACs of .02 to .05, but it does not provide the actual numerical value at the time of the warning. The interlock-event data does provide the numerical value, which is seen as an invaluable aid for the DUI program staff when assessing a client's actual compliance with separating drinking behavior and driving behavior or with abstaining from alcohol (multiple offenders). A client may get a startup fail and then avoid the vehicle for the remainder of the day if not mandated to provide a second sample (which is required for some multiple offenders); alternatively, a client may start the vehicle and drive while providing samples, which generates continuous warnings. DUI program staff can then see evidence of rates of elimination consistent with breath-alcohol levels. Reportedly, offenders sometimes complain when they have a violation, saying, "The device tricked me." They may have had 60 occasions when they could start their vehicle at BrAC levels from .02 to .05 but eventually "guess" wrong and get a violation at .051 BrAC or higher.

The case manager documents provide, in detail, each meeting with offenders using the DHSMV's required forms (Appendix L).

Meetings With DUI Program Case Managers

First violation. Upon receiving a letter from the DHSMV, the offender must make an appointment with a DUI program case manager. Before the interview, the DUI case manager will generally review interlock downloads (current and historical) and other information obtained during the required substance abuse assessment/psychosocial evaluation conducted after the DUI

conviction, including the Driver Risk Inventory and other traffic and criminal offenses, if applicable. In an effort to give interlock users enough information on how to prevent further interlock violations, the case manager conducts a brief, 30-minute intervention.

During the one-on-one interview, the DUI case manager will generally cover the following issues with the first-time interlock violator:

- The client's interlock violations and warnings and other noteworthy events.
- Behavior patterns that led to the recorded interlock events.
- Problems with laws and notably driving laws.
- Financial costs associated with the drinking-driving problem.
  - Plans (advice) on how to prevent future violations:
    - Initial startup blow—positive blow (warn or fail). Do not blow again and turn car off, wait for 4 hours and do not drink. The timeframe for an "initial" breath sample reset is 4 hours. This prevents a lockout and thus a violation.
    - Drink less or better yet, do not drink at all while in the interlock program.
    - Stop drinking sooner.
    - Do not get out of the car and leave it running (may request a retest and you might miss it).
    - A "warn" or a "fail" on a retest. Stop the car and do not drive; take a taxi to wherever or call a friend. A retest fail, a failure to provide a retest, or an aborted blow will result in a violation.
    - Do not tamper with the device or the car's wiring.
- Notice of what will happen if the offender violates again.

Second violation. Upon receiving a notice for a second interlock violation from the DHSMV, the offender must make an appointment with a DUI program case manager for a second meeting. Legislation mandates that offenders must be monitored monthly for the duration of their interlock requirement. This interview lasts 1 hour, and the case manager compiles a monthly case management plan. In addition to a review of the most recent violation information and other items discussed during the first meeting, the DUI case manager will:

- Discuss the client's noted risky behaviors;
- Discuss helpful and healthy lifestyle changes;
- Recommend the client join and attend an alcohol self-help meeting; and
- Set the next appointment time and interim goals.

The NHTSA *Case Studies of Ignition Interlock Programs* report (Fiedler et al., 2012), which features Florida and five other States (Colorado, Illinois, New Mexico, New York, and Oklahoma), provides partial case notes to illustrate how the data from the interlock recorder are used by a case manager/evaluator to describe and document behavior:

> ***First violation:*** 9/11/09, consecutive BAC fail, 0.111 @4:55 and & 0.111 @ 5:00 a.m. Client stated that this is the time she goes to work. Client stated that she had been drinking that night at a friend's house. She slept 6 hour and thought it would be out of her system.

> ***Second violation:*** 9/13/09, consecutive BAC fails, 0.125 at 7:37 a.m. & 0.112 at 7:51 a.m. Client stated she was celebrating her birthday the night before and was going to get an egg sandwich.

As part of the case management plan, the evaluator makes client-specific recommendations to avoid future lockouts. An example summary follows:

> Client agrees to (a) purchase a breathalyzer at Walgreens when he can afford it, and use it to prevent positive readings; (b) read all labels and not take any more OTC medicines containing alcohol before driving; (c) attend AA [Alcoholics Anonymous], he hasn't been lately due to work schedule, but he says he will return to AA and use his sponsor; (d) inform sponsor of the slip and take a white chip and bring it to evaluator; (e) go over all interlock device readings and discuss any that are above .05; (f) take all tests and retests, will wait 5 minutes and then take retest without turning off car; and (g) not take his cousin to pool hall where alcohol is served as that may cause him to drink. Client says he doesn't have any desire to drink; he feels 110 percent better not drinking. Client reports his mother is a recovering alcoholic. Client is aware that a third letter would require him to go to treatment. (Fiedler et al., 2012)

The case manager and the client both sign the form that reviews the interlock status and recommendations. By connecting interlock data with behaviors and actions, the participant and the case manager can work together to formulate sustainable behavior changes (Fiedler et al., 2012).

Third-plus violations. Upon notice of a third interlock violation from the DHSMV, the offender receives instructions to make an appointment with his or her DUI program case manager for follow up on two new requirements: (a) mandated treatment and (b) interlock extension of 30 days for each violation, starting with the third violation. The offender receives a list of Department of Children and Family certified substance abuse counselors and treatment programs. The certified treatment programs have a Memo of Understanding (MOU) agreement with the DUI programs to provide the treatment services required by the DHSMV but managed by the DUI program. The offender remains in treatment for the remainder of the extended interlock requirement, and if treatment lasts longer than the interlock requirement, the interlock requirement is extended (as are the monthly case management meetings) until treatment has been completed. Individual and/or group treatment generally lasts 8 to 12 weeks. A DUI program clinical supervisor reviews treatment completion documentation and sends confirmation to the DHSMV.

Special Supervision Services. There is an extensive application process for a restricted interlock license for multiple offenders who have a 5- to 10-year license revocation. (Offenders can choose to serve their entire license revocation; however, they must still comply with the original interlock sanction requirement before full license reinstatement.) The DUI programs provide SSS that involve more intensive, probation-like monitoring because abstinence is required. Clients are supervised monthly by specially trained case managers known as "SSS evaluators." These evaluators can also access the log data via the two interlock vendors' web sites. Because timeliness is important for interventions, these interlock users are required to have their service appointments with the interlock vendor (for calibration and download of data) within 5 days before their monthly appointment with the evaluator so that the data report is fairly current.

Some of the DUI programs' SSS evaluators require interlock users to provide a second breath sample soon after any "false positive" caused by mouthwash or another substance to provide more data that will be time-stamped in the log report. However, a follow-up blow of .00 BrAC does not prove sobriety or conclusively indicate that mouth alcohol caused the first positive reading, as a "secondary blower" cannot be ruled out. (Interlocks with cameras are not a requirement in Florida's contract with the two interlock vendors in that State.) The follow-up test is mandated because a second similar positive reading may be used as clinical justification for increased intervention services. Any evidence of drinking in the interlock data is evaluated, usually followed closely by a required urine or blood screen for alcohol use because the interlock breath test is not considered evidentiary and multiple offenders are required to be abstinent. An evaluator might also intervene by requiring that the client call immediately after a warning or failure, take additional chemical tests, and/or attend an AA meeting. If tests of urine or blood confirm use of alcohol, the offender is dismissed from SSS, the interlock-restricted license is revoked, and the original license suspension period is reinstated.

Treatment providers. Four of the five treatment providers contacted for this report use the interlock violation reports in the client file, at least minimally, when the DUI program staff makes a referral. The violation reports and complaints about the interlock device may come up during individual and group sessions, but they do not appear to be a central theme of discussion. At least one treatment provider preferred to let the DUI program case managers address violation issues. There is no standard definition for successfully completing treatment, as the treatment plans are tailored to the offender; however, 8 to 12 weeks of some combination of weekly individual and/or group therapy is the norm. Those with more severe problems may be referred to intensive outpatient or inpatient programs.

Release forms are signed so that treatment providers can share the treatment plan, monthly feedback forms (Appendix L, DHSMV Feedback Form 77031), and discharge summary with the DUI case manager. Additional communication between the treatment provider and DUI case manager varies by case and treatment provider. The discharge summary contains the number of sessions, the topics discussed, the client's compliance with the treatment plan, other notable events, and a relapse prognosis. The DUI program's clinical supervisor reviews the discharge paperwork and is responsible for approval and notification to the DHSMV of treatment completion. This documentation could potentially provide a measure of the quantity and type of treatment for interlock users, and thus an opportunity to compare interlock users who had or did not have treatment. However, because the documentation is not automated and privacy laws would be an issue, use of these data are not likely to be feasible. DUI program staff would have to copy the forms and black out any personally identifying information before sharing the information for evaluation.

Treatment providers and DUI program staff meet quarterly to share information and attend training workshops. Issues are discussed regarding the interlock, the rationale for referrals, interpretation of interlock data, and general myths and misconceptions about the interlock log reports; however, no formal training on the interpretation of the interlock data is provided for the treatment providers.

Florida Suggestions for Better Use of Interlock Data

The Florida DHSMV staff (under the leadership of Barbara Lauer, the former director of the Bureau of Driver Programs) developed its interlock monitoring plan based on research that the interlock data can predict recidivism. However, the staff identified some areas for improvement as they continually seek to evaluate and improve the process.[13]

- Multiple offenders have an abstinence requirement, so they must come up with excuses for violations rather than discuss issues that contributed to the violation. If the client admits to drinking as the cause of any positive BrAC readings, technically they are supposed to be dismissed from the SSS program for the duration of the 5- to 10-year revocation. Thus, offenders rarely (if they have been drinking) accurately report the reason for the readings, complicating the intervention efforts by program staff and treatment providers.
- There is turnover among the contracted DUI program staff and varying levels of familiarity with interlock data by program supervisors; thus, the skill levels in using the data varies widely across the State. Skills are required to understand the clinical implications of the warnings and failures. The DHSMV, in conjunction with interlock vendors, provides periodic trainings in the interpretation of data logs for DUI program staff to help reduce the problem. There is an effort also being made to offer these trainings to treatment providers as well.

Florida Noteworthy Program Elements

- An interlock is a requirement for reinstatement under all circumstances.
- Interlock data are used weekly to track offenders' success and failure rates.
- Interlock data are closely monitored for violations through an automated system, resulting in a graduated system of additional requirements including mandatory referral to DHSMV-supervised DUI case management and additional alcohol treatment, both by different private providers.
- The review of interlock data logs and documentation of that review are required elements of the case management supervision of offenders.
- The BrAC interlock lockout level was set at .051, which was significantly higher than the set point of .025-.03 in other States (Florida changed its set point to .025, on July 1, 2013,).
- By State statute, only two interlock vendors operate in the State, one covering the northern and one covering the southern portion of the State, thus simplifying coordination efforts.
- Offenders who have financial obligations to the State (such as child support) are not eligible for an interlock; if financial obligations are not met during the interlock period, the license is suspended and the interlock revoked.

[13] There have been two NIAAA-funded evaluations of the Florida interlock program (Voas, Tippetts, Fisher, & Grosz, 2010; Voas, Tippetts, & Grosz, 2013). A third evaluation funded by CDC to be completed in 2015 will evaluate the Florida interlock treatment program.

- There is no formal appeal process for extensions on the interlock device for violations, but experienced staff carefully reviews cases before extension letters are mailed. Further, they take telephone calls from interlock users when an extension is disputed and meet regularly to ensure that cases are being handled consistently.
- Multiple offenders must apply for a restricted license and are supervised by SSS evaluators. That involves more intensive, probation-like monitoring because complete abstinence from alcohol is required.

Colorado

Background Highlights

The Colorado Department of Revenue, Division of Motor Vehicles, Driver Control Unit, is responsible for administering the nearly 21,000 interlocks in use in the State. Colorado has an active Interagency Task Force on Drunk Driving that contributes to collaboration and consensus building around impaired-driving and interlock issues. The Task Force Interlock Subcommittee has long-term plans that include an evaluation of interlocks and treatment effectiveness.

Colorado offers a strong incentive for first-time DWI offenders to install an interlock; the 9-month license suspension is reduced to 30 days if an interlock is installed. Colorado may be the only State to offer an early removal-of-the-interlock incentive for first offenders, based on 4 consecutive months of violation-free interlock performance. This incentive helped allay concerns that the first-offender interlock law was too harsh and helped to pass the legislation (Fiedler et al., 2012).

Another unique feature is the DMV's Online Interlock System into which interlock vendors directly enter installation and other monitoring information. (Described in more detail in Appendix B-2)

A breath-test fail of >.025 BrAC in any 3 of 12 consecutive months or a missed retest results in an automatic 12-month extension on the interlock in Colorado. Offenders may appeal, and hearing officers have some discretion in reducing the number of months a person's interlock requirement is extended. The Colorado administrative code lists a series of aggravating and mitigating factors that a hearing officer may consider. Notably, when deciding if the automatic 12-month extension should be reduced, a lockout in the final 6 months on interlock is considered an aggravating factor, whereas the initiation of voluntary alcohol treatment is considered a mitigating factor.

Interlock Data for Use in Treatment Setting

The Colorado OBH and the DMV Driver Control Unit actively collaborate because the interlock program is viewed as an effort to change behavior rather than punish. The OBH licenses and monitors private treatment providers throughout the State and is an active member of the Interagency Task Force on Drunk Driving.

The OBH-administered education and treatment requirements for DWI offenders are extensive in Colorado, with 12 weeks of education and four levels of treatment intensity (21-43 weeks) based on prior DWI offenses, arrest BrAC, and clinical assessments. The OBH has its own web-based

system that allows entries on treatment status by the various private treatment providers. Probation officers can also access the site because they are by statute responsible for verifying treatment compliance and completion. Probation officers, however, do not typically receive or use interlock data reports.

Interlock Enhancement Counseling

A new treatment option for interlock users in Colorado —Interlock Enhancement Counseling— was developed under contract with the OBH. IEC is an interlock research-based program that uniquely incorporates the interlock recorder data into semi-structured individual and group counseling sessions. Launched in 2011, the IEC is the only known "manualized" program directly using the interlock log data results therapeutically while the interlock is installed on a vehicle (Timken et al., 2012a, 2012b). Two detailed user's manuals from the Center for Impaired Driving and Research Evaluation are available: *Interlock Enhancement Counseling: Enhancing Motivation for Responsible Driving—A Provider's Guide* and *A Participant's Workbook* available in Spanish as well as English (Timken et al., 2012a, 2012b). Both manuals are available from cidre@comcast.net. As of October 2014 over 500 addictions treatment specialists have been trained in the model.

IEC is a brief intervention that combines motivational interviewing, cognitive behavioral treatment, and harm reduction. It is based on a pilot program tested with a court interlock program in the Dallas/Fort Worth area with support from National Institute on Alcohol Abuse and Alcoholism and is described by Timken and Marques (2001a, 2001b). The pilot found that participants enjoyed the approach and showed fewer interlock BrAC fail tests at the end of the project period (Marques et al., 2007). The project rationale was based on evidence described in Chapter 2 of this report that showed BrAC tests from the interlock are a good predictor of future impaired-driving risk, particularly a high number of failed starts and elevated early morning BrACs (Marques, Voas, et al., 2003; Marques et al., 1999; NHTSA, 2010a).

The IEC program goals include (a) increasing the client's chance of being successful on and off the interlock, (b) decreasing the number of failed starts, (c) eliminating the driving of non-interlock-equipped vehicles, and (d) preventing recidivism once the interlock is removed.

The IEC is conducted in individual and group formats, 10 hours of treatment over 5 months, in monthly sessions.

- Four 30-minute individual sessions
- Four 2-hour group sessions

Individual and group session topics include:

- Being successful on the interlock;
- Learning and change;
- Managing high-risk situations; and
- Maintaining success while off the interlock.

This evidence-based program is designed to be presented by professionals trained in the approach who have demonstrated proficiency in the therapeutic components and may be a standalone intervention or component of a comprehensive DWI treatment program (Timken et

al., 2012a, 2012b). To qualify for IEC training, counselors must have training in Cognitive Behavioral Therapy and Motivational Interviewing and at least 1 year of experience in providing DWI education and treatment using a State-approved curriculum.

Using the log data. An important feature of the IEC is the review of the log data each month when the interlock user meets individually with an IEC-trained counselor. Interlock users record their daily interlock experience on an Interlock Performance Record form (Figure 6) recording unsuccessful start and retest attempts, along with the time of day they occurred and the reasons for the failed attempts. Also recorded are the number of miles traveled and the interlock user's thoughts about interlock performance that month. The interlock-vendor-log reports and the interlock user's account of his or her interlock performance can then be compared and discussed therapeutically.

INTERLOCK PERFORMANCE RECORD

Name: _____Month: _____Year:_____

Accurately maintain this record to help you make decisions for preventing further problems with driving. Answer the first two questions by checking YES or NO responses. Enter the number of times these unsuccessful starts happened and at what time each attempt occurred in columns C and D. Write in the reasons for any failed attempts in Column E. Total each column at the bottom at the end of the month. Your counselor will review the chart with you.

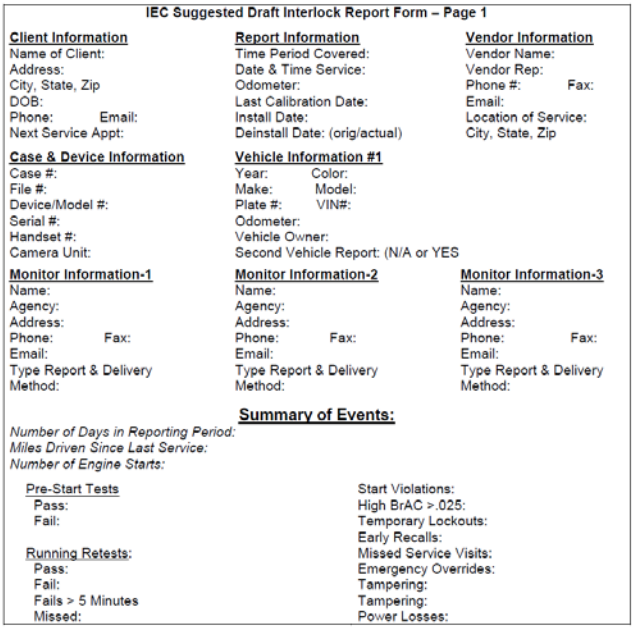
Day of Month (Please circle)	A Did you drive or attempt to drive today? (Please check)		B Were there any attempts, starts, or running retests where the first blow was not successful? (Please check)		C If so, how many times?	D If so, what time(s) did they occur?	E If you had any failed attempts, what was/were the reason(s)?
1	☐ YES	☐ NO	☐ YES	☐ NO			
2	☐ YES	☐ NO	☐ YES	☐ NO			
3	☐ YES	☐ NO	☐ YES	☐ NO			
4	☐ YES	☐ NO	☐ YES	☐ NO			
5	☐ YES	☐ NO	☐ YES	☐ NO			
6	☐ YES	☐ NO	☐ YES	☐ NO			
7	☐ YES	☐ NO	☐ YES	☐ NO			
8	☐ YES	☐ NO	☐ YES	☐ NO			
9	☐ YES	☐ NO	☐ YES	☐ NO			
10	☐ YES	☐ NO	☐ YES	☐ NO			
11	☐ YES	☐ NO	☐ YES	☐ NO			
12	☐ YES	☐ NO	☐ YES	☐ NO			
13	☐ YES	☐ NO	☐ YES	☐ NO			
14	☐ YES	☐ NO	☐ YES	☐ NO			
15	☐ YES	☐ NO	☐ YES	☐ NO			
16	☐ YES	☐ NO	☐ YES	☐ NO			
17	☐ YES	☐ NO	☐ YES	☐ NO			
18	☐ YES	☐ NO	☐ YES	☐ NO			
19	☐ YES	☐ NO	☐ YES	☐ NO			
20	☐ YES	☐ NO	☐ YES	☐ NO			
21	☐ YES	☐ NO	☐ YES	☐ NO			
22	☐ YES	☐ NO	☐ YES	☐ NO			
23	☐ YES	☐ NO	☐ YES	☐ NO			
24	☐ YES	☐ NO	☐ YES	☐ NO			
25	☐ YES	☐ NO	☐ YES	☐ NO			
26	☐ YES	☐ NO	☐ YES	☐ NO			
27	☐ YES	☐ NO	☐ YES	☐ NO			
28	☐ YES	☐ NO	☐ YES	☐ NO			
29	☐ YES	☐ NO	☐ YES	☐ NO			
30	☐ YES	☐ NO	☐ YES	☐ NO			
31	☐ YES	☐ NO	☐ YES	☐ NO			

TOTAL # of "YES" in Column A _____TOTAL # of "YES" in Column B _____
Ending mileage _____ Beginning mileage _____
Total mileage for this month_____
What are your thoughts about your interlock performance this month?

Figure 6. Interlock Performance Record form used with IEC

Treatment Friendly Interlock Report

The IEC program developers would like to see a standard interlock report format used by all vendors to facilitate use by treatment providers. An ideal report would show interlock warnings and failures over time and be user-friendly for treatment providers. A sample report that includes itemization of morning, evening, and weekend fails over time was developed by the Pacific Institute for Research and Evaluation staff and Dr. David Timken in a monthly format (Figure 7) and a weekly format, with the second page of the report displaying a calendar-type format showing patterns over 12 months. This draft report was intended to explore the possibilities of a format that might be more useful to treatment providers and potentially for other monitors.



IEC Suggested Draft Interlock Report Form – Page 1

Client Information
Name of Client:
Address:
City, State, Zip
DOB:
Phone: Email:
Next Service Appt:

Report Information
Time Period Covered:
Date & Time Service:
Odometer:
Last Calibration Date:
Install Date:
Deinstall Date: (orig/actual)

Vendor Information
Vendor Name:
Vendor Rep:
Phone #: Fax:
Email:
Location of Service:
City, State, Zip

Case & Device Information
Case #:
File #:
Device/Model #:
Serial #:
Handset #:
Camera Unit:

Vehicle Information #1
Year: Color:
Make: Model:
Plate #: VIN#:
Odometer:
Vehicle Owner:
Second Vehicle Report: (N/A or YES

Monitor Information-1
Name:
Agency:
Address:
Phone: Fax:
Email:
Type Report & Delivery Method:

Monitor Information-2
Name:
Agency:
Address:
Phone: Fax:
Email:
Type Report & Delivery Method:

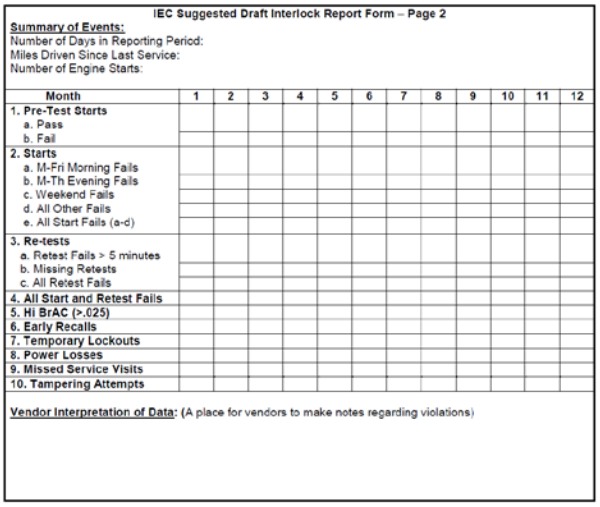
Monitor Information-3
Name:
Agency:
Address:
Phone: Fax:
Email:
Type Report & Delivery Method:

Summary of Events:
Number of Days in Reporting Period:
Miles Driven Since Last Service:
Number of Engine Starts:

Pre-Start Tests
Pass:
Fail:

Running Retests:
Pass:
Fail:
Fails > 5 Minutes
Missed:

Start Violations:
High BrAC >.025:
Temporary Lockouts:
Early Recalls:
Missed Service Visits:
Emergency Overrides:
Tampering:
Tampering:
Power Losses:



IEC Suggested Draft Interlock Report Form – Page 2

Summary of Events:
Number of Days in Reporting Period:
Miles Driven Since Last Service:
Number of Engine Starts:

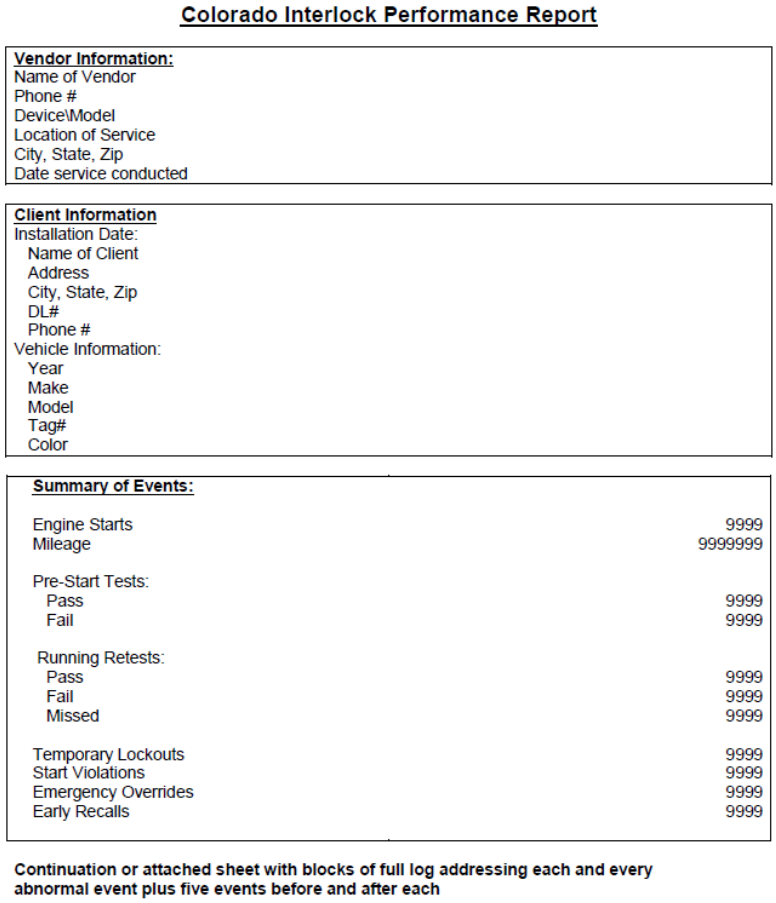
Month	1	2	3	4	5	6	7	8	9	10	11	12
1. Pre-Test Starts												
a. Pass												
b. Fail												
2. Starts												
a. M-Fri Morning Fails												
b. M-Th Evening Fails												
c. Weekend Fails												
d. All Other Fails												
e. All Start Fails (a-d)												
3. Re-tests												
a. Retest Fails > 5 minutes												
b. Missing Retests												
c. All Retest Fails												
4. All Start and Retest Fails												
5. Hi BrAC (>.025)												
6. Early Recalls												
7. Temporary Lockouts												
8. Power Losses												
9. Missed Service Visits												
10. Tampering Attempts												

Vendor Interpretation of Data: (A place for vendors to make notes regarding violations)

Figure 7. Sample monthly format – progress over time

This preliminary sample monthly format concept was "floated" to the Interlock Working Group in Colorado (which includes five vendors) and to other vendors' representatives separately. The majority of vendors said it was technically possible to create such a report, but they were reluctant to fully endorse the form given the significant reprogramming effort that it would require. The IEC developers in Colorado would actually prefer a weekly format, which theoretically would require even more of a time commitment from vendors.

The Interlock Working Group in Colorado did agree, however, on a standard monthly format that they thought would be more user-friendly to counselors (Figure 8). It contains many of the same data elements as are shown in Figure 7, the one preferred by IEC developers, but it does not include a "calendar" format where progress and patterns over time could be easily displayed. As the IEC program grows, the Interlock Working Group (which includes IEC developers) is requesting feedback from IEC treatment providers on the usefulness of the format agreed upon by the Working Group (Figure 8).



Colorado Interlock Performance Report

Vendor Information:
Name of Vendor
Phone #
Device\Model
Location of Service
City, State, Zip
Date service conducted

Client Information
Installation Date:
Name of Client
Address
City, State, Zip
DL#
Phone #
Vehicle Information:
Year
Make
Model
Tag#
Color

Summary of Events:

Engine Starts	9999
Mileage	9999999
Pre-Start Tests:	
Pass	9999
Fail	9999
Running Retests:	
Pass	9999
Fail	9999
Missed	9999
Temporary Lockouts	9999
Start Violations	9999
Emergency Overrides	9999
Early Recalls	9999

Continuation or attached sheet with blocks of full log addressing each and every abnormal event plus five events before and after each

Figure 8. Current Colorado Interlock Working Group proposed standard format for counselors

IEC Challenges

A possible barrier to treatment provider access to the vendor log data (a vital element of the IEC program) was solved in early 2012 with the development of a list of procedures (Appendix J-1) for documenting consent for release of the log data. The procedures included the completion of two consent forms: one that meets Federal requirements, including HIPAA[14] (Appendix J-2), and one that meets DMV and interlock provider needs under the Colorado law, including the State's Driver's Privacy Protection Act (Appendix J-3). Consequently, IEC treatment providers now have access to their clients' interlock records via the vendors' websites. One caveat is that interlock users under court order for interlock use as a condition of probation (as opposed to interlock users who applied to the DMV for an interlock license) must use the individual vendor release of information forms to allow their treatment providers to access their interlock records.

[14] The Health Insurance Portability and Accountability Act of 1996 Privacy and Security Rules protects the privacy of individually identifiable health information (including alcohol addiction) and sets national standards for the security of electronic health information. The confidentiality provisions of the Patient Safety Rule protect identifiable information being used to analyze patient safety events and improve patient safety.

One challenge was spreading the word about the availability of the IEC program. In late 2011, Colorado made it a requirement that interlock vendors and alcohol education providers must inform new interlock users about IEC's availability as an option for completing treatment requirements. The ultimate goal is for the IEC to be a treatment requirement via OBH Administrative Rules for DWI offender interlock users in Colorado, but for now, the IEC is being encouraged with written OBH policy and procedural guidelines.

Incentives or selling points for participation were developed for both interlock users and treatment providers to use the IEC program.

IEC program implementation incentives/selling points for treatment providers:

- IEC training for counselors working at OBH-licensed DWI programs is provided free-of-charge.
- Early opportunity to get started with a soon-to-be-mandated program.
- An additional evidence-based program to add to the State's DWI services.
- A program that may be used in conjunction with and as part of the State's existing programs.
- A program that can assist DWI clients with interlocks to complete a portion of their overall treatment requirements.
- A program that may be used as a "standalone" for certain clients in certain situations.
- A program that has State support and can serve as a viable referral for probation and DMV.
- An approach that has a high probability of reducing failed interlock starts, alcohol consumption, frequency of alcohol use, and recidivism for clients on interlocks. This approach can also be used after the device is removed.

IEC completion incentives for interlock users:

- Enables participants to complete part of their overall treatment requirements if they successfully complete the program. The program may run concurrently with other required DWI treatment services.
- May reduce the probability of failed starts, time extensions on the interlock, the amount of alcohol consumed, and the frequency and consequences of alcohol use.
- Enables certain clients who successfully complete the program to reduce the overall length of treatment requirement by up to 5 weeks.
- Voluntary enrollment may be seen as a substantial mitigating factor when appealing an automatic 12-month extension for a violation.
- May assist in meeting some probation and DMV requirements.
- Possible reduced recidivism post-interlock installation.

The OBH and the DMV worked cooperatively with IEC developers to train approximately 500 treatment providers as of 2013, but actual enrollment in the IEC by interlock users was just beginning in late 2012. A process evaluation of the IEC has been planned by the OBH with a long-term plan for an outcome evaluation if funding becomes available.

Colorado's Suggestions for Better Use of Interlock Data

- An administrative rule requiring the IEC as part of the treatment requirement; it is currently optional for DWI offenders on the interlock, and enrollment has been low.
- A two-part consent process to cover HIPAA, State, and vendor consent concerns, with step-by-step procedures for getting the consent forms in place so that treatment providers can access the vendors' websites and thus interlock reports to be used in a therapeutic program.

Colorado's Noteworthy Program Elements

- An inclusive and productive interagency task force that works collaboratively to change the offender's behavior rather than using punishment.
- Great incentive for first offenders to volunteer for interlock, with license suspension reduced from 9 months to 1 month with an interlock.
- OIS is designed for vendors to directly enter installation and other monitoring information on interlock users, saving staff time and resources.
- Four levels of alcohol education/treatment required based on clinical assessment.
- The unique IEC program, including individual and group therapy that specifically incorporates interactive review of the interlock logs by interlock users and therapists who have completed IEC training. User manuals for the therapist and the interlock user provide a structured program.
- The DMV, OBH, and interlock vendors worked together to develop consent forms for treatment provider access to interlock logs.
- Interlock Working Group (DMV and interlock vendors) meets regularly to troubleshoot and works towards more consistency among vendors.
- A notably long extension period (12 months) for three violations in a 12-month period but with an administrative hearing procedure with specific mitigating and aggravating circumstances that allows flexibility. Voluntary enrollment in the IEC program is a mitigating factor.

Three More States—Violations/Treatment Connection, 2012

Although Virginia, South Carolina, and West Virginia do not use the review of log reports as part of their standard protocol or therapeutic process, unlike many other States, they use the incidence of interlock violations to make referrals for screening and alcohol treatment. Short summaries of their programs follow.

Virginia

Virginia is unique in that the statewide Alcohol Safety Action Program manages the State's interlock program, including all court *and* administrative cases. Interlock users must go to one of 24 ASAP offices for orientation, assessment, and monitoring. Caseworkers access the data from vendors via fax, mail, and vendor web-based systems before making determinations about violations. The VASAP program allows offenders to retest within 15 minutes of an initial start fail to avoid false positives. For those under court supervision, caseworkers recommend an extension based on just one confirmed violation. Usually, the court confirms the extension and

may add additional sanctions. If a pattern of abuse is apparent in the interlock logs, caseworkers reclassify the offender's substance abuse status and require an assessment for treatment with a private treatment provider. The logs are not shared with treatment providers but information about a violation might be shared by a caseworker with a treatment provider. For those on the interlock administratively, caseworkers will automatically extend the time on the interlock based on a confirmed violation but currently additional treatment is not required for these interlock users. All offenders must be free of violations for at least 6 consecutive months to get the interlock removed, so the extensions are always 6 months in length.

South Carolina

The South Carolina Ignition Interlock Device Program is unique in that interlock extensions are tied to the accumulation of points for violations due to missed service appointments and elevated BrAC start and retest violations. The accumulation of points can also trigger a referral for required substance abuse assessment and an individualized treatment plan.

Violation reports are sent from the vendors to the IID Administrator, who in turn assigns violation points based on a graduated system of consequences for various violations listed. Although there is an appeal process, information about confirmed violation points is reported to the DMV; the DMV then notifies the offender of the points and the consequences. Probation officers and treatment providers may request information about interlock performance but the information is not routinely shared.

West Virginia

As a result of a DUI, most States require some type of alcohol assessment and education and/or treatment program. In West Virginia, this requirement is tied to the Alcohol Test and Lock Program (interlock program) which is administered by the Department of Motor Vehicles. Enrollment in the Alcohol Safety Treatment Program is required within 60 days of interlock installation. The program includes a substance abuse assessment, 18 hours of education and may include intensive counseling and treatment. The treatment program must be successfully completed before exiting the interlock program. Violation information is sometimes shared with treatment providers. West Virginia also uses a point or "demerit" system based on the severity of violations which is tied to a graduated system of extensions and then removal from the interlock for excessive demerits.

Treatment Providers' Access and Use of Interlock Data

Florida and Colorado appear to be unique among monitoring authorities in their efforts to fully incorporate the review of interlock logs with interlock users as a regular part of a counseling process. This section reviews the possible roadblocks to treatment provider access to the data that were identified during this study.

- Awareness of the availability of the data via consent forms
- Appropriate training to interpret the interlock logs
- Interlock/treatment timing issues

This section also provides a snapshot of some of the experiences that treatment providers and DWI courts have had in their interactions with interlock users and the log data.

Consents

Treatment providers are generally unaware that clients in an interlock program can usually request that the interlock vendor allow their treatment provider to access their interlock data via the vendor's web site or via e-mailed reports. The vendors have their own release of information forms (Appendix I- sample vendor consents) to facilitate this, but a vendor may also need the approval of the contracted monitoring authority before providing access to an additional monitor. Neither interlock legislation nor administrative code usually specifies who may access the data, other than the monitoring authority and courts. Thus, the ease of getting this approval for access to interlock data will vary from State to State and from vendor to vendor.

As described, the Colorado DMV and OBH solved their consent issue with step-by-step instructions for getting two consent forms in place to allow IEC counselors to access interlock data. Without explicit directions like these, treatment providers in any jurisdiction are unlikely to follow up on their own clients. Colorado DWI offenders who are not in the IEC program may provide access to their data by their treatment providers using an interlock vendor's consent form.

In Florida, DUI case managers (under contract to the Florida DHSMV) who monitor offenders with two or more interlock violations regularly access the interlock data via vendor websites and use it for discussions during monthly case management sessions. The administrative code specifically allows case managers to access the data. In fact, case managers are required to document their discussion of the interlock record with their clients. When a DUI offender has a third interlock violation in Florida, additional treatment is required. Case managers usually share recent interlock records with the treatment providers upon initial referral via standard consents forms. Subsequent interlock reports can be shared with treatment providers, but this practice varies among the case managers. Currently, no system is available that provides direct access to the data by treatment providers.

Training for Interpretation of Interlock Reports

Training and experience in the interpretation of the patterns of elevated BrAC readings and other violations noted in the interlock record are important for the appropriate use of the interlock data in a treatment setting. The treatment providers in Colorado receive training in the interpretation of the interlock logs and the clinical significance of positive readings. The private provider DUI case managers in Florida also receive training in the interpretation of the interlock data record. As discussed, however, the Florida DHSMV staff had some concerns about DUI program staff turnover, the varying clinical skills of case managers and supervisors, and the low frequency of training.

Further, some of the interlock vendors interviewed for this study expressed concern about having another set of interlock report monitors who might misinterpret the data. One vendor reported receiving calls from treatment providers who made excuses for their clients about violations. Without adequate training, widespread use by treatment providers could significantly add to the workload of interlock vendors.

Possible Barriers to Simultaneous Interlock Use and Treatment

Because the interlock BrAC results have been shown to predict recidivism, they ideally would be used at the same time as treatment as an additional tool for counseling; thereby providing an objective record of drinking versus self-report information about drinking.

Some aspects of the DWI laws and other requirements, however, can conflict with having the interlock installation period coincide with the period of treatment. For example, long hard-suspension periods and requirements to complete treatment *before* being eligible for an interlock prevent their simultaneous occurrence.

First offenders tend to have less hard-suspension time (Table 6), so the timing of treatment and interlock use theoretically would be less of an issue for first offenders. Among the nine States in this study, only North Carolina has a long hard-suspension period (1 year) for first offenders; thus, treatment is usually complete before an offender becomes eligible for an interlock, although treatment completion is not required before interlock installation in that State.

Table 6. Eligibility for interlock after hard license suspension and timing of treatment requirements

	1st offenders		Multiple offenders	
	Interlock eligibility after hard-suspension period	**Treatment timing**	**Interlock eligibility after hard-suspension period**	**Treatment timing**
Arizona Mandatory all Offenders	45 days	No conflict	45 days	No conflict
Colorado[a] High BrAC and multiple offenders	30 days	No conflict	One year. Must be enrolled in treatment if not already completed to be eligible for interlock.	No conflict
Florida High BrAC and multiple offenders	30 days Education and treatment must be completed before interlock.	*Conflict*[b]	12 to 24 months. Can apply for interlock sooner, but must complete treatment first.	*Conflict*[b]
Illinois Mandatory all offenders	30 days	No conflict	1 to 3 years for refusal. Can apply for interlock sooner, but must complete treatment first.	*Potential conflict*
North Carolina High BrAC and multiple	1 year	*Conflict*	2 to 10 years Can apply for interlock sooner.	*Potential conflict*
Maryland High BrAC and multiple	No hard suspension with interlock	No conflict	1 year 2nd offenders can apply for interlock after 45 days.	*Potential conflict for 3rd-plus offenders*

	1st offenders		Multiple offenders	
	Interlock eligibility after hard-suspension period	**Treatment timing**	**Interlock eligibility after hard-suspension period**	**Treatment timing**
New Mexico Mandatory all offenders	No hard suspension with interlock	No conflict	No hard suspension with interlock	No conflict
Texas High BrAC and multiple offenders Probation condition	90 days Eligible if court ordered	No conflict if court allows.	1 year Treatment must be complete within 180 days.	No conflict if court allows
Washington Mandatory all offenders	No hard suspension with interlock	No conflict	No hard suspension with interlock	No conflict

[a]Large reduction of suspension incentive to install interlock.
[b]Additional counseling and treatment requirements in Florida if there is more than one interlock violation; thus, interlock coincides with "relapse" treatment.

New Mexico and Washington require no hard-suspension period with an interlock for first and multiple offenders; thus, it is *possible* to have the interlock installed concurrent with any required education and treatment programs, but there were no records available to verify whether this happens or not. Maryland also requires no hard-license suspension period for first offenders.

Some States have long periods of hard license suspension for multiple offenders (Table 6), but with an option to apply "early" (before the end of the suspension period) for an interlock-restricted license (Maryland and North Carolina) with no requirement to complete treatment prior to interlock installation. Depending on the onerousness of eligibility requirements and the time needed to process the application for early reinstatement, there may be additional impediments for multiple offenders to be on an interlock while in treatment.

Illinois requires completion of treatment for multiple offenders before they can become eligible for an interlock. Florida requires that education and treatment (if required) be completed before becoming eligible for an interlock for first and multiple offenders, but as previously discussed, more than one violation while on the interlock results in additional case management that incorporates a review of the interlock record, and a third violation requires additional treatment.

View From Treatment Providers

Treatment providers from the nine States that provided information for this report represent a range of responses about the possibility of incorporating the interlock records into a treatment protocol, ranging from "there is no need for it" to "it would be a welcome tool if easily accessible." The themes of their responses are summarized in the following paragraphs, with more detail provided in the State Interlock Profiles (Appendix B). However, without a well-designed survey, these results are only a snapshot of concerns and ideas from some treatment providers in the nine states. Some responses are representative of individual points of view, whereas other responses from supervisors of treatment agencies felt that they could speak for most of their therapists.

Clients on probation. Interlock users may or may not be on probation while on interlock, but treatment providers from multiple States indicated that probation officers shared the interlock results with them informally as issues came up for their mutual clients. There were no set procedures other than shared consent forms. If alcohol treatment is a condition of probation, consent forms usually allow some types of communication between the probation officer and treatment provider. Because the process is informal, it is impossible to quantify how often it occurs. The treatment providers giving feedback on this topic were content with informally hearing from probation officers and/or from their clients about interlock fails.

Clients not on probation. For clients not on probation, some treatment providers responded that it would not be worth the time required to get consent forms (possibly from multiple sources—a State agency or court, the client, the interlock vendor) and then attempt to retrieve interlock data from multiple interlock vendors' websites. HIPAA privacy rule concerns were mentioned as well.

Consent forms aside, multiple treatment providers suggested a central location for all interlock results for ease of access to the data. None of the States with centralized interlock databases shares data with treatment providers due to privacy issues. The Colorado administrative program does not have a centralized database for interlock results, but therapists with IEC training now can have access to the five interlock vendors' websites in that State, using the required consent forms. At the time of this report, the Colorado IEC program was too new to get feedback from treatment providers on accessing vendor websites and using the interlock record in conjunction with treatment sessions.

One large private treatment agency was not interested in having access to the interlock reports, stating "an outside monitor could easily compromise the therapeutic alliance that we are attempting to enhance." From an opposite point of view, the director of a large county treatment agency in another jurisdiction felt that his staff would welcome any tool that would help hold clients accountable for their drinking behavior.

In two States (Arizona and Washington), treatment providers were authorized to view the interlock results via interlock vendors' websites, but no specific procedures had been developed for accessing interlock results, so their availability was largely unknown among treatment providers. Washington is working on communicating the availability of interlock results, but some of its treatment providers had concerns about the reports: the long length of reports, difficulties in interpreting the reports, "false positives," data that are several weeks old and therefore not that useful, and a need for training on accessing and interpreting the reports.

Florida's treatment providers, to whom clients with three or more interlock violations are referred, sometimes use the log reports received from DUI case managers in therapy, but there is no established protocol for using them. Because the DUI case managers continue to see these clients monthly and discuss the interlock reports, treatment specialists may feel that aspect is already being addressed.

DWI Courts and Interlocks

DWI courts use a team approach that includes judicial supervision and alcohol treatment to focus on impaired drivers with substance abuse or dependency issues, including repeat or high-BrAC offenders. Offenders usually begin by meeting biweekly with the DWI court team, consisting of a judge, district attorney, probation officer, and alcohol treatment professional. Later, they may meet less frequently. A system of graduated sanctions and incentives is used to supervise the DWI offender in the community, usually in lieu of a jail sentence.

> The data obtained from the device needs to be made available to the entire team, especially treatment providers, to assist in providing an effective treatment response. *(Guideline Number Six National Center for DWI Courts & National Association of Drug Court Professionals, 2010)*

Because most DWI court participants are repeat offenders, many will not be eligible for any type of license. Some State laws, however, allow a limited license for multiple offenders if an ignition interlock is installed. The use of interlocks in DWI courts is not widespread but may be growing in popularity. In 2010 the National Association of Drug Court Professionals released a statement supporting the use of ignition interlock devices for DWI court and drug court participants, in conjunction with a photo identification feature, specific early recall functions, and alcohol treatment. The NADCP noted that the interlock device was not created to monitor alcohol consumption but that a number of DWI courts were using the interlock both to control the vehicle and to monitor alcohol consumption. It explained that interlock use is appropriate only when the court has a zero-tolerance policy for alcohol consumption *and* the device is not used to *prove* the presence of a particular breath-alcohol level. The National Center for DWI Courts developed a set of 10 guidelines (Appendix M) for DWI court development teams for establishing procedures for the use of ignition interlocks (www.dwicourts.org/sites/default/files/ncdc/Guidelines).

> Community public safety supports the installation of ignition interlock devices to stop an addicted person from driving after drinking while the benefits of treatment are accruing. *(National Center for DWI Courts & National Association of Drug Court Professionals, 2010)*

DWI Court/Interlock Study in Michigan

A 1-year interlock pilot study was initiated in an Eaton County, Michigan, DWI court in 2009 under the leadership of Judge Harvey J. Hoffman. One purpose of the pilot project was to examine whether it is possible to control both the individual and the vehicle with one device, while saving the State and the offender some money. The pilot project targeted first-offense high-BrAC and alcohol-dependent offenders with an arrest BrAC of .20 or higher.

Regardless of whether they were driving each day, offenders were required to blow into a camera-equipped interlock device for a breath test three times per day at specified times. The interlock early recall mechanism was set to respond to any positive BrAC reading with a message to the offender to report to the interlock service center within 24 hours for download of data or the vehicle would lockout and not start. Subsequently, an e-mail was sent to the desk of probation officer, providing this critical information in a timely manner. In addition, DWI court

participants were required to report to the service center for regular checks of the device and download of data biweekly instead of monthly, which is the norm for other DWI offenders on the interlock.

The initial results of the pilot study showed that 88 percent of participants installed an interlock and that 70 percent provided all breath samples required and passed those breath tests. Because of the project's success, the Michigan legislature passed a law expanding the program to all 30 DWI courts in the State (*Michigan Public Act 154* of 2010). The program also included repeat offenders, as the new law allowed repeat offenders to apply for a restricted license after a mandatory 45-day suspension period. The legislation also funded a 3-year evaluation, mandating that the Michigan Association of Drug Court Professionals conduct three annual reports.

The year three annual report (2014) on subjects enrolled in the Ignition Interlock Pilot Program (N= 450), most notably showed that 98.2 percent of subjects ordered to install an interlock device complied. This report compares the pilot program participants to a comparison sample drawn prior to the creation of the pilot program from five Michigan DWI Sobriety Courts which consisted of offenders who were not under interlock restriction. A second comparison group included standard DWI probationers drawn from across the State. The Interlock Pilot Program group had a program failure rate (did not graduate from DWI Sobriety Court) of only 10.3 percent, while the DWI Sobriety court comparison group had a failure rate of 33.7 percent. The Pilot Program group also had the lowest recidivism rate among the three sample groups, both one and two years after the initial conviction for DWI. (Kierkus & Johnson, 2014)

The report also included an informal finding on the use of interlock log data. During the third year of operation, informal phone conversations with Pilot Program DWI/Sobriety Court staff suggested that "creating a computer interface, which would permit BAIID data to be downloaded directly into DCCMIS (Michigan Drug Court Case Management Information System), would allow them to operate more efficiently." (Kierkus & Johnson, 2014)

Treatment Agency Perspective

Several of the DWI court programs contacted for this study mentioned that interlock violations were always met with additional sanctions, such as days in jail, and sometimes with additional treatment requirements.

The director of a counseling agency in the Albuquerque area shared some insight about working with DWI court offenders from the treatment provider perspective:

> Treatment providers never actually see interlock reports, but the information might be shared with them in one of two ways: if there is a good line of communication between the probation officer and treatment provider and/or if the client is being monitored by a DWI/drug court. For a DWI/drug court, the standard practice is for the team (judge, district attorney, probation officer, treatment counselor, and offender) to meet every 2 weeks for a progress update. They first meet in the judge's chambers before bringing in the offender for discussions. The interlock report results are shared, and if there are any patterns of use, even low levels, the court will address it. The treatment provider will give a recent status report on the offender from a treatment perspective (e.g., stable home and work life or not, guarded or not, progressing through the Stages of Change or not). Subsequently, the treatment provider will use information on patterns of use therapeutically, but an established protocol for using the interlock data has not been

developed. However, BrAC interlock violations that are substantiated are always met with more intensive treatment; clients are assessed and typically placed in a more intensive treatment program, including more counseling hours, more frequent random urine screens, and more frequent breath testing.

When the validity of a violation report is in question and the client is denying use, the treatment provider attempts to get the client in for testing on the same day as the violation. The court will order the client to complete an ethyl glucuronide (EtG) urine test that will either validate or negate the use of alcohol in the last 48 hours. The EtG tests have helped the courts and treatment providers to better handle clients who are drinking strategically or who are having technological issues with their interlock. Reportedly, when offenders know that the EtG test will provide more in-depth information about their alcohol use, they often will become "quite truthful." Occasionally, however, they do get validation that the interlock itself is faulty.

For DWI offenders who are on an interlock through the New Mexico MVD for license reinstatement and not under court supervision, treatment providers receive no information about interlock performance. If a centralized web-based system with a standardized format for interlock reports were available, it would be a welcome tool for treatment providers to use when counseling DWI clients on an interlock. (*E-mail communication with an Albuquerque treatment provider. Anonymity requested.)*

Summary

Integrated Treatment Is Needed.

A major limitation in the effectiveness of interlock programs is the tendency of users to abandon the controls on their drinking that they developed during the interlock-installed period after it has been removed. Because the DWI offenders will continue to drive for many years, this lack of long-term effect is an important problem (Marques & Voas, 2012). It appears that offenders are not dealing with their underlying drinking problem while on the interlock—a possibility which is supported by evidence that users do not reduce their alcohol consumption while in the interlock program (Marques et al., 2010). This suggests the need to combine treatment for alcohol use disorders with the interlock program, a need that has long been recognized but rarely realized because coordination of sanctioning and treatment programs for DWI offenders is lacking. This chapter has focused on two states, Florida and Colorado, which have been taking steps to combine treatment with their interlock programs. Although the reduction in recidivism resulting from these States' treatment programs has not yet been determined, they do provide two examples of the actions that could be used to combine treatment with the interlock. To date, only one education program specifically designed for interlock users has been shown to reduce recidivism (Voas et al., 1999); thus, the development and evaluation of specialized education/treatment programs is an important research need.

Integrated Programs Are Rare.

Alcohol education and assessment for treatment are standard features of DWI sanctioning programs in all the States. However, treatment programs specifically designed for application to interlock users are rare. This lack of such programs partially results from their traditional separation from direct management by the courts (Voas & Fisher, 2001). Because of this

separation, information on the sanctions imposed and the status of offenders' compliance with them may not flow to the treatment providers. Further, the treatment providers' reports have typically been limited to attendance without significant information on progress in treatment. Only recently, with the growth of DWI courts, have treatment programs been brought into the sanction management process. Despite the support of influential DWI court organization, such as the NADCP and National Center for DWI Courts, several structural barriers exist that impede the integration of treatment with the interlock. As shown in Table 6, five of the nine States in this study have potential conflicts with combining treatment with an interlock, either because State requirements for a period of hard suspension delay the interlock beyond the time when treatment is implemented or because completion of treatment is required to qualify for installing an interlock.

Two Types of Referral Systems

This chapter provides illustrations of two basic approaches to applying a treatment intervention to an interlock program: requiring it for all interlock users or providing for interlock performance to determine a need for treatment or relapse-themed treatment. The Colorado IEC is an example of a program in which all participants are treated regardless of their interlock performance (although the IEC is currently optional in Colorado). In contrast, the Florida program implements a "medical model" of treating only those encountering problems with the interlock. Interlock performance determines the level of treatment in Florida. Which method of referral will become more prominent as the use of the interlock with DWI offenders expands remains to be determined. Treatment/educational interventions for interlock users generally fall into three classes. These interventions are illustrated by the Florida program, which uses all three:

1. *Brief educational meeting with a counselor on how to accommodation to the interlock.* Despite provider's orientation efforts, interlock users frequently have an inadequate knowledge about how the interlock works and on how their body absorbs and eliminates alcohol. Consequently, they experience unexpected lockouts.
2. *Strengthened, more intensive monitoring* with regularly scheduled meetings with a trained counselor who reviews the past month's interlock report.
3. Entry or reentry into a treatment program.

Special issues in the use of interlock data for treatment providers. This chapter has highlighted several issues that arise for treatment providers in using interlock data. To make minimal use of interlock reports, therapists must be trained in how the interlock functions, in court or DMV policies, and perhaps most importantly, how to interpret interlock reports. The latter issue becomes particularly significant if the therapists are required to go to the vendor's website to download information on their clients. That level of knowledge may allow treatment specialists to use interlock data in their traditional treatment protocols, but those protocols generally focus on the traditional self-help programs directed at recovery from dependence. Most DWI offenders are not diagnosed as being dependent on alcohol. To gain the greatest benefit, interlock users may require a protocol built around an interlock program, such as the Colorado IEC. This will require additional training of therapists.

7. Evaluation of Interlock Data

Interlock programs yield a wealth of data on which their effectiveness and the risk status of the participants can be judged. In addition to traditional measures, such as entry and exit points and attendance at required meetings, data from the interlock recorder can be used to identify specific violation events, progress in rehabilitation, and control actions aimed at improving program effectiveness. This chapter deals with the use of interlock data, particularly interlock recorder data, by four key user groups: State-level decision makers, interlock program managers, treatment program or case managers, and researchers.

The first use of this resource was reported 13 years ago in 1999 based on research in Alberta, Canada, as part of a comprehensive evaluation of interlock program effectiveness (Marques et al., 1999; Voas et al., 1999). Since then, several research reports (based on data from Alberta, Quebec, and New Mexico) have been published (Marques, Tippetts, et al., 2003; Marques et al., 2001; Marques, Voas, et al., 2003; NHTSA, 2010b). These studies show that the rates of failed BrAC tests accumulated during interlock-controlled driving can be used to predict the aggregate likelihood of drivers' post-interlock recidivism based solely on examining patterns of BrAC test failures, including times of day and days of the week when fail rates are highest. Zador et al. (2011), using Maryland data, demonstrated that the likelihood of failed BrAC tests during an interlock program is significantly affected by the amount of program monitoring. This work suggests that States more actively engaged in providing feedback to the interlock program participants have many fewer failed BrAC tests and other procedural violations, such as failure to perform required retests or failing retests. In contrast, Roth (2012b) suggests that it may be more cost-effective to concentrate on wider use of interlocks and reserve extensive monitoring for only those with continued interlock failures after six months on the interlock. During the last decade, many more States have begun examining the interlock record and imposing consequences for various BrAC failures and procedural violations, as described in Chapter 3 covering State interlock laws.

This chapter describes considerations and methods that will be helpful in setting up analyses of interlock data and ways to use interlock data to characterize the accomplishments of the interlock program by those responsible for developing and managing them. The range of applications using interlock data can extend from the macro to the micro, that is, from policy implications for program structure and management to supplemental interventions within an interlock program to improve individual performance. Analysis serves different purposes, thus suggesting the need for different approaches to the data. In this chapter, the data requirements and analytical procedures have been organized with four users in mind:

1. ***State-level policymakers*** who need information on (a) which and how many offenders are in interlock programs, (b) the extent to which those programs are effective in preventing impaired driving while on the vehicle, and (c) the extent to which they appear to be reducing recidivism.

2. ***Interlock program managers,*** aside from having basic statistics on the offenders in their programs, need to determine (a) how many interlock users are attempting to circumvent the units; (b) how many are having high levels of interlock violations; and (c) how many are completing the program on schedule, and how many are receiving extensions.

3. ***Treatment program or case managers*** need to (a) interpret and summarize interlock records of BrAC tests that can inform treatment plans and (b) improve their decision-making processes leading to better recommendations about a driver's impaired-driving risk and likelihood of continued problem drinking.

4. ***Researchers*** need to understand (a) the special problems that arise in studying recidivism within the criminal justice system and (b) the strengths and limitations of the appropriate analysis methods.

DMV, court, and probation personnel may fall into user group 2 and/or group 3 described above, depending on their roles and needs in relation to monitoring and evaluating interlock use.

Researchers may be more interested in the inferential analyses that can only be conducted after a sufficient time when data maturation and driving exposure permits inferences into the relationship between instituting interlock-controlled driving and future evidence for road safety risk exposure. DMV staff conducting program audits will need to collect basic statistics on the number interlocks installed annually, the number and types of violations, and the number of successful completions. By contrast, court probation staff, and treatment providers or case managers are likely to want an immediate focus on the performance data from the interlock vendor to inform decisions about whether to restore the full driving privileges of specific offenders. Putting these differences in perspective establishes the frame for the evaluation discussions that follow.

1. Statistical Analyses for State Policymakers

There have been two major limitations to the full realization of the potential effectiveness of interlocks in managing DWI offenders: the limited penetration of interlock programs into the criminal justice systems and the failure of the reductions in recidivism observed while on the interlock to extend beyond the unit's removal. Since the introduction of interlock laws in the early 1990s, it has been evident that DWI offenders avoid installing interlocks even given that full license suspension is the alternative. As a result, the enactment of interlock laws frequently has not resulted in the expected increase in offenders in interlock programs. To gauge the extent to which such laws are being implemented, it is important to know the number of units actually installed on vehicles within the State. Many State governments do not maintain such records, but interlock providers do maintain records of their own units. Every year from 2006 to 2013, Roth Interlock Research Data has compiled statistics for all 50 States. The latest study presents the data both as total numbers of units (Figure 9) and as a function of the number of fatal crashes in each State (Figure 10). The latter figure may be a useful guide for State policymakers to measure the usage and effectiveness of their own programs relative to other States. (For the 2013 Full Survey of Currently Installed Interlocks in the United States, see Appendix N.)

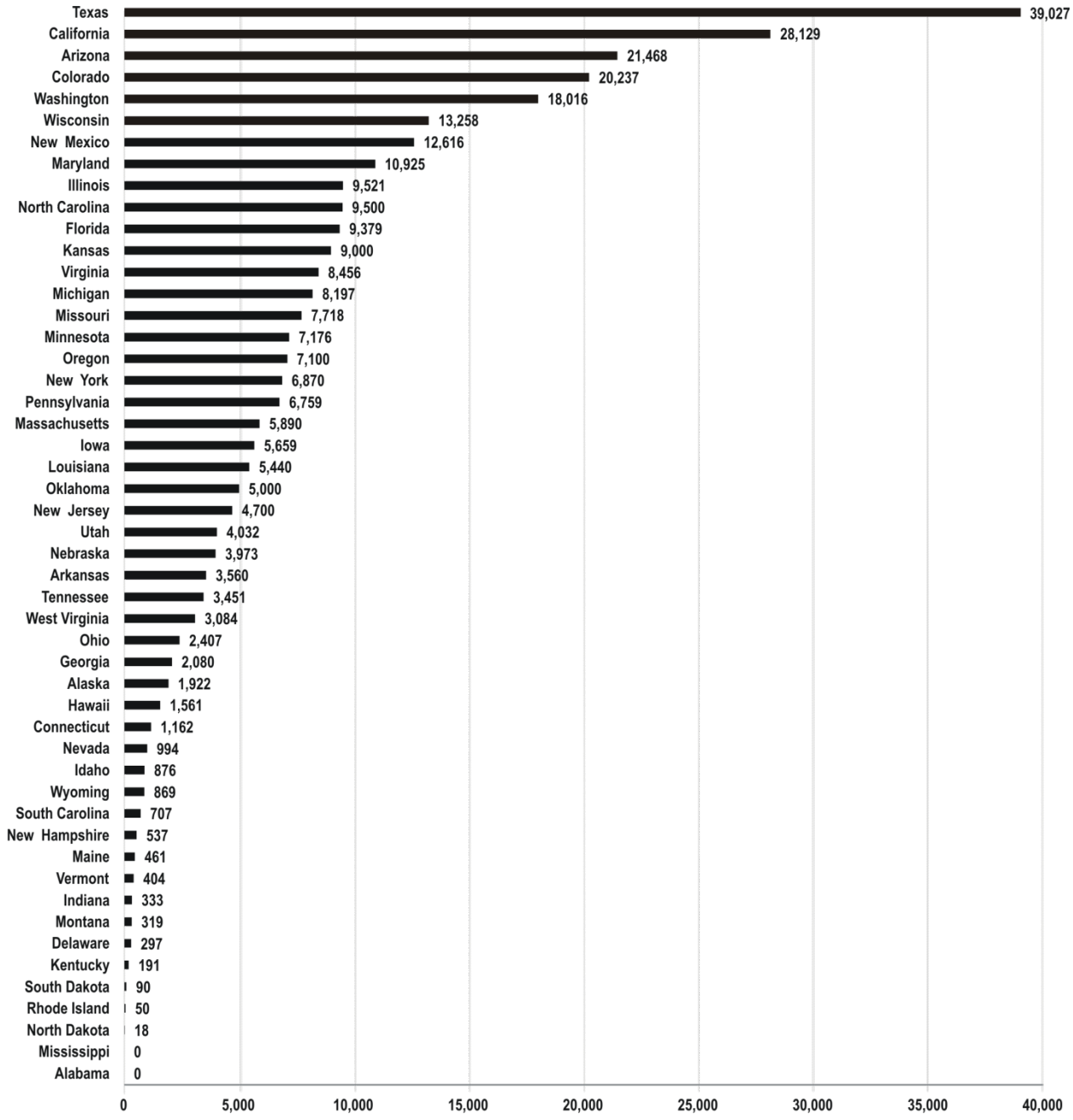


Figure 9. Currently installed interlocks by States (Source: Roth, 2013)

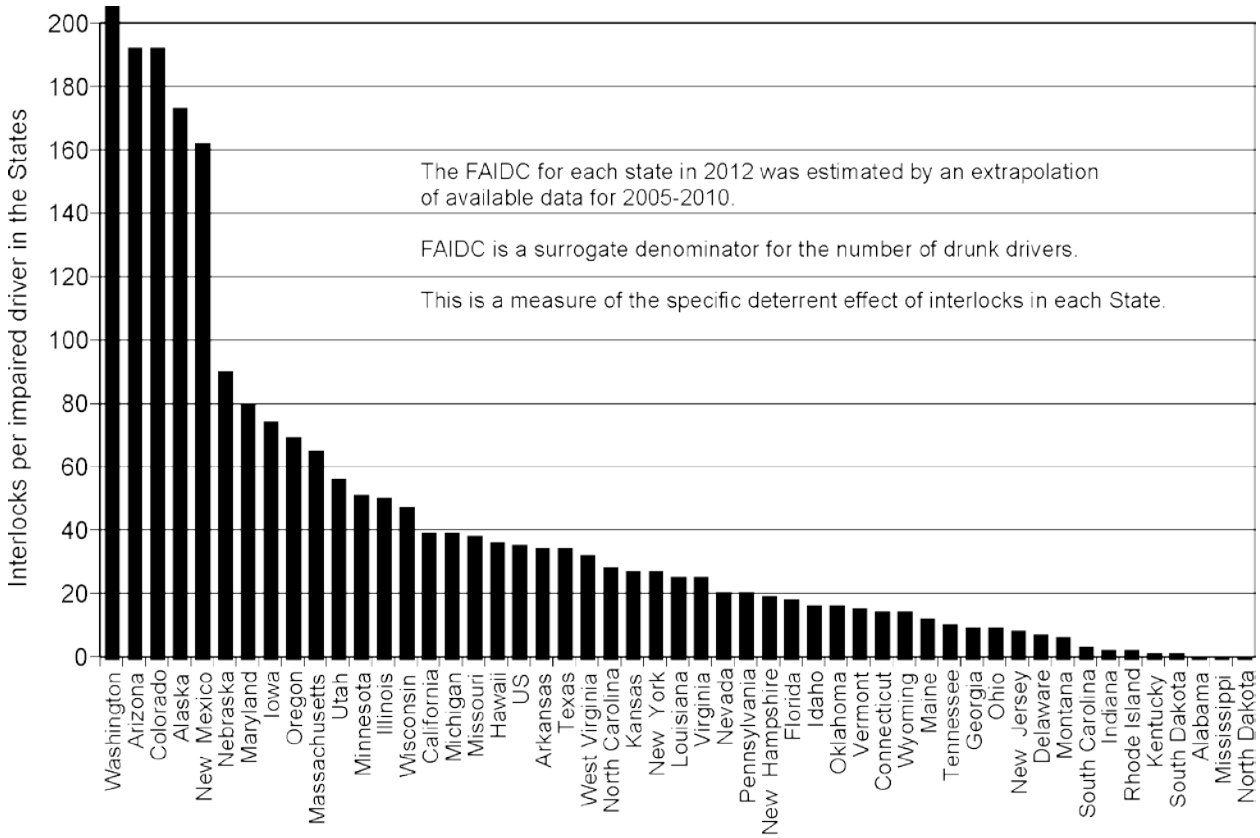


Figure 10. Interlocks per fatal alcohol-impaired-driving crash (FAIDC) by State (Source: Roth, 2013)

1a. Determining the number of offenders on interlocks

The number of interlocks in use as a method of controlling DWI offenders is not easy to determine because of the complexity of laws relating to the impaired-driving sanctions. To date, most States have had laws that require a minimum period of full suspension of the driver's license as general deterrent to impaired driving. Such policies have delayed the imposition of the interlock until the offender completed the minimum hard suspension sentence. Recently, in the reenactment of the *Highway Safety Act* in 2012, the Federal penalty for not having a hard-suspension period before entry into an interlock program has been eliminated. Additionally, several States, such as Florida, are making interlock installation a prerequisite to reinstatement of the driver's license for offenders. This can delay installation for up to several years following conviction while the offenders serve a suspension period and meet other DMV and court sanction requirements.

The Florida interlock program, which mandates the installation of the devices as a condition of reinstatement, illustrates the extent to which participation in the program may be delayed by other sanction requirements. A plot of the sanction stages in the Florida interlock program in Figure 11 (from Voas et al., 2013), shows how the nearly 120,000 interlock offenders who have entered the Florida program over the last 10 years are currently distributed through the program

phases. A fourth of the offenders (1b) are serving their period on hard suspension that must be completed before they are eligible to install an interlock. Of the remaining three quarters who have completed their hard suspension time, only half (2a) has installed interlocks (3a), and half (2b) remains unqualified to reinstate and install the interlock because of failure to meet other court requirements, such as paying fines or attending treatment. Thus, only 45 percent (53,580 of the 119,673) of the offenders eligible for the interlock have installed the units during the 10 years of the Voas et al. study.

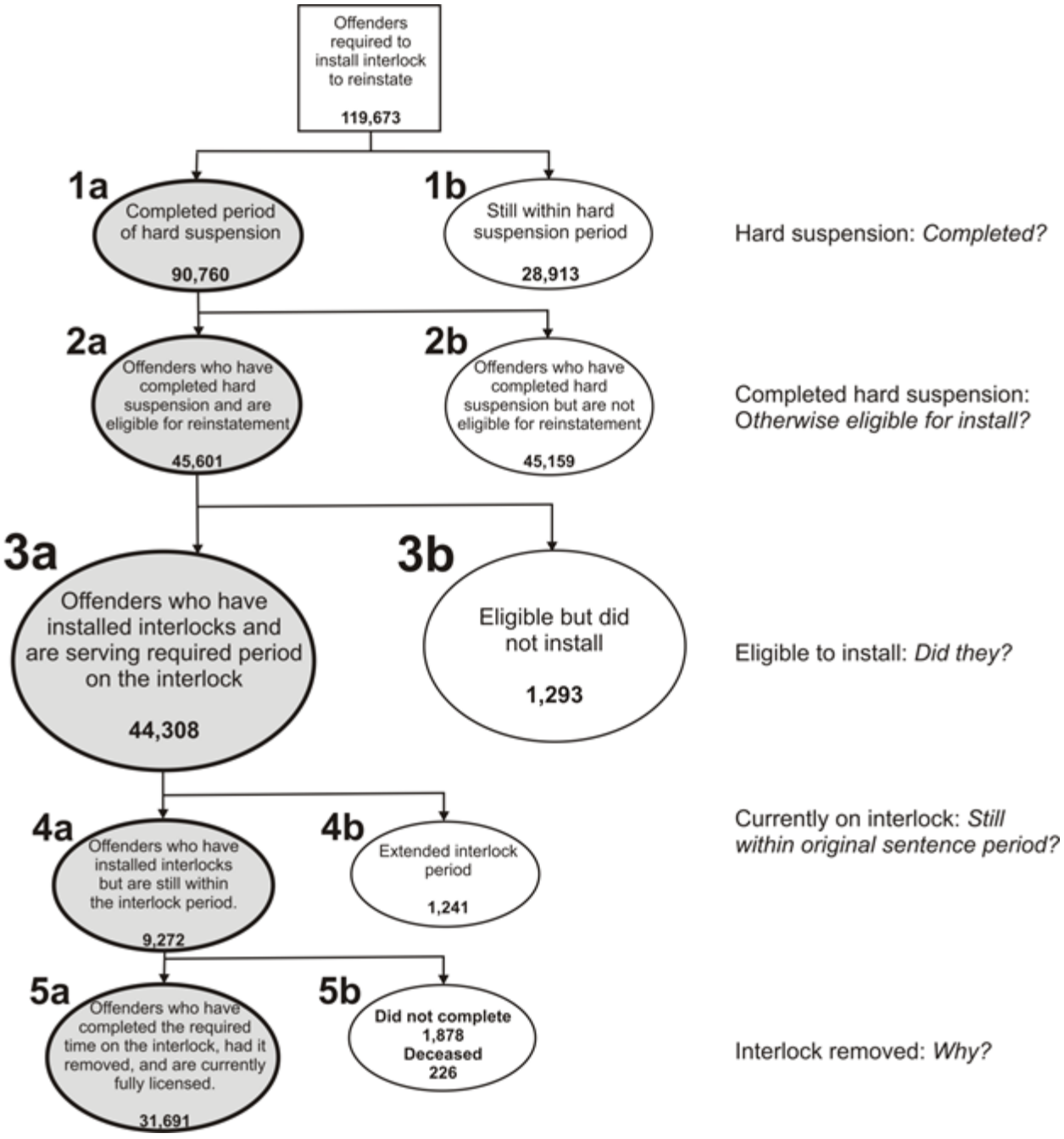
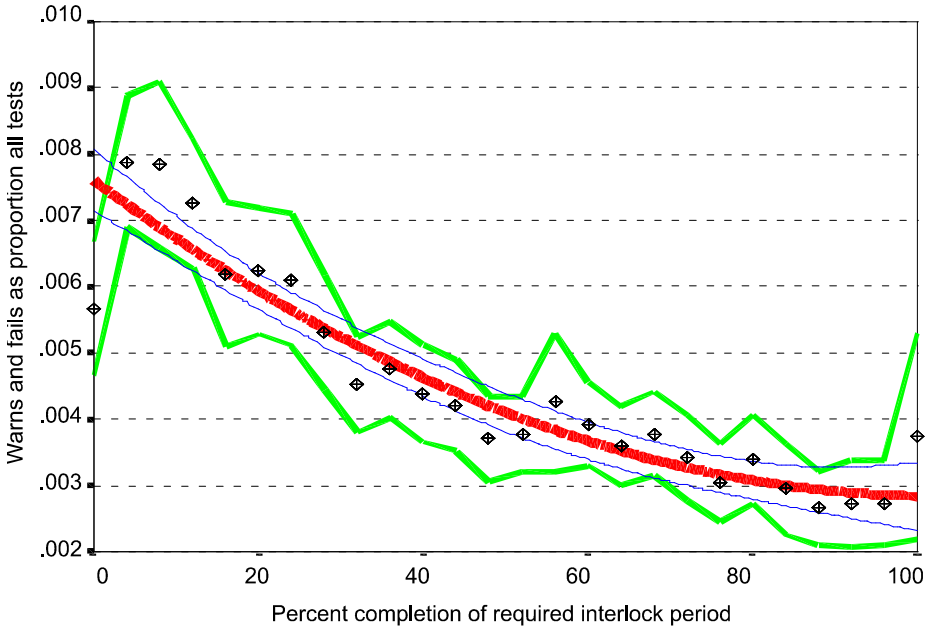


Figure 11. Progress of DWI offenders through the Florida administrative interlock program over 10 years from 2002 to 2011 (Voas et al., 2013)

States implementing administrative interlock laws that are maintaining an integrated driver and interlock program record provide a means to conduct such analytical studies. Analyzing such data is relatively easy because it primarily involves good record keeping and following a group of offenders over time. A useful statistic for gauging the extent of use of the interlock is to calculate for all interlock offenders the time they spent on the interlock as a percentage of all the time from their arrest date to their full reinstatement date. The Voas et al. study in Florida (Voas et al., 2013) found that, of offenders who completed their interlock requirement, only 41 percent of their total sanction time was spent on the interlock. That measure—percentage of total time on interlock—can provide a basis for State officials to consider current sanctioning programs with a view toward extending the impact of the interlock.

1b. Determining the effectiveness of interlock programs at the State level

Measuring the recidivism rate has been the gold standard for evaluating the effectiveness of interlock programs. Such evaluations require substantial time to accumulate adequate driver record data and relatively elaborate statistical analytical procedures, as described in Section 4d of this chapter. Unfortunately, because recidivism analysis is time consuming and expensive, most States have not evaluated their programs. The question then is "Are there methods that can provide an indication of the performance of an interlock program in a shorter time?" One useful procedure that can both demonstrate effectiveness and the potential for reducing post-interlock recidivism during the period on the interlock without waiting a substantial amount of time for recidivism data to mature is to determine the extent to which the offenders on the device are "learning" to avoid lockouts that prevent them from driving impaired. Figure 12 shows a typical lockout avoidance learning curve (Marques et al., 1999).



Time line distribution of the relative proportion of tests that are warns and fails as a function of the percentage of interlock installation time completed. Regression line is shown ± 95% confidence interval. Weighted data points each represent test results during 5% of the interlock time (± 2 standard errors)

Figure 12. The reduction in the number of failed tests provides evidence of learning during interlock program (Marques et al., 1999)

If the rate of lockouts produced by interlock users as a group in a State program is not declining while they are in the program, the interlock is unlikely to be changing their impaired-driving behavior. This measure cannot be compared across States because of variations in the sanctions applied for a failed BrAC test. Comparing group lockout levels during the first month with the last month on the interlock may provide a rough measure of the number of potentially impaired-driving trips that are being prevented by the program. More sensitive than the lockout measure is the learning curve for 7 to 9 a.m. lockout positive BrAC tests that indicate heavy drinking the previous evening.

1c. Determining potential reductions in recidivism at the State level

The effectiveness in reducing recidivism cannot be fully determined without an extensive and technically complex study, which is relatively expensive. As noted at the beginning of this chapter, however, certain interlock measures (lockouts and morning positive tests) have been well established as predictors of future recidivism. Most interlock users either avoid such events while on the interlock or rapidly learn to avoid them (Figure 12). However, some offenders continue to present problem behaviors throughout the interlock period. Those offenders, and offenders who drop out or are separated from the program, are at a high risk for recidivism. State programs with a substantial number of such participants are probably not very effective in reducing recidivism. An additional opportunity for an early estimate of the effectiveness of the interlock in reducing recidivism can be obtained by measuring the recidivism rate (percentage re-offending) while the offenders are on the interlock. Two meta-analyses (Elder et al., 2011; Willis et al., 2004) of interlock studies have demonstrated that, on average, interlocks reduce recidivism by two thirds when compared to suspended offenders not on interlocks (see Chapter 1, Introduction). This provides a benchmark for State-level policymakers to judge their programs. One method of getting a percentage reduction measure to make a rough comparison with such a benchmark is illustrated by the system used by Voas et al. (2013) in their Florida study described previously. They found that the recidivism rate for offenders serving their period of hard suspension was 6.75, whereas for offenders on interlock, it was 1.15 percent, almost an 80 percent reduction. Thus, the percentage of reoffenses while on the interlock provides an estimate of the effectiveness of the program if there are sufficient data to provide a valid measure of the recidivism rate. Such shortcut measures must be used with caution, but they can be used as early indicators of probable success or potential limitations of a State's interlock program.

2. Statistical Analyses for Interlock Program Managers

DMV staff, probation officers and other court officials who manage interlock programs must ensure that the interlock programs are operating according to the State's legal requirements and that the established systems will detect unintended consequences. Some of the essential questions follow:

- Are the offenders assigned by the court or the DMV to the interlock actually installing the devices?
- Are those who have installed the units meeting the program rules by having their vehicles serviced on time and meeting other service requirements?
- Are offenders who attempt to circumvent the devices being detected and being sanctioned appropriately?

- Are program rules related to extension of time on the interlock for high-BrAC tests or other violations being enforced?
- Are treatment provisions based on interlock performance being implemented?

To answer these questions, program managers have two broad types of data: program progress measures and interlock performance measures. Some program progress measures follow:

- Program records that provide information from court or DMV records on the individuals assigned to install an interlock and their adherence to program rules. This includes among other measures:
  - Assignment date;
  - Installation date;
  - Missed or late maintenance appointments;
  - Failure to attend treatment or counseling sessions;
  - Recidivist arrests from the driving record; and
  - Resignation or expulsion from the program.
- Program completion includes:
  - Interlock data log measures that provide information on an offender's attempts to drive after drinking and any efforts to circumvent the unit;
  - The number of tests taken;
  - The initial startup tests as distinct from total tests taken (startup tests plus retests);
  - The rates of failed BrAC tests per startup and retests;
  - The number of procedural violations, such as failing to perform a required test;
  - The daily or weekly rate of vehicle usage (based on the count of tests taken);
  - The time of day and day of week that the offender registers failed tests;
  - The change over time in the rates of failed tests; and
  - Any tampering or circumvention attempts logged into the record.

Using these data sources to answer the initial series of questions generally involves a relatively straightforward analysis that can be addressed by using only summary administrative data and interlock data log reports generated by the interlock companies. All interlock companies provide summary reports to the responsible monitoring agency or court. These reports summarize breath-test results and other key measures by time and date recorded by the data logger (see Appendix E). When data from these reports are tabulated across a group of offenders with an installed interlock, aggregate measures can be derived to produce *descriptive* analyses of the immediate effectiveness of the interlock. Caution must be exercised in using such measures because the definition of interlock violations and the combination of violations that might trigger a consequence differ among the States. Additionally, the differences among interlock provider devices, settings, and violation definitions affect the various recorded actions. Nonetheless, an interlock provider's summary of the performance of individuals can give the State some idea of how well or how poorly its offenders are doing in the interlock program. Ordinarily, the reports can be analyzed for:

- The number of tests taken;
- The initial startup tests as distinct from total tests taken (startup tests plus retests);

- The rates of failed BrAC tests per startup and retests;
- The number of procedural violations, such as failing to perform a required test;
- The daily or weekly rate of vehicle usage (based on the count of tests taken);
- The time of day and day of week that the offender registers failed tests;
- The change over time in the rates of failed tests; and
- Any tampering or circumvention attempts logged into the record.

Some measures may overlap considerably, but the extent of that overlap will depend on the settings and existing laws. Despite the redundancy, some of these measures will capture unique behavioral information not possible through other methods available to the State or court authorities. Often it is useful to select two or more types of failed BrAC tests, including those BrACs that are higher than the nominal lock point for that State and those that are illegal per se at .08 and greater. As reviewed in previous sections, predictive behavioral research has established that the presence of BrAC test results at higher lockout levels are even more strongly predictive of future recidivism than those at lower levels of failed BrAC tests.

Problem Behavior Types (Counts and Rates)

To gauge the effectiveness of an interlock program managers can focus on two types of problem behaviors; recidivism indicators related to breath test fails and recidivism indicators related to interlock circumvention. Following are the *recidivism indicators* on the interlock record related to *breath tests:*

- ***Lockouts or Fails (any type)***
  - Number/percentage of subjects having one or more lockouts of any kind Rate of lockouts per engine startup attempts (as percentage)
- ***All Startup Fails***
  - Rate of startup lockouts per engine startup attempts (as percentage)
- ***Illegal BrAC Lockouts***

Number/percentage of subjects having one or more BrACs .08+ Following are the *recidivism indicators* on the interlock record related to *circumvention:*

- ***Retest Violations***
  - Number/percentage of subjects having one or more retest violations Rate of retest violations per retest requests (as percentage)
- ***Other Violations***
  - Number/percentage of subjects having one or more circumventions, and tampering/other violations (also potentially useful: two or more, five or more, etc.)
- ***Nonuse Violations***
  - Number of vehicle startups per day
  - Failure to meet minimum monthly mileage requirements

These six examples of problem behaviors do not define the universe of possible problem behaviors, but are based on research that has examined the relationship between interlock log file

events and subsequent recidivism (Marques et al., 2001; Marques, Voas, et al., 2003). They appear to be the most significant behaviors among those that can be assessed using current interlock record systems.

Particularly in need of improvement are measures of nonuse as this could reflect driving a non-interlock-equipped car. For evaluating overall program functioning, each measure can be expressed in three or four ways (as a population total and as a measure normalized against two to three definitions of exposure). Summaries of these variables will give the program monitoring authorities several ways to characterize and report the behavior of the interlock population.

These items represent fundamental topics for summarization and that can be created using only the monthly or bimonthly reports generated by the interlock providers, as all the topics can be represented by counts, rates, and percentages. With a little extra effort, these can be charted for easy communication from interlock vendors or may be readily available for DMVs that have automated systems for the receipt of interlock log data. These data can be further broken out by the subject's characteristics (such as age or gender), prior DWI convictions, and other variables, as discussed in Section 1a of this chapter.

3. Statistical Analyses for Treatment Program Managers

Do people really change their behavior because of the interlock? There is no doubt that drinking-driving behavior is changed temporarily while the interlock is installed on the vehicle, as a reduction in recidivism is the primary finding from more than 10 years of research studies with thousands of interlock participants. However, evidence suggests that a reduction of drinking and driving does not persist after interlock removal. Consequently, there has been a growing interest in finding ways to incorporate the evidence from the interlock data log into the processes through which skilled behavioral change therapists facilitate more enduring changes in alcohol (or other drug) use among drivers. The hope of such programs is that interlock users who participate in a behavior change intervention will carry those self-control skills into the post-interlock period

When either the criminal justice system or the administrative driver licensing authority imposes some form of counseling or treatment intervention on a DWI offender, their goal is to reduce substantially the risk of DWI recidivism—and more importantly DWI crashes—in both the near and the long term.

Most providers of alcohol rehabilitation or treatment services will have met some form of licensing requirement or program certification to become a licensed professional whether practicing as an independent counselor or as a counselor in a substance abuse program. These services are frequently delivered through a private or public entity that manages the professional requirements of direct services delivery and organizes the structure of the treatment program. The State may have a services contract with private treatment providers, or it may administer the services through its own department of health. Treatment practitioners are rarely researchers, but they are often willing to cooperate with program evaluators.

Treatment providers or provider organizations ordinarily begin their services with an assessment or problem evaluation. The result of this assessment will lead to a treatment plan that may specify an initial number of individual and/or group sessions that the patient must attend, the duration of the treatment, an expected level of participation in the behavior change process, and often, various forms of homework or structured assignments (such as a plan to avoid impaired

driving) that must be undertaken independently by the participant. These may include the use of community-based support groups, such as AA, or other rehabilitative community services.

The data captured in the log file of every alcohol interlock device is a source of regular BrAC testing. The average DWI offender provides more than 1,000 startup BrAC tests during a 6-month interlock sentence (Marques, Tippetts, et al., 2003; Marques et al., 2001). It is known from years of research that, in the aggregate, higher rates of failed BrAC tests per startup trip on the interlock are predictive of future recidivism. These rates are computed from the log data, and if made available to treatment providers or to the monitoring authority (with benchmarks for interpreting these rates), this information could serve as a tool for deciding which offenders have reduced their drinking and whether that reduction is sufficient to warrant unrestricted licenses. Higher-risk offenders with more failed interlock BrAC tests may serve to help target those who might need more attention from treatment providers and the courts. The record of BrAC tests provides a cushion of certainty on which to judge the likelihood that the offender has embarked on a program of personal change in drinking habits.

For managers of treatment programs, having the interlock data available for review and consideration can strengthen the assessment process. Adding the interlock data to their assessment process should strengthen their treatment planning and should essentially be cost-free, as the data are being collected anyway. Providing easy access to the data by treatment providers has frequently been a problem as has the provision of the information in a form that can be easily understood and used in a therapeutic setting. (A discussion of issues surrounding treatment providers' access to the interlock data is provided in Chapter 6.)

Interlock program measures, such as early morning positive BrACs, are indicators of heavy drinking that have diagnostic value for treatment managers, and reductions in such measures concurrent with treatment provide an indication of treatment success for interlock managers. By tabulating the problem behavior counts, officials administering the interlock program can examine the distribution of rates/counts before and after treatment to get a rough sense of the extent to which interlock offenders are responding to treatment. Monitoring officials can use these data, along with the treatment progress reports, to make informed judgments about establishing "guidelines" for referring offenders to additional treatment sessions in the event of a relapse.

Use of the interlock record to help reduce the cycle of recidivism seems warranted. If the interval of interlock driving and the treatment process overlap, treatment providers can include that information in their therapeutic conversations with clients. As previously discussed, however, treatment requirements among the States are most often completed before interlock installation. In such cases, the value of the interlock record in conjunction with treatment is not realized. (See Chapter 6 for a full discussion of barriers to treatment use.)

4. Statistical Analyses for Program Evaluators

So far, the discussion of analyses has been purely *descriptive*—defining and knowing what is occurring within the interlock population to provide early information to program managers. To conduct scientific analyses of recidivism rates or to make predictions based on interlock performance, complex statistical procedures are required. A detailed analysis might include comparing and contrasting subgroups of interlock participants; that is, there may be

combinations of demographic and geographic factors (age, gender, ethnicity, prior DWI convictions, ZIP Code) that are reflected in significantly different rates of various violations recorded on the interlock data log (e.g., overall lockouts, startup lockouts, illegal BrACs (≥ .08), failures to respond to retest requirements, and tampering/circumventions). These measures may moderate the relationship between interlock performance and subsequent driving as indicated by recidivism. Among the number of study procedures that may be applicable:

a. Analysis of program participant characteristics and their participation rates

b. Analysis of the relationship of individual characteristics to interlock performance

c. Evaluation of interlock-related treatment programs to interlock performance and to recidivism

d. Analysis of the relationship of interlock performance measures to recidivism

a. Analysis of program participant characteristics and their participation rates

As discussed in the information needs for State-level policymakers (Section 1a of this chapter), a major limitation on the application of the interlock to DWI offenders is their avoidance of installing an interlock, which results in low installation rates among eligible offenders. Even if offenders comply with the requirement, there is often a time-lag between the sentence/mandate and the installation date. This time-lag may include several different sources of delays. For example, in the Florida interlock program (see Figure 11) a period of hard suspension is required before becoming eligible to install an interlock. However, even after completing that period, treatment must be completed before becoming eligible for an interlock. Although simple tabulations can give program managers a feel for the flow through such multifaceted systems, a more sophisticated analysis is required to ensure the accuracy of conclusions regarding the factors that affect offender decisions leading them to seek or avoid interlock installation. Leaving aside those DUI offenders who avoid interlock installation due to exceptions in the law or judicial discretion, several measures of enrollment/usage can be calculated. At the basic level, these might include:

- A percentage of those mandated who have installed an interlock and are in an interlock program;
- A percentage of those mandated to install an interlock and have completed minimum hard suspension but have had significant delays due to the need to first clear restrictions (e.g., pay past due child support or other fees) before becoming eligible for an interlock restricted license; and
- A percentage of those mandated who have installed an interlock and have successfully completed the program.

These all result in a dichotomous variable for each offender (yes/no) and can be used for tabulating a descriptive basic usage (or completion) rate for the group or subgroups of interest. Further, these dichotomous measures can also be used in analyses (e.g., logistic regression) as dependent measures for examining which factors predict better success of installing an interlock or completing the program (e.g., which offender groups tend to have higher usage and completion rates). By regressing these on factors such as age, gender, race/ethnicity, and various other driver history measures, the State can examine whether there are strata that might need

special measures or follow up. Additionally, other factors, if available in the analysis file, might also predict differential rates of installation or completion, such as socioeconomic status (SES) measures (e.g., education level, income, occupation, marital status).

Beyond the simple dichotomized status variables discussed, other measures can be derived for the subjects to allow for analyses that are more detailed. For each offender who has installed an interlock, the following variables can be computed:

- Length of time from sentence (or arrest) date to installation
- Length of time from completion of hard suspension to installation

For those who did not install an interlock, a similar variable can be calculated representing how long (up to the current date) there has been no installation. A dichotomous "status" variable paired with each length variable can denote either installed or censored (e.g., the end date of the data file; beyond that point their status is unknown). The latter two measures involving length of time can be used to create time and censorship status variables. Testing hypotheses using survival analyses (e.g., parametric Cox Regression, nonparametric Kaplan-Meier) can more appropriately account for varying "exposure" times (e.g., with exposure reflecting the time delay from sentence/arrest date until installation date, or censoring date if not yet installed). These kinds of analyses have been shown to be important in States when the promptness of installation varies widely. A good example is Florida (Figure 11), where DUI offenders must install an interlock before becoming eligible to apply for a driver's license. Before becoming eligible for the interlock, however, the driver must clear a wide variety of restrictions that might have been placed on the license (e.g., delinquent childcare payments, community service, and treatment). Analyses of the Florida interlock program can be found in Voas, Tippetts, Fisher, and Grosz (2010) and Voas, Tippetts, and McKnight (2010).

Finally, it is important to estimate, if possible, the proportion of all drivers who are ostensibly eligible but choose to stay suspended to avoid the State mandate for an interlock. Often, members of this subgroup will try to drive "under the radar" while suspended to avoid further DWI arrests. Having some estimate of this subgroup can be helpful in assessing the effect of the interlock policy. If the rate of driving while suspended increases following implementation of a strict interlock policy, the State can estimate whether the rate of the suspended-driving increase was at least temporally correlated to (and possibly due to) the new interlock laws.

b. Analysis of individual characteristics related to interlock performance

Essentially, all of the measures listed under the subheading "Problem Behavior Types (Counts and Rates)" can be modeled as dependent (outcome) variables in regression-based analyses, incorporating the demographic measures as independent variables. Such analyses, depending on the metric of the particular outcome measure used, are generally conducted using analysis of variance (ANOVA) models. Ordinary least squares regression, logistic regression, etc. can be used to compare and contrast demographic (or other) subgroups of the interlock population with the predictor variable. Predictors are generally modeled as categorical (e.g., male versus female) or ordinal factors (e.g., age bands, number of prior DWI convictions), preferably with all independent factors tested simultaneously in the model to separate the overlapping/covarying effects of each other. The alternative is to test each factor independently, but many of these

factors will tend to be collinear or partially confounded if not all represented in one model. These procedures can be used to answer the following questions:

- Do males differ from females in their rates of lockouts?
- Do older drivers differ from younger drivers in their rates of tampering violations?
- Do the rates of various ethnic groups differ for illegal BrACs?
- Do those within a particular metropolitan statistical area of the State differ from those in another geographic area (e.g., urban or rural) in terms of any of these violations or even in vehicle usage (startup attempts)?
- Are those with more prior driving violations more likely to have failed BrACs at startup attempts?

In analyzing subgroups, some interactions are likely to be of interest, such as *Gender by Age,* because there is considerable evidence in road safety research of DWI behavior that is not always intuitive or linear. For example, older females differ from older males in ways that are different from how younger females differ from younger males, and males and females that are Asian Americans and Native Americans tend to have different drinking-driving behaviors that diverge beyond what the main effects of either gender or ethnicity alone would predict. Two-way interactions (the examination of the combined interactive effect of two categorical predictors) can readily be understood, but beyond two-way interactions, statistical considerations, such as model saturation and overfit, can obscure interpretation. Also, beyond two-way interactions, it is often difficult to understand, interpret, and derive a meaning from analysis of higher-order interactions. At the very least, identifying key demographic strata, via two-way interactions, that are behaviorally different in interlock violations may be useful context information for program or treatment personnel.

c. Evaluation of interlock-related treatment programs to interlock performance and to recidivism

A treatment intervention for DWI offenders should be evaluated against some external metric that is independent of the therapists' appraisals of the offenders' treatment progress, as well as independent of the self-appraisal by the offenders themselves. This does not invalidate these appraisals, as the objective data provided by the record of BrACs tests can be a useful supplement. Having the interlock data available for review and consideration is one way the therapist can help overcome the non-independence of most of the typical data sources.

Essentially, all of the problem behavior variables (total rate of failed tests, startup fails, etc.) that have been described can be used as comparative indicators of future risk, to help add or support treatment as a supplement to the interlock program while offenders are still under the purview of the interlock sanctioning authority. Although there have been no published accounts of programs that combine treatment and interlock evaluation to detect an impact on recidivism, Voas and colleagues (2010) are analyzing an aspect of such usage that occurs during the interlock program in Florida. Florida diverts interlock users into a graduated monitoring/treatment supplement requirement, using an objective measure based upon repeated interlock violations. The degree of success of this approach in supporting more enduring behavioral change is still unknown, but it does have face value, and the application of the process appears to be efficient, relatively immediate, and low cost (interlock users pay fees for case management and treatment). As in some other States, Florida requires treatment completion before applying for an interlock. The

interlock program, however, sends offenders back for more counseling and treatment intervention when results from the interlock data record meet the criterion. After two interlock violations, offenders are required to see a case manager who accesses the interlock data each month for review with the interlock user. Offenders with a third interlock violation must continue in monthly case management *and* must attend additional treatment sessions. The case managers share some interlock violation information with the treatment providers, but use of the information varies by treatment provider. Currently, no system has been set up for training of treatment providers or for direct access to the interlock data by treatment providers.

Under an NIAAA grant (2010-2013), the Florida interlock program (Voas et al., 2010) is being evaluated and will document the quantity and content of the case management sessions and required treatment sessions for those who have three or more interlock violations. The treatment has been described as "relapse therapy" because most of these offenders will have already been through treatment after their conviction. Because the therapist decides when the interlock user has successfully completed treatment and thus satisfied the interlock treatment requirement, quantifying and documenting this open-ended requirement is challenging.

Further, Marques et al. (2007) reported on a 10-session pilot treatment intervention that incorporated use of the log data (Support for Interlock Planning). Delivered to interlock participants in central Texas (Carroll, Dallas, and Tarrant Counties), the intervention led to substantial and significant reductions in reported drinking-driving consequences for 300 interlock offenders. In addition, the intervention may have reduced rates of failed BrAC tests among offenders with interlocks from three participating interlock providers relative to a larger sample of nonequivalent comparison offenders with interlocks. The IEC treatment module, a follow-on to the SIP pilot study, has been redeveloped for Colorado (Timken et al., 2012a, 2012b) and was launched there in 2011. The therapeutic use of the interlock data in both individual and group counseling is a key element of the program.

In an interlock-treatment evaluation, the ideal study would substantially overlap between the treatment and interlock-controlled period of driving (to allow for performance feedback to the therapist). It would randomly assign offenders (often very difficult to do) to treatment or services as usual while they participate in the interlock program. After interlock removal, treatment "booster" sessions to reinforce previous lessons learned, would be held to help drivers strengthen their commitments to separate their drinking from their driving. The results could help support reduced drinking-driving of specific offenders. Further, it could help State authorities allocate treatment resources (or offender costs) to reflect the apparent risk posed by offenders who are less able to make the adjustments. One size rarely fits all, and having a data-driven set of decision criteria may make the programs more fair as well. The interlock program in the Canadian Province of Nova Scotia provides an example of a program that covers both the on-interlock and post-interlock periods. It currently requires treatment while the interlock is installed and for 6 months after the interlock has been removed. The Traffic Injury Research Foundation is currently conducting an evaluation of the Nova Scotia program.

The analyses that would help to evaluate the effectiveness of using data to support interlock and treatment interventions in the near term would be similar to the OLS regression and logistic regression methods described earlier. Would the treated group be likely to have fewer failed BrAC tests and other violations and would subjects profess (via self-report psychometric instruments) to be drinking less or less abusively? The larger question to address would be

whether the treatment intervention and the post-interlock booster sessions succeeded in reducing recidivism following interlock removal. Reducing the rates of impaired driving after interlock removal is so far an unattained target goal. If that goal were achieved, it would likely strengthen the commitment to interlock programs by the highway safety community. Currently, interlock programs are temporary preventatives. Is there something about treatment intervention while the offenders are still active participants in interlock programs that might help end the cycle of recidivism? To answer the longer-range question about post-interlock recidivism would require a random assignment study (to minimize interpretational problems), and the analytical method of choice would be survival analysis, either a Cox proportional hazards regression model or a Kaplan-Myers approach. Driver record data will have to mature for about 2 years post-interlock for adequate exposure time, and sample sizes would likely have to be in the range of 2,000 to 3,000 to demonstrate an effect of the treatment intervention (if there is one). Such large sample sizes generally require State or National level data. The procedures for a longer-range recidivism analysis are described in the next section.

d. Analysis of the relationship of interlock performance measures to recidivism

While the interlock is installed, the behavioral problem variables previously outlined have proven to be useful in predicting future recidivism after the interlock program is completed and the device has been removed. This conclusion was arrived at by examining the timing of failed BrAC tests to determine which, if any, of several intervals would be most predictive of future recidivism. Marques et al. (2003) divided the week into five time intervals: weekday plus weekend morning hours, weekend evenings, weekday night hours, all weekend hours, and day hours. This analysis showed that only the failed BrAC tests during the morning hours were significant supplemental predictors of future recidivism. The morning-hours variable entered into the Cox regression equation served as a predictor even after the overall rate of fails was already in the model. Calculation of this variable is based on defining it as a failed BrAC upon the engine startup test—each "trip" in a car begins with a startup and the rate of fails per trip. In addition to simple fails, high fails (BrAC $\geq$ .08) per trip were also good predictors of recidivism (albeit the stricter criterion means a lower *n*). These are all expressed as rates because the occurrence (numerator) is adjusted relative to the total number of trips taken (denominator). As mentioned, many of these measures contain considerable overlap, and due to potential collinearity issues, it is advisable to analyze each of these behavioral measures separately, with the results from models compared with one another.

Because it is difficult to do a random assignment study in a population that represents the average interlock DWI offender, it is necessary to adjust group differences statistically. To undertake such a recidivism analyses, the approach is to account statistically for the differential recidivism risk of the offenders as estimated by their characteristics. This is derived from several factors, including basic demographics (age, gender, ethnicity, etc.); prior driver record (especially prior DWI convictions, but possibly other prior violation types); and any other measure of sanction, treatment, or intervention. By including these other measures in the model, it can be adjusted for a large amount of potential selection differences and reduce what would otherwise be larger error terms (effects of uncontrolled factors). Importantly, this also helps avoid the potential problem of over-attributing effect size to interlock variables due to other factors (as well as failing to find a real interlock measure effect that could otherwise be masked by these factors).

To obtain the outcome measure(s)—future recidivism—it is necessary to obtain the post-interlock driving record of the subjects. Generally, a minimum of 2 years after interlock removal is needed, given the rarity of re-arrest (and the statistical power needed to produce a confident result). More years are preferable; the downside of having more post-interlock exposure is that it takes several years to accumulate a sizeable cohort of interlock subjects who have completed the interlock program. The result is that evaluation of the post-interlock recidivism impact of a program can only be conducted many years after the program has begun (after several years, laws, policies or procedures may have been changed, and legislators or policy makers may wish to see results more promptly, but there is no way to avoid these delays).

Working with the driver record, both for future recidivism and for a history of prior DWI convictions, can be daunting for the outside evaluator, as these records are not in a format or structure that is amenable to the data analyses required. The records require much file manipulation, and commonly, considerable programming is required to create the variable measures for analysis. Working with a driver records department programmer who is also somewhat familiar with statistical research might allow the researcher to request the preprocessing of files to produce explicitly defined complex relational variables to eliminate the morass of preanalysis data mining. Data mining and cleaning of State driver files is often a tedious and time-intensive task that requires skilled staff; this task is not readily or easily delegable to lower-cost nonspecialists.

Once the researcher has the interlock record problem behavior measures previously described, the demographic data and offense history, and the sanction and treatment data of interest, the driver record data that have been mined to produce a flat analysis file will be merged into the database. This would ideally contain:

- Date of arrest for the index offense (the offense that resulted in a mandated interlock);
- Date(s) of interlock installation;
- Date(s) of interlock removal;
- Date of full reinstatement (if different from installation or deinstallation dates);
- Date of post-interlock license suspension;
- Dates of all post-interlock DWI offenses (or other alcohol-related driving offenses);
- Date of move to another State (if applicable);
- Date of death (if applicable); and
- Date of file posting reliability (date at which all data in a driver record can safely be assumed to be completely posted to the file).

Using these data, one of the best ways to analyze post-interlock recidivism is via survival analysis, in which the interlock period is the intervention and the exposure period is a variable representing the time (e.g., in days, or weeks, or months) beginning at interlock removal, until the *earliest* date of either:

- A reoffense (counted as a positive "terminal event," in survival analysis parlance); or
- A death (results in "censoring," and removal beyond that date from further analysis in the file; or

- A move to another State (censoring and removal beyond that date from further analysis in the file); or
- At the end of the file period when data are no longer posted, all remaining cases are censored.

Then, a status variable can be computed indicating whether the subject reoffended or not (i.e., whether the date used in the exposure variable was a reoffense, or one of the three censoring events in the bulleted list). With this pair of dependent variables (exposure time, status), the survival analyses can be performed for the interlock behavior variables using Cox proportional hazard regression models or Kaplan-Meier survival models (which do not assume proportional hazard functions). Although the assumption of proportionality may be weak (and should be checked graphically for significant strata), the Cox procedure can include other important variables in the model, thereby controlling statistically for significant demographic effects (age, gender, ethnicity, geography, etc.), the driver's previous violation variables, and other program/intervention measures (such as length of suspension and length of interlock sentence).

Although this can become a complex procedure to perform (and interpret), conducting these analyses has been shown to be the most accurate way to account for the differing exposure and other time-related variables measuring points in a complex dynamic process.

Summary

Analysis for State policymakers. To gauge the extent to which interlocks laws are being implemented, there are a variety of statistics that State policy makers can use to measure the level of use and effectiveness. The Annual Survey of Currently Installed Interlocks in the U.S. (Rothinterlock.org) is helpful for comparison purposes for level of use. Although not always a straightforward number to calculate, determining the percentage of eligible DUI offenders convicted each year who are on interlocks is needed for a measure of overall program effectiveness. Measuring recidivism is the gold standard indicator of effectiveness, but this is a time consuming and expensive undertaking. A less expensive indicator is the number of lockouts and early morning positive tests which are predictive of future recidivism. Research has shown that, on average, interlocks reduce recidivism by two thirds when compared to suspended offenders not on interlock. Thus the percentage of reoffenses while on interlock provides an estimate if there are sufficient data to provide a measure of the recidivism rate.

Analysis for program management: The interlock record can be used to tally behavioral problem items that characterize the performance of offenders who are in interlock programs. Tabulations of this kind require little more than the summary reports that are provided by the interlock vendors. These types of analyses can generally be achieved with the interlock records typically provided to program monitors. However, some effort may be required to ensure that definitions of violations are consistent among multiple interlock vendors. This will be an easier job for States with a central database of interlock violations.

Analysis for treatment providers: Conducting analyses of treatment adjunctive programs keyed to the interlock can also be straightforward and require only information about the offenders' interlock performance and violations if the question is restricted to an analysis of patterns of fails or lockouts or procedural violations for specific individuals who are receiving or not receiving treatment services. For statewide treatment evaluation studies, however, unless the treatment is

randomly assigned, it will be difficult to draw any meaningful conclusions from such analyses unless the analytic approach includes an effort that statistically adjusts for initial differences in the offenders who are compared to those who are not placed in the treatment. For example, if a judge decides who gets treatment, it is likely that the initial subject differences might be so great as to obscure any real treatment impact.

Analysis for research studies: Once the question broadens to ask whether a treatment intervention (whether randomly assigned or not) was beneficial in preventing the expected post-interlock recidivism rates from reverting to those of control levels (e.g., pre-interlock or non-interlock levels), then it becomes necessary to have driver records data to determine which offenders were rearrested for impaired driving and which were not. These kinds of studies require a great many study subjects. Although we study recidivism, our interest is really in the occurrence of impaired driving—and the role impaired driving per se plays in crash occurrence. The rate of arrest for impaired driving is very low relative to its incidence, making large samples necessary. If there were a proxy for impaired-driving risk after interlock removal (similar to the way interlock fail rates are a proxy for impaired driving during the interlock), then large sample sizes would not be necessary.

Only three studies (all in Maryland) have been able to use random assignment to study the impact of interlocks on recidivism (Beck et al., 1999; Rauch et al., 2011; Zador et al., 2011). The great majority of studies have involved matching offenders on interlock with similar offenders not in interlock programs, a process that requires a substantial number of common variables (age, gender, ethnicity, etc.) on the basis of which to match the two groups being compared, and always leaves a number of factors which have not been matched. The best evidence for the effectiveness of interlocks is the comparison of recidivism while the device is on the offender's vehicle with the driving once it has be removed. With the exception of one case all such studies have found that recidivism is lower while the interlock is on the vehicle (Rauch et al., 2011).

8. Interlock Data Use Issues, Recommendations, and Conclusions

This chapter attempts to summarize the main interlock data issues identified during this exploratory study of nine States. It is based on the feedback and experiences of key informants from the nine States and information from other States with innovative program features, as well as research findings. The list is not intended to be a comprehensive list of all issues in all States.

Each set of issues is followed by some recommendations or available remedies for better use of the interlock recorder data for monitoring, treatment, and evaluation. Some concluding remarks at the end of this chapter highlight some of the implications for next steps.

Automating Data Delivery Issues

- Automated upload of interlock data from various vendors to a central database allows States to monitor large numbers of interlock offenders and to generate regular statistics to track trends related to violations and success rates. One of TIRF's findings as a result of their interlock technical assistance to multiple States (under contract to NHTSA) is that "reliance on a paper-based system increases workload, and impedes agency communication and offender monitoring" (Traffic Injury Research Foundation, 2010). Developing an automated system is expensive, and it takes a great deal of time and collaboration among key participants.[15]
- Accepting all raw data from vendors may create additional staffing and data storage needs compared to accepting filtered data with State-provided violation codes.
- Automated upload notification of violations creates a multitude of time and cost savings compared to paper based systems (Robertson et al., 2013), but can create large volumes of time-consuming appeals and voided violation records. Automation in some States did not eliminate the need for appeals officers to access vendors' websites or to call vendors for clarification on violations. Data on the outcomes of appeals to extensions on the interlock often is not readily accessible or usable.
- With the advent of real-time reporting of violations, current methods for automating interlock violation data may require updating.

Recommendations/Remedies

- Several States have gone through the arduous task of automating their interlock data systems. Although not every State will want such a system, a step-by-step manual for developing a model system for downloading interlock data could save development costs for those State program managers who elect to establish such systems. The manual should

[15] For more details and a checklist on implementing interlock data automation, see *Alcohol Interlock Programs: Data Management System Implementation* (Robertson et al., 2013).

include guidelines for coordination, collaboration, and advice on legal, technical, and software issues. The TIRF publication on Data Management System Implementation is a great resource to develop an automated data management implementation plan. (Robertson et al., 2013)

- The development of a model software package for States or courts to centrally process and monitor all the log data from various vendors should identify valid violations in a way that would minimize appeals, automatically notify offenders and other monitors of BrAC warnings (below set point) and failures (above set point), and other violations. It should be useful for producing statistics to track success regularly and include all data elements needed for evaluation, including a personal identifier for easy linkage to driver records.
- For those States that do not want to embark on automation of interlock data, the procedures used by the Washington Traffic Safety Commission requiring vendors to submit important data elements in an identical format (Appendix K) on a quarterly basis for analysis may be an alternate option for program managers and treatment providers. A final evaluation report by the WTSC was published in April 2014.
- The utility of real-time monitoring of interlock violations for reducing recidivism remains to be demonstrated. However, it appears to be a popular feature for some courts. Intensive probation supervision programs (such as in Westchester County, New York) use this option for some offenders. The demand for real time monitoring may increase as technology advances and improves. Research is needed to determine the best methods for using this program enhancement cost-effectively.

Sharing Data Issues

- Centralized database data is not shared with court personnel with one exception (Maryland). Turf, coordination, privacy laws, cost, and technical issues can prevent the sharing of a central interlock database with courts.
- In court-based States, vendors may need permission from each court and/or notarized permission from clients to share the data with anyone other than the court.
- Probation officers and treatment providers sometimes do not know they have mutual clients for whom they could share information.
- State privacy laws can prevent sharing central database data with treatment professionals.
- In many cases, treatment providers can get access to interlock reports with vendor consent forms, but are unaware of this possibility or not interested.
- The informality of sharing between probation officers and treatment professionals that occurs in court or on the telephone makes it impossible to quantify the information they share.

Recommendations/Remedies

- The Maryland MVA can share interlock data with the Probation Department because it receives all raw data for all offenders on interlock in the State (other States in this study do not). For offenders under probation supervision with a special condition for interlock installation, the Maryland MVA recently began sharing violation information by FTP with the Probation Department.

- If the State driver-licensing agency is the designated recipient of interlock data, legislation should include an option to share interlock data with court and treatment officials.
- Interlock legislation should not prohibit access to the interlock data for treatment professionals. However, sharing of data with treatment professionals might best be accomplished through vendors (via website or e-mail) with consent procedures (from client and monitoring authority, if needed) rather than shared from the current versions of States' central interlock database. Most databases are not currently designed to produce the type of reports needed by treatment professionals. (Consent procedures developed by Colorado are included in Appendix J.)
- Probation staff and DWI court staff could help characterize and quantify the sharing of interlock violation data with treatment professionals, which could lead to guidelines for regular sharing. Chapter 6 provides a description from a treatment provider in New Mexico about her experiences and responses to interlock violations within a DWI court setting.

Definition of Interlock Violations Issues

- As noted in Chapter 3, a multitude of variables can contribute to inconsistencies in the reporting of violations in a State. These inconsistencies are due to differences in legislative and administrative code definitions and requirements; monitoring agency policies, practices, and needs; vendor policies, practices, and capabilities; individual vendor log event definitions; device configuration and software differences; and device setting and calibration differences.

Recommendations/Remedies

- Although total consistency among all possible interlock data elements may not be feasible, AIIPA developed and released a set of recommended standardized BAIID vocabulary terms and best practices (AIIPA 2014). This will be helpful to monitors and vendors alike, for intra- and inter-State consistency but it remains to be seen how he AIIPA recommendations will be adopted.
- Differences among States' rules and regulations about what *defines a violation* and the resulting consequences continue to vary widely. This report identifies two possible methods for minimizing differences in violation definitions: (a) the Oklahoma Vendor Field Test Procedures in Appendix F, which involves field testing of interlock devices and reporting functions; and (b) the excel spreadsheet template in Chapter 3 for comparing data reporting elements among various interlock vendors.

Report Format Difference Issues

- Multiple vendor formats, whether transmitted by e-mail or accessed through a vendor's website, can be daunting to review and interpret, especially for data monitors and treatment professionals. The current formats also are not conducive for easily identifying patterns of behavior over time.

Recommendations/Remedies

- Some States have created their own report format that all vendors must use to report violations. This information may need augmentation as it is in the Oklahoma State report form, with a requirement to report a few log readings before and after the violation event and assist in the interpretation of the sequence of events that contributed to the violation
- As described in this report (Chapter 5), Massachusetts has required its vendors to use the same vocabulary, content, and website tab names for ease of use and interpretation by monitors.
- An additional vendor website tab could potentially display the BrAC data in weekly and monthly calendar formats over a specified time (e.g., 6 months, 1 year). This would allow monitors to see patterns of behavior and progress over time; they could use these patterns for discussion in counseling sessions. (An example is contained in Chapter 5.)
- As used in Maryland, the automated upload of raw interlock log data from all vendors eliminates issues of report format differences.

Nonuse of Interlocked Vehicle Issues

- Not all States require the recording of a specific measure of non-interlock vehicle use, such as recorded mileage or number of starts for each reporting period. A recent evaluation by the WTSC found that the lower the number of vehicles start attempts, the higher the likelihood of recidivism (Grondel, 2014).

Recommendation/Remedies

- Research is needed to determine whether recording the mileage on the odometer, the number of interlock engine starts, and how many miles or starts are a valid measure of nonuse.
- The emergence of photo-identification systems provides the means to monitor substitute drivers.

Treatment Provider Access to Data Issues

- There is some sentiment among treatment providers that they would prefer to let other authorities deal with interlock violations so that they can maintain a supportive rather than adversarial relationship with their clients. Other providers are unaware of this potential resource. Still others would welcome access to the interlock data as another potential tool if it were easy to access.
- Treatment providers in two States (Arizona and Washington) are specifically allowed access to interlock data but are not generally aware of this option.
- Some treatment providers do not appear to be aware of the potential therapeutic value of discussing an objective source of monitoring behavior; namely, the interlock data.
- Some treatment providers that do see the interlock data do not understand how to interpret it. They call vendors about impossible excuses they have heard from clients.

- Use of interlock data by treatment providers clearly requires training, leading to an understanding of the clinical significance of breath-test warnings, failures, and patterns of alcohol use over time.
- When interlock data are used to monitor strict abstinence, it may not be conducive to effective treatment intervention, as interlock users with alcohol abuse issues are forced to lie if the consequences are very punitive as in some courts (especially DWI courts) and with multiple offenders in Florida and North Carolina, where the BrAC for multiple offenders is >.00.

Recommendation/Remedies

- Treatment providers should be aware of the option to access interlock data and the procedures and consent forms required. There are several options for establishing consent:
  - Collaboration among the interlock monitoring authority, a central treatment representative, and vendors could help develop consent forms, including HIPAA release, that would satisfy all legal and privacy concerns. The Colorado Interlock Working Group accomplished this with instructions for executing two forms to pave the way for treatment providers to access vendor websites for their clients (Appendix J).
  - If their contract allows it, vendors could routinely provide their customers with their own consent forms to be shared with treatment providers, although they may not welcome the additional work this might create in responding to questions from additional monitors.
  - Treatment providers could routinely ask their clients if they would share their interlock results for supportive purposes.
- Collaboration among interlock monitors, vendors, and agencies that provide assessment, education, and treatment for DWI offenders can provide important training opportunities for treatment professionals in the use of interlock data.
- Colorado and Florida provide examples of collaborations between DMV agencies and treatment providers that have produced interlock data training opportunities for counseling/treatment professionals.
- Because direct links between the interlock data and treatment actions are desirable but rare, the IEC in Colorado and the use of interlock data by counseling and treatment professionals in Florida should be evaluated so that the findings can be shared with other interlock monitors and treatment professionals. The evaluation results from the interlock/treatment linked program in Nova Scotia will be informative as well. Further, probation officers and treatment professionals who work with offenders in DWI court could benefit from the findings.
- Depending on the outcome, an evaluation of IEC may help treatment providers see the value in training for this new intervention that not only links interlock reports and motivational and cognitive/behavioral treatment, but also provides a specific protocol with manuals for individual and group therapy.
- The recent evaluation of the use of interlocks in DWI courts in Michigan appears promising, showing reductions in recidivism one and two years later compared to DWI court offenders who were not on interlock.

- The NADCP and National Association of DWI Courts provide guidelines for the use of interlocks in DWI courts, where intensive treatment is already part of the protocol.

Treatment Timing Issues

- Offenders are often required to complete treatment before becoming eligible for the interlock; thus, the opportunity for simultaneous benefit is lost.
- Long hard-license suspension periods contribute to treatment completion before interlock installation.

Recommendations/Remedies

- Research has shown that suspended DWI offenders will drive anyway. More States are moving towards shorter hard-suspension periods or providing a strong incentive to install an interlock in order to drive sooner, but with ignition interlock protection (e.g., in Colorado, the suspension for first offenders is reduced by up to 9 months with interlock installation).
- Not all offenders are initially assessed as needing treatment, especially first offenders. Ideally, those not performing well on the interlock after the first few months would be referred to some type of treatment that is linked to the review of the interlock data, as is done in Florida. However, the value of this procedure has not yet been evaluated.
- Treatment that is linked to interlock data review while the interlock is installed could be provided through different avenues in the system: a mandatory requirement for all users, as a requirement based on interlock performance, or as part of a relapse prevention therapy program, after completing the treatment required, as a result of standard assessments. This type of treatment could also be required or offered to offenders who receive multiple extensions on the interlock for violations and/or as an incentive to reduce extension time.
- Institutional or legal barriers to the simultaneous occurrence of interlock and treatment will need to be studied in each jurisdiction to investigate the feasibility of their removal.
- New technology, such as real time interlock monitoring (which provides for instant messaging when a violation occurs) and educational/interventional application “apps” software (mobile or otherwise), may provide future additional opportunities for using the interlock data for real time behavioral interventions with interlock users.

Manpower/Cost Issues

- Filtering of violation data by interlock vendors reduces the workload for monitors but could create a conflict of interest. Violations often extend the period of time on interlock for the offender and thus create additional income for the vendors.
- Even for DMVs that have automated violation filtering, a majority of violations subsequently appealed through a DMV hearing process are voided, suggesting that the automated methods developed so far for filtering out false positives could be more effective.
- Close monitoring of interlock users is expensive.

- New technology in interlock systems—the camera, GPS, and real-time reporting features on interlocks—is more expensive and may use more data capacity, but they improve the monitoring authority's confidence.

Recommendations/Remedies

- Some States are content to allow vendors to filter violation data and be the primary data monitors, along with some State oversight to prevent conflicts of interest.
- As previously suggested, an operator's manual and flexible software for automating the upload of interlock data and offender notification would be helpful.
- Technical software research could determine whether a fully automated method for effective filtering of complex violation criteria (such as the requirement for an initial positive BrAC that must be followed within a certain timeframe by a second positive test), can be sufficiently accurate for use in interlock programs without constant human review.
- Also requiring evaluation are triage systems that conserve treatment funds for those who need them most, by allowing for a learning curve during the early months of interlock installation and enlisting only those who continue to have violations.

Court Issues

- Some judges have statutory authority to extend an interlock installation period and some do not, although additional conditions of probation can include additional treatment, monitoring, or sanctions.
- DWI courts are starting to use the interlock to monitor abstinence and driving.
- Court practices are difficult to document because court personnel infrequently have guidelines to follow regarding interlock violations; however, judicial, prosecutorial, and probation department discretion can be useful in fitting the individual needs and circumstances of the offender.
- Probation can be under local control, even if used by a State agency, which does not lend itself to statewide guidelines for interlock violation consequences.

Recommendations/Remedies

- Guidelines should be developed for courts to help judges, prosecutors, and probation staff look for patterns of behavior (not single breath tests) that indicate a need for interventions. New York has developed some statewide guidelines for county probation departments (Chapter 5) on the definition of violations and has developed a standard report form that vendors must use (Appendix D), while leaving room for the counties to decide other program operations.
- The National Association of Drug Court Professionals has developed guidelines for the use of interlocks in DWI Court (see Appendix M).

Evaluation Issues

- States and courts need support in setting up data management systems that will assist in tracking success and that contain important data elements for evaluation.

- The type of central data systems most conducive to tracking trends and progress and conducting recidivism analyses for each State should be determined. States often have to maintain three systems: driver records, interlock installation information (on/off, extended), and a violation database.
- There is no central source of interlock data in most courts. Violation data in court-based States often exist only on paper in probation departments.
- There may not be staff with a statistical background, which is needed to conduct evaluations, or resources to conduct evaluations of State interlock programs.
- A high number of interlock vendors in a State can introduce a lot of inconsistency in definitions used, reporting practices and consequences for interlock violations.
- It is often difficult to identify measures of quantity and quality of treatment programs when attempting to evaluate their benefits for interlock programs.

Recommendations/Remedies

- On/off dates of interlock installation need to be maintained in driver record systems or elsewhere.
- Other pieces of information important to evaluation that may or may not be kept electronically by States are:
  - Source of interlock referral (court mandatory, per se, division of hearings referral, pretrial, voluntary for prevention, voluntary to reduce license suspension);
  - Whether an interlock is administratively monitored or court monitored (different violation rules apply);
  - Outcome of violation appeals (extended date, revoked date);
  - Abscond (disappear with the device) date;
  - Date switched from mandatory to voluntary;
  - Start and end dates for treatment; and
  - Quantity, level, or type of treatment completed, if applicable.
- An evaluation of the IEC program in Colorado would provide outcome data on the value to training therapists when they use the interlock data therapeutically with the IEC protocol. Measures of quantity and quality could easily be defined for an IEC evaluation.
- The extent to which interlock treatment programs repeat standard court programs or use special methods keyed to the interlock should be determined. For example, before offenders can become eligible for the interlock, the Florida program requires treatment completion for those assessed as alcohol abusers, and additional treatment or relapse prevention therapy for those who have three or more violations. Some aspects of this program are currently being evaluated under an NIAAA study.
- If there were enough participants referred to treatment because of interlock violations, the Virginia and South Carolina programs could provide an opportunity for evaluation.
- One interlock service provider in Arizona has developed software to deliver education and intervention messages automatically to interlock users and gives interlock users a chance to record a response to the event. This effort is being evaluated by PIRE.
- A study of the Canadian Province, Nova Scotia, is being conducted by TIRF. Results are expected in 2015. It will evaluate the process and outcomes of a program that requires a

review of the interlock data, concurrent with ongoing assessment and treatment needs of DWI offenders, who also must remain in treatment for 6 months post-interlock.

Conclusions

In this exploration of how ignition interlock data are being used to monitor DWI offenders, it is clear that the data are used, but there are substantial differences among jurisdictions in the extent and manner of usage. This study has identified progress in the application of interlock data to program management and offender treatment, and identified trends that point to the next steps. State administrative programs now use a variety of combinations of interlock violations during a specified period, to extend the period of interlock installation, in an attempt to monitor readiness of the offender to drive safely without the device. Automated upload of interlock data to State central databases has helped to process large numbers of interlock users and improve consistency in applying consequences, but this process is expensive and leads to many appeals to the automated extensions. Automation theoretically would lead to more sharing of the data among agencies, but this is not happening for the most part. State data are not consistently being shared with the courts or others. The States that do not use automated central databases use less expensive monitoring methods that rely on various levels of filtering of the data for valid violations by interlock vendors. Some jurisdictions have chosen to monitor only tampering and circumvention violations, preferring to let the device serve its functional purpose to separate drinking from driving.

Because of the discretionary nature of sentencing in courts, it is hard to characterize what is happening widely without a survey, but probation officers are generally accessing data via e-mailed reports from interlock vendors. Violations are variously met with extensions (if the law allows), additional sanctions or other alcohol-monitoring devices, short jail sentences, and/or requirements for additional treatment. Alternatively, some courts do not have the resources to monitor interlock violations and simply attempt to ensure their interlock installation. Some probation staff do share the results of interlock data with treatment professionals informally, but with no apparent guidelines. The use of interlocks in DWI court programs is growing to include the monitoring of daily abstinence and driving.

The imposition of interlock time extensions is based on the literature showing that several measures of interlock performance predict future recidivism. However, there has been no study that demonstrates that extending offenders with high levels of lockouts reduces their future recidivism. It is possible that penalizing lockouts may make offenders more careful to avoid them but not have any effect on their long term driving, in which case lockouts may lose their predictive value. We still have little understanding of the underlying process through which interlock users adapt to the interlock. Further, time extensions on the interlock involve additional cost for the offender and for the monitoring agencies. It might be more cost effective for States to concentrate on enacting and enforcing laws that increase the number of offenders entering the program than on extending those that have installed interlocks.

A multitude of factors add to the inconsistency and workload in monitoring interlock data by State and court monitors, including varying definitions of violations and variations in report formats from the multiple interlock companies. It remains to be seen if States and vendors will adopt the AIIPA recommended standard interlock vocabulary terms and use them in reports. If

the reports are not user friendly, they are unlikely to be used or understood. Technology has provided for interlock vendors to maintain websites that can be accessed with proper authorization and consent forms, but arranging access to multiple websites with different formats is also an impediment to using the data.

A data report that uses a calendar format to show patterns of breath test warnings and failures over time is proposed in Chapter 6 to be more useful for treatment providers and other monitors. If alcohol treatment and interlock programs are to be integrated, the impediments to the simultaneous timing of both activities, such as long hard license suspension periods and requirements to complete treatment before becoming eligible for the interlock, will need to be removed.

There is little awareness among treatment professionals about the possible value of interlock data reports to provide objective feedback on client behavior. Unless procedures are institutionalized for easy access to the data, easy execution of appropriate consent documents, and ready access to appropriate training to interpret the data, more use of the data by treatment professionals is unlikely. We look forward to the evaluation results from ongoing evaluations in Florida, Nova Scotia and elsewhere, where the interlock recorder data are incorporated into counseling or treatment.

There has been a question as to whether the interlock should be used to enforce alcohol abstinence. The significant reduction in recidivism of Michigan DWI court offenders on interlock compared to those not on interlock (Kierkus & Johnson, 2014) even two years after the offense points to a promising use of interlocks in an intensive supervision setting that includes treatment professionals.

States often have to link data from multiple databases to conduct evaluations. This report attempts to identify important data elements needed for evaluating recidivism that often are not entered or retained in State data systems. Automated upload of interlock data has made it easier to track program statistics and success, but it remains to be examined if it is more conducive to conducting evaluations of recidivism. Only one State's automated system in this study includes court-monitored interlocks in its database and shares it with the probation department (Maryland). Issues related to turf, cost, privacy laws, and technological impediments may contribute to this lack of coordination and sharing in other States. If manuals and software were developed, these tools could assist other States to automate for more efficiency, sharing, and easier evaluation. As previously noted, a 2013 TIRF publication on data management is a useful guide to developing an interlock data automation plan.

One caveat is that the speed of technological advancements may already be outdating the current automated systems and the few available protocols for using the interlock data therapeutically. Nonetheless, increases in real-time interlock-violation reporting capabilities and the possibilities for real-time interventions are exciting prospects on the horizon for increasing the effectiveness of ignition interlocks.

References

57, Federal Register, 67, 11772-11787. National Highway Traffic Safety Administration,Model specifications for breath alcohol ignition interlock devices (BAIIDs).

78 Federal Register, 89, 26849-26867, National Highway Traffic Safety Administration. Model specifications for breath alcohol ignition interlock devices (BAIIDs).

Association of Ignition Interlock Program Administrators. (2014). *AIIPA Standardized Vocabulary and Best Practices Recommedations.* Paper presented at the The Second Annual AIIPA Conference, Baltimore, MD, , May 18 - 21, 2014.

Beck, K., Rauch, W., Baker, E., & Williams, A. (1999). Effects of ignition interlock license restrictions on drivers with multiple alcohol offenses: A random trial in Maryland. *American Journal of Public Health, 89*(11), 1696-1700.

Beirness, D., & Marques, P. (2004). Alcohol Ignition Interlock Programs. *Traffic Injury Prevention, 5*(3), 299-308.

Compton, R. P., & Hedlund, J. (2007). *Reducing impaired-driving recidivism using advanced vehicle-based alcohol detection systems* (Report to Congress. Report No. DOT HS 810 876). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/sites/nhtsa.dot.gov/files/810876.pdf

Elder, R. W., Voas, R., Beirness, D., Shults, R. A., Sleet, D. A., Nichols, J. L., . . . & Task Force on Community Preventive Services. (2011). Effectiveness of ignition interlocks for preventing alcohol-related crashes: A Community Guide systematic review. *American Journal of Preventive Medicine, 40*(3), 362-376.

Fabelo, T., Eisenberg, M., Bryl, J., Heikkila, D., Leonhart, C., & Cadora, E. (2009). *Organizational assessment and modernization report of Bexar County Community Supervision and Corrections Department*. New York, NY: The Council of State Governments, Justice Center.

Fiedler, K., Brittle, C., & Stafford, S. (2012). *Case studies of ignition interlock programs* (Report No. DOT HS 811 594). Washington, DC: National Highway Traffic Safety Administration.

Governors Highway Safety Association, & National Highway Traffic Safety Administration. (2010). National Interlock Summit: Summary report. Washington, DC: Authors. Available at http://ghsa.madwolf.com/html/files/meetings/interlock/interlock.sum.rpt.pdf

Grondel, D. (2014). *Evaluation of the Washington State Ignition Interlock Pilot Program 2009*. Olympia, WA: Washington Traffic Safety Commission. Retrieved from www-stage.wtsc.wa.gov/wp-content/uploads/downloads/2014/04/IIPP.pdf

Hedlund, J., & Fell, J. (1995). Persistent drinking drivers in the U.S. *Annals of Advances in Automotive Medicine, 39*, 1-12.

Kierkus, C., A., & Johnson, B. R. (2014). Michigan DWI/Sobriety Court Ignition Interlock Evaluation, 2014 Report (pp. 77): Michigan Association of Drug Court Professionals .

Lund, A. K., McCartt, A. T., & Farmer, C. M. (2007). Contribution of alcohol-impaired driving to motor vehicle crash deaths in 2005. In B. K. Logan, D. S. Isenschmid, J. M. Walsh, D.

Beirness, & J. Morland (Eds.), *Proceedings of the T2007 Joint International Meeting of TIAFT/ICADTS/IIS, August 26-30*. Seattle, WA: ICADTS.

Marques, P. (Ed.). (2005). *Alcohol Ignition Interlock Devices—Volume II: Research, Policy and Program Status 2005*. Oosterhout, The Netherlands: International Council on Alcohol, Drugs and Traffic Safety.

Marques, P., Tippetts, S., Allen, J., Javors, M., Alling, C., Yegles, M., . . . & Wurst, F. (2010). Estimating driver risk using alcohol biomarkers, interlock BAC tests, and psychometric assessments: Initial descriptives. *Addiction, 105*(2), 226-239.

Marques, P., & Voas, R. (2012). Are we near a limit, or can we get more safety from vehicle alcohol interlocks? [Editorial]. *Addiction, 108*(4), 657-658. doi: 10.1111/add.12002

Marques, P., Voas, R., Tippetts, S., Blackman, K., Timken, D., & Field, C. (2007). Motivational Intervention Keyed to Interlock Use Reduces the Rate of Positive BAC Tests. In B. K. Logan, D. S. Isenschmid, J. M. Walsh, D. Beirness, & J. Morland (Eds.), *Proceedings of the T2007 Joint International Meeting of TIAFT/ICADTS/IIS, August 26-30*. Seattle, WA: ICADTS.

Marques, P. R. (2009). The alcohol ignition interlock and other technologies for the prediction and control of impaired drivers. In J. C. Verster, S. R. Pandi-Perumal, J. G. Ramaekers, & J. J. de Gier (Eds.), *Drugs, Driving and Traffic Safety* (Vol. II, pp. 457-476). Basel, Switzerland: Birkhäuser Verlag AG.

Marques, P. R. (2012). Technologies to monitor the behavior of alcohol-involved drivers. *Transportation Research Circular*.

Marques, P. R., Tippetts, A. S., & Voas, R. B. (2003). Comparative and joint prediction of DUI recidivism from alcohol ignition interlock and driver records. *Journal of Studies on Alcohol, 64*(1), 83-92.

Marques, P. R., Tippetts, A. S., Voas, R. B., & Beirness, D. J. (2001). Predicting repeat DUI offenses with the alcohol interlock recorder. *Accident Analysis and Prevention, 33*(5), 609-619.

Marques, P. R., & Voas, R. B. (2005). Interlock BAC tests, alcohol biomarkers, and motivational interviewing: Methods for detecting and changing high-risk offenders. In P. R. Marques (Ed.), *Alcohol Ignition Interlock Devices—Volume II: Research, Policy, and Program Status 2005* (pp. 25-41). Oosterhout, The Netherlands: International Council on Alcohol, Drugs and Traffic Safety.

Marques, P. R., Voas, R. B., & Tippetts, A. S. (2003). Behavioral measures of drinking: Patterns in the interlock record. *Addiction, 98*(Suppl 2), 13-19.

Marques, P. R., Voas, R. B., Tippetts, A. S., & Beirness, D. J. (1999). Behavioral monitoring of DUI offenders with the alcohol ignition interlock recorder. *Addiction, 94*(12), 1861-1870.

McCartt, A. T., Leaf, W. A., Farmer, C. M., & Eichelberger, A. H. (2012). *Washington State's alcohol ignition interlock law: Effects on recidivism among first-time DUI offenders*. Arlington, VA: Insurance Institute for Highway Safety.

Mother's Against Drunk Driving. (2013). *Ignition interlock institutes: Promoting the use of interlocks ande improvements to interlock programs*. (Report No. DOT HS 811 815). Washington, DC: National Highway Traffic Safety Adminitration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811815.pdf

National Center for DWI Courts, & National Association of Drug Court Professionals. (2010). Ignition Interlock Device Guidelines for DWI Courts. Alexandria, VA: National Center for DWI Courts, National Association of Drug Court Professionals,.

National Highway Traffic Safety Administration. (2010a). *Evaluation of the New Mexico Ignition Interlock Program*. (Report No. DOT HS 811 410). Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration.

National Highway Traffic Safety Administration. (2010b). *Key Features for Ignition Interlock Programs*. (Report No. DOT HS 811 262). Washington, DC: : U.S. Department of Transportation, National Highway Traffic Safety Administration Retrieved from http://www.nhtsa.gov/staticfiles/nti/impaired_driving/pdf/811262.pdf.

National Highway Traffic Safety Administration. (2011). Fatality Analysis Reporting System (FARS): Detailing the Factors Behind Traffic Fatalities on our Roads. Retrieved June 6, 2011, from http://www.nhtsa.gov/FARS

National Highway Traffic Safety Administration. (2013a, December). *Model Guideline for State Ignition Interlock Programs*. (Report No. DOT HS 811 859). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811859.pdf

Rauch, W. J., Ahlin, E. M., Zador, P. L., Howard, J. M., & Duncan, G. D. (2011). Effects of administrative ignition interlock license restrictions on drivers with multiple alcohol offenses. *Journal of Experimental Criminology, 7*(2), 127-148.

Robertson, R., Holmes, E., & Vanlaar, W. (2010). *The implementation of alcohol interlocks for first offenders: A road map*. Ottawa, Ontario: Traffic Injury Research Foundation.

Robertson, R. D., Holmes, E. A., & Vanlaar, W. G. M. (2011). *Alcohol Interlock Programs: Vendor oversight*. Ottawa, Ontario: Traffic Injury Research Foundation and National Highway Traffic Safety Administration Retrieved from www.tirf.ca/publications/PDF_publications/NHTSA_Tech_Assistance_VendorReport_4_web.pdf

Robertson, R. D., Holmes, E. A., & Vanlaar, W. G. M. (2013). *Alcohol interlock programs: Data management system*. Ottawa, Ontario, Canada: Traffic Injury Research Foundation.

Roth, R. (2012a). 2012 survey of currently installed interlocks in the U.S. Retrieved July 23, 2013, from www.rothinterlock.org/2012surveyofcurrentlyinstalledinterlocksintheus.pdf

Roth, R. (2012b, November). Roth Interlock Research Data and Impact DWI, Santa Fe, NM.

Roth, R. (2013). 2013 Survey of Currently-Installed Interlocks in the U.S., from www.rothinterlock.org/2013_survey_of_currently_installed_interlocks_in_the_us_revised-12_17_13.pdf

Roth, R., Voas, R. B., & Marques, P. (2009). A note on the effectiveness of a house arrest alternative for motivating DWI offenders to install ignition interlocks. *Journal of Safety Research, 40*(6), 437-441.

Simpson, H. M. (1995). Who is the persistent drinking driver? Part II: Canada and elsewhere. *Transportation Research Circular, 437*, 21-35.

Timken, D., & Marques, P. R. (2001a). Support for Interlock Planning (SIP): Participants Workbook. Retrieved April 20, 2009, from www.pire.org/sip/sipmanuals.htm

Timken, D., & Marques, P. R. (2001b). Support for Interlock Planning (SIP): Providers Manual. Retrieved April 20, 2009, from www.pire.org/sip/sipmanuals.htm

Timken, D. S., Nandi, A., & Marques, P. (2012a). *Interlock enhancement counseling: Enhancing motivation for responsible driving—a participant's workbook*. Boulder, CO: Center for Impaired Driving Research and Evaluation.

Timken, D. S., Nandi, A., & Marques, P. (2012b). *Interlock enhancement counseling: Enhancing motivation for responsible driving—a provider's guide*. Boulder, CO: Center for Impaired Driving Research and Evaluation.

Traffic Injury Research Foundation. (2010). *Alcohol Interlock Programs: Summary of Technical Assistance Findings*. Retrieved from http://ghsa.org/html/meetings/pdf/interlock/tirf.pdf

Vingilis, E., Stoduto, G., Macartney-Filgate, M. S., Liban, C. B., & McLellan, B. A. (1994). Psychosocial characteristics of alcohol-involved and nonalcohol-involved seriously injured drivers. *Accident Analysis and Prevention, 26*(2), 195-206.

Voas, R. B., & Fisher, D. A. (2001). Court procedures for handling intoxicated drivers. *Alcohol Research and Health, 25*(1), 32-42.

Voas, R. B., Marques, P. R., Tippetts, A. S., & Beirness, D. J. (1999). The Alberta Interlock Program: The evaluation of a province-wide program on DUI recidivism. *Addiction, 94*(12), 1849-1859.

Voas, R. B., Tippetts, A. S., Fisher, D. A., & Grosz, M. (2010). Requiring suspended drunk drivers to install alcohol interlocks to reinstate their licenses: Effective? *Addiction, 105*(8), 1422–1428. doi: 10.1111/j.1360-0443.2010.02987.x

Voas, R. B., Tippetts, A. S., & Grosz, M. (2013). Administrative reinstatement interlock programs: Florida, a 10-year study. *Alcoholism: Clinical and Experimental Research, 37*(7), 1243-1251. doi: 10.1111/acer.12078

Voas, R. B., Tippetts, A. S., & McKnight, A. S. (2010). DUI offenders delay license reinstatement: A problem? *Alcoholism: Clinical and Experimental Research, 34*(7), 1282-1290. doi: 10.1111/j.1530-0277.2010.01206.x

Wells-Parker, E. (1994). Mandated treatment: Lessons from research with drinking and driving offenders. *Alcohol Health and Research World, 18*(4), 302-306.

Willis, C., Lybrand, S., & Bellamy, N. (2004). Alcohol ignition interlock programmes for reducing drink driving recidivism. *Cochran Database of Systematic Reviews, 18*(4), CD004168.

Zador, P. L., Ahlin, E. M., Rauch, W. J., Howard, J. M., & Duncan, G. D. (2011). The effects of closer monitoring on driver compliance with interlock restrictions. *Accident Analysis and Prevention, 43*(6), 1960-1967. doi: 10.1016/j.aap.2011.05.014

Interlock Data Utilization

Appendices

A. Discussion Guide Used With Key Informants

B. Nine State Interlock Data Use Profiles

C. State Issued Violation Report Forms (CA, GA, OK)

D. Uniform Report Formats Required by States (CO, NY, TX)

E. Various Vendor Sample Interlock Summary and Detailed Interlock Reports

F. Oklahoma Ignition Interlock Field Test to Confirm Standard Report Outputs From Vendors

G. NHTSA Key Features Report, Expert Panel Suggested Guidelines

H. Washington Department of Licensing Vendor Verification Form-Final Four Months Violation-Free

I. Sample Vendor Release Consent Forms

J. Colorado IEC Consents and Procedures

K. WTSC Reporting Format Requirements for Interlock Data From Vendors for Evaluation

L. Florida Ignition Interlock Device Interview Report Used by DUI Case Managers

M. National Center for DWI Courts – Ignition Interlock Device Guidelines

N. 2013 Survey of Currently Installed Interlocks in the United States

Appendix A:
Discussion Guide Used With Key Informants

Key Informant Discussion Guide

- **Potential Contacts: GHSR, interlock company representatives, Interlock coordinators for state or county agencies, MVA staff, MVA hearing officers or medical review staff, State Administrative Office of the Courts, court staff (judges, probation, intake, prosecutors); DWI court staff, treatment professionals, researchers, defense lawyers.**

PIRE Staff: _____

Contact Date: _____

Name, Title, Address, phone number, e-mail:

_____

_____

_____

_____

INTERLOCKS IN (_____)

- Number of interlocks in the jurisdiction: _____ .
- Describe elements of the law, mandates, eligibility.
- Describe court features and admin features.
- Typical length of interlock sanction.
- Determinates of sanction length.
- Treatment before/during/after
- Other requirements by court or DMV, e.g., screening, education, treatment.
  - (Before, after, or during interlock period)
- List of Vendors: _____

INTERLOCK DATA REQUIREMENTS

- State legislation and/or Administrative Code regulations per any reporting requirements regarding vendor reports.
  - Get copy or link to full law/code.
- Role vendors and others play in deciding formats and reporting procedures.
- Anyone monitoring to insure that reporting requirements are followed
  - Method of monitoring.

INTERLOCK DATA REPORT USERS

- Agencies and types of individuals doing the primary monitoring and getting the data reports.
- Method used to access reports.
- Specific ways the reports are used for monitoring
  - Frequency of monitoring.
- Data elements received, formats, frequency
- Different reports used for different users, if applicable
- Efforts to standardize reports from all vendors
  - Get copies, if available.
- Data shared with other agencies.
  - BAC results received by or reported to treatment monitor.

BAC FAILS AND PROCEDURAL VIOLATIONS: CONSEQUENCES

- Define successful completion.
  - Violation free period
- Define BAC violation.
  - Any reference to patterns of BAC events
  - Lockout level
  - Circumvention defined
  - Procedural violation defined
  - Any non-use defined and/or reported
- Type of documentation needed for violations and removals
- Any difficulties interpreting the reports
  - Grey areas regarding violations
- Triggers for additional sanctions and/or extended time
  - Decision makers for triggers.
  - Violations used to increase time
  - Violation used to impose additional sanctions.
- Appeal process (data available?)
- Role of vendors

DATA FOR OUTCOME STUDIES

- Any outcome data on offenders.
  - Percentage of successful completions
  - Most Frequent violation
  - Percentage of violators and early removers.
  - Percentage extended
  - Determine where this data is located and if we can get it (Driver Record, Appeal Office, Other Unit?)
- Obtain any available studies on recidivism
  - Definitions of recidivism (Conviction/ALR/Other)

IDEAS FOR MORE EFFECTIVE USE OF DATA

- Ease of use.
  - Timely receipt of data.
- Barriers to use.
  - Any cost/manpower issues
- Suggestions for improving the reports from vendors
- Ideas on how could the reports could be used.
  - Connections of reports / data to treatment.
  - Methods(s) of linking reports/data to treatment
- For Interlock Vendors specifically:
  - Additional data elements that could be easily provided if needed.
  - Rate of failed tests.
  - Morning lockouts.
  - Adequate sample.
  - Non-use.
  - Other suggestions for reports to optimize the value of the data to various users.

INFORMATION FOR FUTURE STUDIES

- Identify those responsibility for maintaining the data (government agency and/or interlock company)
- Identify format and type of database
- Time (years) the reports / data are available.
  - Storage issues/Purge policies.
- Restrictions for using data.

- Privacy Act concerns.
- Consent concerns.
- Identify any other difficulties in accessing data for research study on recidivism

- Determine cost to access it for research study.
- Record Contact information for access to data for future studies. (Name, title, address, phone, email).
- Others recommended to contact for discussions on the use of interlock data

Appendix B:
Nine States Interlock Data Profiles 2012

B.1 – Arizona Interlock Data Use Profile (2012)

Mid- 2010: 18,300 interlocks
Mid–2011: 17,026 interlocks
Mid–2012: 19,153interlocks
Mid-2013: 21,468 interlocks
Administrative Interlock State
8 interlock vendors

DWI offenders in Arizona are eligible for an interlock in one of three ways: (a) court conviction BrAC ≥.15; (b) suspended/revoked for DWI may be eligible for special restricted interlock license; (c) driving on suspended or revoked license as a result of DWI.

Table 1 outlines the Arizona Department of Transportation (DOT), Motor Vehicle Division (MVD), interlock requirement/eligibility options.

Table 1. MVD Interlock Requirement/Eligibility for Interlock

	First offender	Multiple offender
License suspension	90 days	12 months ≥.15
Hard suspension	45 days[a]	45 days[a]
Eligible for interlock	≥.15 BrAC Conviction	≥.15 BrAC Conviction
Time on Interlock[b]	12 months	2nd offender – 12-18 months 3+ offenses – 24 months
Required for license reinstatement	Yes	Yes
Interlock download	30-60 days[c]	30-60 days[c]

[a] Voluntary to drive earlier than suspension completion.
[b] Courts may add additional months
[c] First three months, every 30 days; every 60 days thereafter.

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed by the MVD. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC-Related Interlock Violations and MVD Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.03 BrAC *Early recall*- missed or failed or 6 failed BACs	Three BrAC ≥.08 Missed retest[b]	6-month extension

[a] No flags for low mileage.
[b] Have 1 hour to retest if miss requested test.

Background

Arizona has approximately 19,000 interlocks installed at any given time, with eight certified interlock providers; the most are installed in the Phoenix, Tucson, and Yuma areas.

There was a 2005 legislative mandate to comply with electronic reporting of interlock recorder data to the MVD starting in 2006. Before the mandate, the MVD met with the interlock manufacturers to decide on the best method for achieving the administrative requirements. The administrative code has specific reporting data elements to be reported for installation verification, accuracy checks, noncompliance, and removal reporting. Recent legislation (January 2012) allows the court to reduce or suspend jail time if the defendant installs and maintains an ignition interlock system for the required time.

Interlock Data Monitors

Motor Vehicle Division

Monitoring of all interlock data is done by the Arizona DOT MVD, *including* court-ordered interlocks.

Statutory authority specifically allows for the MVD to generate corrective actions imposed on the driver based on electronic transmission of data. Interlock vendors upload log data in a specified format using seven noncompliance codes. Although the lockout point is .03 BrAC, three elevated BrAC violations ≥.08 BrAC or other violations, such as failure to retest, tampering, and missed appointments, automatically generate a letter to the offender informing of the specific violation and mandates an automatic additional 6 months on the interlock (lowered from a 12-month extension as of January 2012.) One violation (≥.03 BrAC) for those younger than age 21 triggers a letter and an automatic 6-month extension.

The electronic system also generates seven "return" error code messages to the vendors (e.g., "revoked license"). When an installer tries to upload data, he or she receives the error codes. The installer then tells the offender to contact MVD, and this helps improve communication with the driver. System reviews occur weekly from the indicator codes in the data logs, and some of the information is posted to the driver's record.

There is ongoing process in which the MVD builds system edits to help interlock vendors with issues as they arise. It was noted that good communication between the MVD and the interlock providers is an important part of the system.

Installers receive a key code from the Arizona DOT so that data can be uploaded to the DOT server. The interlock data log files that the vendors provide are uploaded weekly in a small fixed format (173 bites long) according to specifications required by the State.

The data variables include:

Manufacturer ID
Provider ID
Installer ID
Offender: Lname, Fname, Mname , DOB, DL#
Install date
MVD removal date (return back field—the MVD populates)
Removal date
Report type
Noncompliance code (list these)

BAC violation count per download
Return error code (7 codes—list them)
Report date and time

Appeals

The automatic 6-month extensions that are triggered by three violations can be appealed to the Arizona DOT Executive Hearing Office. Its website suggests that offenders first contact their interlock installer to verify the accuracy of the information provided. If the installer is unable to resolve the issue, offenders are directed to request a hearing from the Executive Hearing Office. Offenders can go online and request a hearing to contest the extension. Hearings are conducted by telephone for the most part, but there are some video-conference stations available around the State.

Hearing officers request details of the violation from the MVD or the vendor to look for a pattern that indicates a true violation. It was noted that each interlock company has its own verbiage in the summary reports and data log reports that sometimes requires vendor clarification. The MVD and Executive Hearing Office are requesting that vendors be more consistent in terms of how events are defined among companies.

In 2009, there were approximately 6,490 interlock case hearings opened, but only 2,032 interlock extensions. The most common violation is "circumvention," also known as a failure to complete a retest; the second most common violation is an elevated BrAC. It was reported that many violations are successfully appealed because they appear to be due to human error by the interlock user. Reportedly, the interlock device can trigger a violation code when offenders use inhalers, drink energy drinks, use hair spray, or eat spicy foods. For a "bypass" violation, the unit might not have been bypassed correctly during an automotive repair. A "handset disconnect" message on the report is usually a battery problem and not a violation. Most problems are due to legitimate reasons, such as going through a car wash. If the same type of problem keeps coming up on reports, the hearing officer can use the information for discussions and to point out the pattern of problems. Many violations are voided for lack of evidence. If there are no BrAC readings but documentation codes, hearing officers know the device is not working properly. If the temperatures are very high, the units can malfunction. Sometimes cases are sent to the Medical Review Board for those with breathing issues, such as Chronic Obstructive Pulmonary Disease (COPD).

Hearing officers are seeing more and more violations for those younger than age 21, especially as just one violation triggers an extension. Proof is requested, for example, if a youth says a parent caused the violation when he or she was using the vehicle. Separate statements from other parties are requested to see if the stories match before confirming or voiding a violation.

Vendors

The MVD instructs interlock vendors to train and educate offenders on how to avoid violations and discuss the MVD download process with drivers. Because there is no warning letter from the MVD when an offender has two violations and is in danger of getting an extension upon his third

violation, the MVD urges installers to communicate with the drivers to warn them when they have two violations.

One vendor reported that the most frequent violation is a missed retest, noting that sometimes it is too dangerous to pull over to take the retest. It is noted that a retest within an hour can nullify the missed retest violation.

One interlock installer (Safe Harbor of Arizona) has worked with a software company to develop a system that trains customers on the interlock requirements and how to comply with them. It also is structured to send an automated message about violations to the interlock user and other monitors (via text, telephone, or e-mail) after a data download and offers the interlock user the unique option to enter a note via a web portal with a reason for the violation (e.g., smoothie, mechanic, heavy traffic, reached destination). This provides an evidence log with a time and date stamp that can be useful to monitors when reviewing violations. Since the MVD does not send warning letters before the third violation extension trigger, this is a helpful feature to keep clients informed when they are in danger of being sanctioned with an extension.

It was reported by Safe Harbor that their clients have fewer violations that are reported to the MVD. Their software system reportedly eliminates "error violations," many of which are failure to take a retest when confirmed with a retest within an hour as allowed by law. Safe Harbor is also working on the ability to message interlock users via their telephones, with information, education, and potential interventions.

Courts

Based on the circumstances of each DWI case, an additional 12 months may be added to the statutory requirement of 12 months on interlock and an additional 18 months for extreme (≥.20) DWI cases. Courts send in convictions to the MVD server, so that additional months on the interlock and completion of the treatment requirements can be verified by the MVD. The DWI court (Superior Court) in Maricopa County (Phoenix) uses a continuous alcohol-monitoring device rather than an interlock to monitor offenders. Previously, multiple offenders had to first complete 4 months in jail, so most would be vehicle-less and have a revoked license, but recent legislation (2012) allows the courts to suspend most of the jail time, and offenders are now eligible for an interlock after 45 days. Some DWI offenders sentenced in municipal court will be on an interlock with supervised probation.

Treatment

All DWI offenders (court ordered and administrative license revocation cases) must have an alcohol screening assessment through the Department of Health Services. Certified private provider substance abuse counselors can log into the DHS website to see if the screening requirement and/or treatment requirements have been met. DHS automatically sends this information to the MVD so the "stop" code for the screening and/or treatment requirement can be removed.

Treatment requirements are usually completed before interlock, although this is not a requirement. One treatment provider indicated that alcohol counselors would not know if a client is on the interlock or that violation reports are available, unless that information is shared by the offenders. This treatment provider was unaware that the administrative code specifically allows

sharing of the interlock data with "counselors." It reportedly would be welcomed given that very often they only have offender self-report information about alcohol use.

Data Sharing

There is no mechanism for the MVD to share data with courts or treatment agencies, but probation departments can and do request reports directly from interlock vendors. The administrative code specifically states that installers shall provide information to DHS, probation, counselors, and the court. One vendor reported that sometimes probation officers have a signed release from the offender to get a copy of a report, and another vendor reported that a release was not needed.

Data for Evaluation

Interlock violation data are not retrievable in any specific format. Errors, rejected data, and some violations that are not received electronically are not recorded on the driver record; thus, linking of interlock data to driver records is not feasible with Arizona's databases. Some installers still report manually. Standard purge policy is 5 years from the last activity, but the purge criteria for interlock data has not yet been determined. The driver record system is 30 years old and reportedly not amenable to evaluation efforts. Arizona does keep track the outcome of interlock violation hearings.

Funding in 2011 has been established for a data system (AZTracs) to track compliance with the ignition interlock law.

Barriers to Better/More Use of Interlock Data

Electronic reporting from installers
Unfunded legislative mandates
Staff training for complex program
Public/law enforcement awareness
Conflict resolution between installers
Driver record database system outdated
More training for appeals officers in the interpretation of data (recommended by a vendor)

Previous Evaluations

No evaluation studies related to the interlock were identified.

B.2 – Colorado Interlock Data Use Profile (2012)

Mid–2010: 17,056 interlocks
Mid–2011: 17,461 interlocks
Mid–2012: 19,363 interlocks
Mid-2013: 20,237 interlocks
Administrative Interlock State
5 interlock vendors

DWI offenders in Colorado are eligible for an interlock in one of three ways: (a) as a requirement of license reinstatement for high BrAC and multiple offenders including per se offenses, (b) voluntary to reduce hard suspension periods for first offenders, and (c) as a condition of probation or bond.

Table 1 outlines the Colorado Department of Revenue, Division of Motor Vehicles (DMV) interlock eligibility options.

Table 1. DMV Interlock Eligibility

	First DWI offenders	Multiple DWI offenders
License suspension	9 months 2 years BrAC ≥ .17	1 plus years
Hard suspension	30 days	1 year
Eligible for interlock	Yes, after 30 days	Yes, after 1 year
Time on interlock	8 months 2 years high BrAC	2 years Habitual offenders: 4 years
Required for license reinstatement	Yes for high BrAC ≥ .17 offenders	Yes
Interlock download	60 days	60 days

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC Related Interlock Violations and DMV Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.025 *Early Recall:* >.08 BrAC Failed or missed retest 3 failed ignition attempts in 15 minutes	A BrAC fail (>.025) in any 3 of 12 consecutive months Missed retest	One additional year on interlock. Hearing officials can adjust additional requirement based on a list of aggravating and mitigating factors in the administrative code.

[a] Low mileage not specifically flagged

Background Highlights

Colorado has an active Interagency Task Force on Drunk Driving that contributes to collaboration and consensus building around impaired-driving and interlock issues. The Task Force Interlock Subcommittee has long-term plans that include an evaluation of interlocks and treatment effectiveness. The Colorado Office of Behavioral Health's (OBH's) DWI Services has already conducted an internal evaluation on treatment effectiveness and recidivism. (See Previous Evaluation section for Colorado.)

The OBH-administered education and treatment requirements for DWI offenders are extensive in Colorado with four levels of treatment intensity based on prior DWI offenses, arrest BrACs, and clinical assessments.

A new treatment option for interlock users in Colorado was developed and initiated in late 2011. Developed under contract with the OBH, Interlock Enhancement Counseling (Timken, Nandi, et al. 2010) is an interlock research-based program that uniquely incorporates the interlock recorder data into semi-structured individual and group counseling sessions. (Discussed in more detail below.)

Colorado may be the only State to offer an early removal of the interlock incentive for first offenders (excluding high BAC offenders), based on 4 consecutive months of violation-free interlock performance. This incentive helped allay concerns that the first offender interlock law was too harsh and helped to pass the legislation (NHTSA, April 2012).

Another unique feature is the DMV's Online Interlock System into which interlock vendors directly enter installation and other monitoring information.

Interlock Data Monitors

DMV/Driver Control Unit and Interlock Vendor Staff

The 2012 NHTSA report, *Case Studies of Ignition Interlock* P*rograms* (Fiedler, Brittle, & Stafford, 2012) describes the time-saving benefits of the Colorado DMV/Driver Control web-based OIS for monitoring interlock information and circumventions. Vendors directly access a Colorado State web portal, enter the interlock applicant's driver's license number to verify installation eligibility, financial aid eligibility, and vehicle registration, and then electronically

submit installation verification, documents service dates, and flag circumvention attempts. The OIS automatically sets dates for the interlock requirement.

> "The OIS provides the State with a real-time signed lease and certificate of installation, eliminating the need for the client to bring or send these documents to the DMV in paper form, reducing costs related to paperwork handling. The system also reduces errors, nearly eliminating typographical errors, which reduces the burden on the vendors as well. A further benefit of the OIS is the ability for routine service and calibration data to be gathered and rapidly transmitted to the DC unit. For each calibration check-in appointment and service visit, the technician logs into the OIS, certifies that a logger download has been completed, and looks for any notifications from the DC unit on items to discuss with the participant or other service-related instructions based on previous logger file data interpretations." (NHTSA, 2012)

Vendors also enter circumvention attempts into the OIS so that the DC unit receives timely notification. In Colorado, if an interlock user continues to drive after a failed retest, it is considered a circumvention, so it is dealt with differently than a start violation or other lockouts. A verified interlock circumvention triggers a 1-year hard license suspension, but the interlock requirement still must be met for license reinstatement.

Review of the violation reports remains a time-consuming process. In a procedure separate from the OIS, vendor-generated violation only reports are sent weekly by FTP to the DC staff. When there are 3 months with violations, the DC staff then manually review and flag those offenders who are deemed to have true violations (not mouth alcohol) in any 3 of 12 months. This is done by looking at the pattern of elevated start and retest BrACs. These interlock users are then notified that they must extend their interlock lease agreement for an additional 12 months or request a hearing to appeal the extension. DC staff review the data to determine hearing eligibility before one is scheduled. About half of the offenders do not request a hearing, but simply produce the extended lease.

A DMV-DC sponsored Interlock Working Group includes DMV staff and representatives from each of the five interlock companies that are licensed to operate in Colorado. They meet at least quarterly by telephone in an effort to be more closely aligned on violation reports and other interlock program operational issues. This helps them come to some agreement on issues and practices across companies. Uniform operating practices among all the vendors is not necessarily the goal, and some differences remain.

Staffing

There are six DC staff members who work exclusively with interlock issues.

Appeals

Twenty-one appeals officers have web access to vendor websites so they can review details, if needed.

The appeals officers have some discretion in reducing the number of months a person's interlock requirement is extended. The Colorado Code of Regulations ICCR 204-17 (4.6.2.1) lists a series of aggravating and mitigating factors that a hearing officer may consider. Notably, when deciding if the automatic 12-month extension should be reduced, a lockout in the final 6 months

on interlock is considered an aggravating factor, whereas the initiation of voluntary alcohol treatment is considered a mitigating factor

The Hearing Officer may consider the following as **aggravating** when determining an appropriate extension period:

Two or more Lockouts in any 1 month.
Lockouts in more than 3 of the months under consideration at the hearing.
A reported breath alcohol level in excess of .05 grams per 210 liters of breath if the reading contributed to a lockout.
A pattern of readings consistent with attempted drinking and driving regardless of whether such readings contributed to lockouts.
Lockouts occurring in the final 6 months of an interlock restriction.
A prior extension or renewal of the interlock requirement.

The Hearing Officer may consider the following as **mitigating** when determining an appropriate extension period:

Only one lockout in each of only 3 months and none in the other months under consideration.
Isolated alcohol readings subsequent to the last lockout, such readings indicating that the interlock-restricted Driver walked away from an attempt to start the vehicle after consuming alcohol.
Initiation of voluntary alcohol treatment or therapy after the last lockout.
More than 1 year remaining on the interlock restriction immediately before the effective date of the extension under consideration.
Any other factors that the interlock-restricted driver may submit in mitigation.

Courts

Even though DWI offenders might also be on probation while on interlock, probation officers do not routinely receive interlock data reports unless separate arrangements are made with the interlock vendor.

Treatment Providers

The DMV interlock program actively collaborates with the Colorado OBH and treatment providers as the program is viewed as an effort to change behavior rather than punish. The OBH certifies and monitors private treatment providers throughout the State and is an active member of the Interagency Task Force on Drunk Driving. The treatment requirements for DWI offenders are extensive in Colorado with four levels of treatment intensity (21 to 43 weeks) based on prior DWI convictions, arrest BAC, and clinical assessments. The OBH has its own web-based system that allows entries on treatment status by the various private treatment providers. Probation officers who by statute are responsible for verifying treatment compliance and completion can also access the database.

Dr. David Timken and Anjali Nandi developed the Interlock Enhancement Counseling program, launched in 2011, for initial use in Colorado by private treatment providers. It is the only known

"manualized" program directly using the interlock log data results therapeutically while the interlock is being used.

IEC is a brief intervention that combines motivational interviewing, cognitive behavioral treatment and harm reduction. The idea is based on a pilot study conducted in Texas by Timken and Marques (2001a, , 2001b) and other research (described in Chapter 2) that indicate that BrAC tests from the interlock are a good predictor of future impaired-driving risk, particularly a high number of failed starts and elevated early morning BACs (Marques, Voas, Tippetts, & Beirness, 1999; Marques, Voas, & Tippetts, 2003; Marques, Voas, Roth, & Tippetts, 2010).

The IEC program goals include (a) increasing the client's chance of being successful on and off the interlock, (b) decreasing the number of failed starts, (c) eliminating the driving of non-interlock-equipped vehicles, and (d) preventing recidivism once the interlock is removed.

The IEC is conducted in both individual and group formats (open or closed groups) in monthly sessions.

10 hours of treatment over a 5-month period
Four 30-minute individual sessions
Four 2-hour group sessions

Individual and group session topics include:

Being successful on the interlock,
Learning and change,
Managing high-risk situations, and
Maintaining success while off the interlock.

This evidence-based program is designed to be presented by professionals trained in the approach who have demonstrated proficiency in the therapeutic components and may be a standalone intervention or component of a comprehensive DWI treatment program. To qualify for IEC training, counselors must have training in Cognitive Behavioral Therapy and Motivational Interviewing and at least 1 year of experience in providing DWI education and treatment using a State-approved curriculum. Two detailed user's manuals are available: *Interlock Enhancement Counseling: Enhancing Motivation for Responsible Driving; A Provider's Guide* and *A Participant's Workbook* available in Spanish as well as English. (Center for Impaired Driving and Research Evaluation, 2012)

An important feature of the IEC is the review of the log data each month when the interlock user meets individually with an IEC-trained counselor. Interlock users record their daily interlock experience on an Interlock Performance Record form (below) recording unsuccessful start and retest attempts, along with the time of day they occurred and the reasons for the failed attempts. The number of miles traveled is also recorded in addition to their thoughts about interlock performance that month. The vendor log reports and the interlock user's account of his/her interlock performance can then be compared and discussed therapeutically.

INTERLOCK PERFORMANCE RECORD

Name: _____ Month: _____ Year: _____

Accurately maintain this record to help you make decisions for preventing further problems with driving. Answer the first two questions by circling YES or NO responses. Enter the # of times these unsuccessful starts happened and at what times these occurred in columns C and D. Write in the reasons for any failed attempts in Column E. Total each column at the bottom at the end of the month. Your counselor will review the chart with you.

Day of Month (Please circle)	A Did you drive or attempt to drive today? (Please check)	B Were there any attempts, starts or rolling retests where the first blow was not successful? (Please check)	C If so, how many times?	D If so, what time(s) did they occur?	E If you had any failed attempts, what was/were the reason(s)?
1	☐ YES ☐ NO	☐ YES ☐ NO			
2	☐ YES ☐ NO	☐ YES ☐ NO			
3	☐ YES ☐ NO	☐ YES ☐ NO			
4	☐ YES ☐ NO	☐ YES ☐ NO			
5	☐ YES ☐ NO	☐ YES ☐ NO			
6	☐ YES ☐ NO	☐ YES ☐ NO			
7	☐ YES ☐ NO	☐ YES ☐ NO			
8	☐ YES ☐ NO	☐ YES ☐ NO			
9	☐ YES ☐ NO	☐ YES ☐ NO			
10	☐ YES ☐ NO	☐ YES ☐ NO			
11	☐ YES ☐ NO	☐ YES ☐ NO			
12	☐ YES ☐ NO	☐ YES ☐ NO			
13	☐ YES ☐ NO	☐ YES ☐ NO			
14	☐ YES ☐ NO	☐ YES ☐ NO			
15	☐ YES ☐ NO	☐ YES ☐ NO			
16	☐ YES ☐ NO	☐ YES ☐ NO			
17	☐ YES ☐ NO	☐ YES ☐ NO			
18	☐ YES ☐ NO	☐ YES ☐ NO			
19	☐ YES ☐ NO	☐ YES ☐ NO			
20	☐ YES ☐ NO	☐ YES ☐ NO			
21	☐ YES ☐ NO	☐ YES ☐ NO			
22	☐ YES ☐ NO	☐ YES ☐ NO			
23	☐ YES ☐ NO	☐ YES ☐ NO			

Day of Month (Please circle)	A Did you drive or attempt to drive today? (Please check)	B Were there any attempts, starts or rolling retests where the first blow was not successful? (Please check)	C If so, how many times?	D If so, what time(s) did they occur?	E If you had any failed attempts, what was/were the reason(s)?
24	☐ YES ☐ NO	☐ YES ☐ NO			
25	☐ YES ☐ NO	☐ YES ☐ NO			
26	☐ YES ☐ NO	☐ YES ☐ NO			
27	☐ YES ☐ NO	☐ YES ☐ NO			
28	☐ YES ☐ NO	☐ YES ☐ NO			
29	☐ YES ☐ NO	☐ YES ☐ NO			
30	☐ YES ☐ NO	☐ YES ☐ NO			
31	☐ YES ☐ NO	☐ YES ☐ NO			

TOTAL # of "YES" in Column A _____TOTAL # of "YES" in Column B _____

Ending mileage _____ Beginning mileage _____

Total mileage for this month_____

What are your thoughts about your interlock performance this month?

_____

_____

A possible barrier to treatment provider access to the vendor log data (a vital element of the IEC program) was solved in early 2012 with the development of a list of procedures (Appendix J) for documenting consent for release of the log data, including two consent forms: one that meets Federal requirements, including HIPAA, and one that meets DMV and interlock provider needs under the Colorado law (Appendix J). Consequently, IEC treatment providers now have access to their clients' interlock records via vendor websites. As explained in the list of procedures, however, interlock users under court order for interlock use as a condition of probation must use the individual vendor release of information forms to allow their treatment provider to access their interlock records.

The OBH and the DMV work cooperatively with IEC developers to train treatment providers (500 trained as of late-2014) in the IEC method with a long-term plan to evaluate its effectiveness. OBH has designed a process evaluation and hopes to obtain funding for an outcome evaluation. One challenge IEC currently has is informing offenders about the availability of the IEC program as an option for completing treatment requirements, although in late 2011 they made it a requirement that interlock vendors and alcohol education providers must inform new interlock users about the availability of the IEC. The ultimate goal is for the IEC to be a treatment requirement via OBH Administrative Rules for DWI offender interlock users in Colorado, but for now, it is being encouraged with written OBH policy guidelines. Incentives were developed for both interlock users and treatment providers to use the IEC program:

IEC Program implementation incentives for treatment providers:

No charge for IEC training for counselors working at OBH licensed DWI programs.
Early opportunity to get started with soon-to-be-mandated program.
An additional evidence-based program to add to their DWI services.
A program that may be used in conjunction with and as part of their existing programs.
A program that can assist DWI clients with interlocks to complete a portion of their overall treatment requirements.
A program that may be used as a "standalone" for certain clients in certain situations.
A program that has State support and one that can serve as a viable referral for probation and DMV.
An approach that has a high probability of reducing failed interlock starts, alcohol consumption, frequency of alcohol use, and recidivism for clients on interlocks, as well as after the device is removed.

IEC completion incentives for interlock users:

Enables participants to complete part of their overall treatment requirements if they successfully complete the program. The program may run concurrently with other required DWI treatment services.
May reduce the probability of failed starts, time extensions on the interlock, the amount of alcohol consumed, and the frequency of and consequences of alcohol use.
Enables certain clients who successfully complete the program to reduce the overall length of treatment requirement by up to 5 weeks.
Voluntary enrollment may be seen as a substantial mitigating factor when appealing an automatic 12-month extension.

May assist in meeting some probation as well as DMV requirements.
Possible reduced recidivism postinterlock installation.

Data Sharing

The strong collaborations between the DMV, OBH, vendors, and treatment providers in Colorado accomplished the training on the use of interlock data for treatment providers and procedures needed to allow treatment providers easy access to the interlock data. The collaboration continues as the OBH attempts to get an administrative rule to require the IEC, a program that supports the interlock user with treatment, to incorporate therapeutically the BrAC data from the interlock.

There is not an established method for the DMV to share the interlock data directly with the courts and probation. This is in line with the interlock program's goal to change offender behavior with the interlock, rather than punish.

Barriers to More Use of Interlock Data

Vendors do have some discretion in flagging violations for the DMV, and sometimes offenders can convince a vendor that a violation is a false positive. Reportedly, there are occasionally both types of errors on the part of vendors: misidentifying an event as a violation as defined by Colorado and missing serious violations such as failure to take a retest. This is seen as a gap in the system, but a much higher level of resources would be needed for the DMV staff to do the initial screening for all the interlock data on all interlock users and/or to do a thorough audit of vendor reporting practices. The quarterly meetings with interlock vendors are designed to reduce these errors in the vendor reports of violations.

To obtain the details on violations, the appeals officer must be familiar with the websites of five vendors and decide if their definitions coincide or conflict with Colorado's definitions.

The IEC program developers would like to see a standard interlock report format among all vendors to facilitate use by treatment providers. A standard format that would show interlock warnings and failures over time (Chapter 6) and would be user friendly for treatment providers (and potentially for other data monitors) was proposed to the Interlock Working Group in late 2011, but consideration of such a significant change was postponed in favor of other pressing issues.

Complex software programming issues for the OIS.

Data for Evaluation

The OIS database will provide interlock information including the original interlock requirement and actual on-off dates. These can be linked to driver records and treatment information from the OBH, which will simplify evaluation efforts. The violation data itself, which is sent by FTP from vendors to the DMV, although not an easy process, can be linked with driver records with driver license number.

The Colorado OBH has outlined a plan for a process evaluation for the IEC effort, and hopes to plan an outcome evaluation. The OBH has already demonstrated its ability to link treatment data to DWI recidivism with a previous study as described below.

Previous Evaluations

Education/Treatment Intervention among Drinking Drivers and Recidivism. (Colorado Department of Human Services, Division of Behavioral Health, June 2008)

Abstract: Education and treatment intervention, as well as recidivism, were measured among Colorado drinking drivers.

Methods: 16,194 offenders discharged from treatment in 2004 were examined. Participants were placed into intervention and recidivism groupings.

Results: Offenders differed by treatment level, completion status, and recidivism.

Discussion: 92.1 percent of all subjects were not re-arrested after starting treatment and 78.1 percent completed their assigned treatment. Those subjects not completing treatment were 44 percent more likely to re-offend than those who completed. Data system enhancements in latter 2008 will noticeably improve evaluation/treatment record matching.

www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline%3B+filename%3D%22DWI+Recidivism+2008.pdf%22&blobheadervalue2=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251694616422&ssbinary=true

Evaluation of Colorado's Voluntary Alcohol Ignition Interlock Program: 1995-2000

William M. Marine, M.D., MPH, Judith Glazner, MS, and Dennis Lezotte, Ph.D.

Department of Preventive Medicine and Biometrics University of Colorado at Denver Health Sciences Center

References

Fiedler, K., Brittle, C., & Stafford, S. (2012). *Case studies of ignition interlock programs*. (Report No. DOT HS 811 594). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811594.pdf

Marques, P. R., Voas, R. B., & Tippetts, A. S. (2003). Behavioral measures of drinking: Patterns in the interlock record. *Addiction, 98*(Suppl 2), 13-19.

Marques, P. R., Voas, R. B., Roth, R., & Tippetts, A. S. (2010). *Evaluation of the New Mexico ignition interlock program*. (Report No. DOT HS 811 410). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811410.pdf

Marques, P. R., Voas, R. B., Tippetts, A. S., & Beirness, D. J. (1999). Behavioral monitoring of DWI offenders with the alcohol ignition interlock recorder. *Addiction, 94*(12), 1861-1870.

Timken, D., & Marques, P. R. (2001a). *Support for Interlock Planning (SIP): Participants Workbook*. Calverton, MD: Pacific Institute for Research and Evaluation. Retrieved from www.pire.org/sip/sipmanuals.htm

Timken, D., & Marques, P. R. (2001b). *Support for Interlock Planning (SIP): Providers Manual*. Calverton, MD: Pacific Institute for Research and Evaluation. Retrieved from www.pire.org/sip/sipmanuals.htm

B.3 – Florida Interlock Data Use Profile (2012)

Mid–2010: 8,335 interlocks
Mid–2011: 8,976 interlocks
Mid–2012: 9110 interlocks
Mid-2013: 9,379 interlocks
Administrative Interlock State
2 interlock vendors

DUI offenders in Florida are eligible for an interlock in one of four ways: (a) required for license reinstatement; (b) condition of probation, judicial discretion; (c) pretrial diversion for some offenders in four counties (Dade, Polk, Osceola, Orange); and (d) sometimes as a DUI court requirement.

The Department of Highway Safety and Motor Vehicles is the driver licensing authority in Florida. Table 1 outlines the DHSMV's interlock eligibility options. In mid-2012 approximately 48 percent of the State-monitored interlocks were assigned through the DHSMV, and 52 percent were required by the courts but monitored through the administrative program.

Pretrial diversion and DUI court interlocks are not monitored by the State program.

Table 1. DMVHS Interlock Eligibility

	First offender	Multiple offender
License suspension	BrAC < .15[a] – 180 days – 1 year[b] BrAC ≥ .15[a] – 180 days – 1 year[b]	2nd within 5 years – 5-year revocation. Possible hardship reinstatement after 1 year with interlock 3rd within 10 years – 10 years revocation. Possible hardship reinstatement after 2 years with interlock.
Hard suspension	30 days	12-24 months
Eligible for interlock	Yes, after education and treatment (if required) is complete	Yes, after education and treatment (if required) is complete
Time on interlock	BrAC < .15 – if court ordered, discretionary BrAC ≥.15[a] – at least 6 months[b]	2nd offenders – at least 1year[b] 2nd offenders (>.15) - at least 2 years[b] 3rd offenders – at least 2 years[b] 4th offenders – at least 5 years[b]
Required for license reinstatement	Yes	Yes
Interlock download	30-60 days	30-60 days

[a] Having a minor in the vehicle upon arrest for DUI at any BrAC level requires a mandatory interlock.
[b] The judge determines the length of suspension and length of interlock requirement within statutory limits.

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed by the DHSMV. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC-related Interlock Violations and DHSMV Consequences[a]

BrAC Lockout Levels	BrAC Violation Triggers	Consequences for Violations
Start BrAC—.051[b] BAC *Early recall*—2 start-up fails within 4 hours, any retest fail or retest refusal	2 start-up fails within 4 hours Retest fail or refusal	1st violation: Meeting to discuss violation and preventative measures. 2nd violation: Individual case management plan developed for monthly monitoring. 3rd violation: Extended by 1 month for each violation or until mandatory treatment program completed.

[a]Each vendor service center notes low mileage, which varies for individuals.
[b] After 10 years at .051, the set point changed to .025 BrAC in July 2013.

Background

The DHSMV is responsible for administering the interlock program, including an integral role in the supervision of DUI offenders while on the interlock. They do not supervise those in a pretrial diversion or the DUI court program, however. The interlock recorder data are used extensively to track offenders' success rates and to monitor closely for violations using a graduated system of additional requirements, including mandatory referral to DUI case management supervision and additional alcohol treatment. The BrAC readings from the interlock are not considered evidentiary. Thus, the readings are not used to revoke the interlock, but are used to indicate additional supervision and treatment needs.

The Florida lockout level, at .051 BrAC, was higher than most other States, although most multiple offenders under the administrative program are required to remain abstinent while on the interlock. It was changed to .025 in July 2013. Most offenders are supervised in the administrative interlock program rather than probation, but judges do have the discretion to require an interlock as a condition of probation and to require a lower lockout level.

Completion of the statutorily required interlock periods in Florida are mandatory; offenders cannot wait out the license suspension period, and even major violations, such as tampering with the device, do not preclude an offender from eventually having to complete the interlock requirement for license reinstatement. The number of months required on interlock must be continuous to complete the requirement; no credit is given for months completed if the interlock license is rescinded for noncompliance with program rules or if the license is suspended for a variety of other reasons. Program participants can have the interlock revoked for violation of program rules, such as missed appointments and interlock tampering, license suspension for traffic violations, and failure to meet financial obligations (such as failure to pay child support) for which Florida will suspend a driver's license. If an interlock license is revoked, the offender must reapply once the suspension period is satisfied and repeat all interlock requirements.

Interlock Data Monitors

DHSMV

The DHSMV receives weekly violation reports from the interlock vendors by FTP, which automatically records coded violations to the driver record and generates extension letters to offenders. Monitoring is simplified because Florida (by legislation) has certified just two vendors in the State (one for North Florida and one for South Florida).

The extension letters to interlock users have instructions to report to one of 23 certified private DUI program providers in the State within 10 days as established in the legislation:

1st violation: Report to a licensed DUI program for a one-time discussion of the violation and preventative measures.

2nd violation: Report to a licensed DUI program for monthly monitoring until the interlock requirement is complete. A case management plan that focuses on separating drinking and driving is developed.

3rd or subsequent violation: Continue monthly DUI case management monitoring plus referral to a private treatment provider. The interlock requirement is extended by 1 month for each violation until treatment is successfully completed, whichever is longer.

Four full-time and two part-time ignition interlock device (IID) subject matter experts (SMEs) are responsible for monitoring the file transfers that come in each week from the interlock vendors. They problem solve data issues with the two interlock vendors, troubleshoot program issues with the various DUI programs' staff who monitor offenders with two or more interlock violations, and update driver records with corrections and notations. In mid-2012, the SMEs handled an average of 611 interlock related calls per month.

Correspondence and telephone calls with interlock users and vendors are tracked in a database. If needed, staff can also view summary reports and raw data via vendor websites for more information about a particular violation. The data for those with second and third violations are reviewed carefully before a letter of extension and instruction regarding the additional counseling and treatment requirements is mailed out. After a third violation, because offenders are extended 1 month for each violation or until treatment is complete, the SMEs manually enter a revised interlock end date after verification has been received from the DUI program.

The DHSMV also certifies and monitors the 23 private provider DUI programs that provide education and case management services for the State. They conduct random file audits to ensure that the DUI program case managers are following protocol and completing the required DHSMV established documentation (Appendix L) forms for each meeting with interlock users.

Staffing

Four full-time and two part-time staff.

Appeals

There is no formal appeal process for interlock violations; however, staff take phone calls regarding disputed violations. Further, the violation data are carefully reviewed before extension letters are generated. This procedure appears to replace the high volume of automatic interlock extension appeals that some other States have to process. Staff members also meet regularly to insure that unusual cases are handled consistently and fairly.

Vendors

Staff members from the two interlock vendors are available by phone and e-mail to help DHSMV staff interpret violations, if needed, plus they meet with DHSMV staff quarterly to discuss any emerging issues. The vendors provide training to DUI program staff approximately every 2 years so that new staff hires understand the functions of the interlock and how to interpret violation reports.

DUI Program Case Manager/Evaluators

Under contract with the DHSMV, the 23 private DUI programs in the State monitor interlock users who have violations and implement the supervision level (1, 2, or 3-plus violations as described above) required by legislation. Case management plans include a monthly review of the interlock data and the development of goals that will help offenders avoid drinking and driving. Case managers actually have access to the two vendor websites to monitor the recorder data for their clients. As noted, the BrAC readings from the interlock are not considered evidentiary; thus, violations are not used to revoke the interlock license, but to indicate additional supervision and treatment needs. Failure to follow program rules, however, such as missed appointments, can be grounds for suspension of the interlock license.

Approximately every 2 years, the DUI program staff receives training from the interlock vendors on how the interlock works and how to interpret the interlock event data when accessed via the vendor websites. The DUI program staff report no problems with the format of the data. When trying to interpret “disconnect” related notations in the data, they find it helpful when the interlock service technician writes into the data record that a receipt has been provided to verify legitimate disconnect power issues when the vehicle has been serviced for repairs.

First offenders and those second offenders who did not have a high BrAC conviction are not required to be abstinent, but those who receive one interlock violation (two start-up fails within 4 hours, or a failed or missed retest) are required to attend a one-time meeting with a DUI program case manager for a discussion of ideas to prevent additional interlock failures. A second violation will result in a requirement for monthly case management supervision. A third violation results in a 1-month extension on the interlock for each violation, requiring monthly case management supervision and referral to substance abuse treatment with a private clinician until treatment is successfully completed. The DUI program case managers receive monthly reports from the private treatment providers on client progress (generally, an individualized treatment plan, monthly summary/progress of treatment, and the discharge summary) and then notify the Florida DHSMV when the treatment requirement has been met. Offenders pay a supervision fee for each visit and thus violation monitoring is self-funded.

The IID is set to give the interlock user a "warning" message for BrACs (.02-.05), but does not provide the actual numerical value at the time of the warning. The interlock event data, however, will provide the numerical value and this is seen as very valuable in helping the DUI program staff to assess a client's actual compliance with separating drinking behavior and driving behavior or alcohol abstinence (multiple offenders). A client may get a start-up fail and then avoid the vehicle for the remainder of the day if not mandated to provide a second sample (as some multiple offenders are); alternatively, a client may start the vehicle and drive while providing samples, which generates continuous warnings. DUI program staff can then see evidence of rates of elimination consistent with blood-alcohol levels. Offenders reportedly sometimes complain when they have a violation, saying "the device tricked me." They may have had 60 occasions when they could start their vehicle at BrAC levels from .02 to .05, but eventually "guess" wrong and get a violation at .051 BrAC or higher.

The case manager documents each meeting with offenders using the DHSMV's required forms (see Appendix L). The details of each meeting are provided on the forms.

First IID Violation

Upon receiving a letter from the DHSMV, the offender must make an appointment with a DUI program case manager. Before the interview, the DUI case manager will generally review IID downloads (current and historical) and other information obtained during the required substance abuse assessment/psychosocial evaluation conducted after DUI conviction, including the Driver Risk Inventory and other traffic and criminal offenses, if applicable. In an effort to give interlock users enough information on how to prevent further IID violations, the case manager conducts a brief, 30-minute intervention.

During the brief one-on-one interview, the DUI case manager will generally cover the following issues with the first-time interlock violator:

- The client's interlock violations and warnings and other noteworthy events;
- Behavior patterns that lead to the recorded interlock events;
- Problems with laws and notably driving laws;
- Financial costs associated with the drinking-and-driving problem; and
- Plans (advice) on how to prevent future violations:
    - Initial start-up blow—positive blow (warn or fail). Do not blow again and turn car off, wait for 4 hours and do not drink. The timeframe for an "initial" breath sample reset is 4 hours. This prevents a lockout and thus a violation.
    - Drink less or better yet do not drink at all while in the interlock program.
    - Stop drinking sooner.
    - Do not get out of the car and leave it (may request a retest and you might miss it).
    - A "warn" or a "fail" on a retest. Stop the car and do not drive; take a taxi to wherever or call a friend. A retest fail, a failure to provide a retest, or an aborted blow will result in a violation.
    - Do not tamper with the device or the car's wiring.
- Notice of what will happen if the offender violates again.

Second IID Violation

Upon receiving a notice for a second IID violation from the DHSMV, the offender must make an appointment with a DUI program case manager for a second meeting. Legislation mandates that offenders must be monitored monthly for the duration of their IID requirement. This interview lasts 1 hour, and the case manager compiles a monthly IID case management plan. In addition to a review of the most recent violation information and other items discussed during the first meeting, the DUI case manager will:

Discuss the client's noted risky behaviors;
Discuss helpful and healthy lifestyle changes;
Recommend the client join and attend a 12-step self-help program; and
Set the next appointment time and interim goal(s).

The NHTSA Interlock Case Studies report (NHTSA, 2012), which features Florida and five other States (Colorado, Illinois, New Mexico, New York, Oklahoma), provides partial case notes to illustrate how the data from the interlock recorder is used by a case manager/evaluator to describe and document behavior:

> First violation: 9/11/09, consecutive BAC fail, 0.111 @4:55 and & 0.111 @ 5:00 am. Client stated that this is the time she goes to work. Client stated that she had been drinking that night at a friend's house. She slept 6 hour and thought it would be out of her system. Second violation: 9/13/09, consecutive BAC fail, 0.125 at 7:37 am & 0.112 at 7:51 am. Client stated she was celebrating her birthday the night before and was going to get an egg sandwich.
>
> As part of the case management plan, the evaluator makes client-specific recommendations to avoid future lockouts. The NHTSA Interlock Case Studies report (NHTSA, 2012) provides an example summary:
>
> Client agrees to: 1) purchase a breathalyzer at Walgreens when he can afford it, and use it to prevent positive readings; 2) read all labels and not take any more OTC medicines containing alcohol before driving; 3) attend AA, he hasn't been lately due to work schedule, but he say he will return to AA and use his sponsor; 4) inform sponsor of the slip and take a white chip and bring it to evaluator; 5) go over all interlock device readings and discuss any that are above .05; 6) take all tests and retests, will wait 5 minutes and then take retest without turning off car; and 7) not take his cousin to pool hall where alcohol is served as that may cause him to drink. Client says he doesn't have any desire to drink; he feels 110 percent better not drinking. Client reports his mother is a recovering alcoholic. Client is aware that a third letter would require him to go to treatment.
>
> The evaluator and the client both sign the form that reviews the interlock status and recommendations. If a third violation occurs, then treatment is mandatory. By connecting interlock data with his or her behaviors and actions, the participant and the evaluator can work together to formulate sustainable behavior changes. (NHTSA, 2012)

Third-plus IID Violation

Upon notice of a third IID violation from the DHSMV, the offender receives instructions to make an appointment with his/her DUI program case manager for follow up on two new

requirements: (a) mandated treatment, and (b) IID extension of 30 days for each violation, starting with the third violation. The offender receives a list of Department of Children and Family certified substance abuse counselors and treatment programs. The certified treatment programs have a Memo of Understanding agreement with the DUI programs to provide the treatment services required by the DHSMV but managed by the DUI program. The offender remains in treatment for the remainder of the extended IID requirement, and if treatment lasts longer than the IID requirement, the IID is extended (as are the monthly case management meetings) until treatment has been completed. Individual and/or group treatment generally lasts 8 to 12 weeks. A DUI program clinical supervisor reviews treatment completion documentation and sends confirmation to the DHSMV.

Special Supervision Services

There is an extensive application process for a restricted interlock license for multiple offenders who have a 5- to 10-year license revocation. (Offenders can choose to serve their entire license revocation; however, they must still comply with the original IID sanction requirement before full license reinstatement.) The DUI programs provide special supervision services (SSS) which involves more intensive probation-like monitoring because abstinence is required. Clients are supervised monthly by specially trained case managers known as "SSS evaluators." These evaluators can also access the event log data via the two interlock vendor websites. Because timeliness is important for interventions, these interlock users are required to have their service appointments with the interlock vendor (for calibration and download of data) within 5 days before their monthly appointment with the evaluator so that the data report is fairly current.

Some of the DUI programs' SSS evaluators require interlock users to provide a second breath sample soon after any "false positive" caused by mouthwash or another substance to provide more data. However, a follow-up blow of .00 BrAC does not prove sobriety or conclusively indicate that mouth alcohol caused the first positive reading, as a "secondary blower" cannot be ruled out. The follow-up test is mandated because a second similar positive reading may be used as clinical justification for increased intervention services. Any evidence of drinking in the interlock data is evaluated, usually followed closely by a required urine or blood screen because the interlock breath test is not considered evidentiary and multiple offenders are required to be abstinent. An evaluator might also intervene by requiring that the client call immediately after a warning or failure, take additional chemical tests, and/or attend an Alcoholics Anonymous meeting. If tests of urine or blood confirm use of alcohol, the offender is dismissed from SSS, the interlock-restricted license is revoked, and the original license suspension period is reinstated.

Treatment Providers

Four of the five treatment providers contacted for this report, use the interlock violation reports in the client file at least minimally when the DUI program staff makes a referral. The violation reports and complaints about the interlock device may come up during individual and groups sessions, but they do not appear to be a central theme of discussion. At least one treatment provider preferred to let the DUI program case managers address violation issues. There is no standard definition for successfully completing treatment, as the treatment plans are individualized to the offender. However, 8 to 12 weeks of some combination of weekly individual and/or group therapy is the norm. Those with more severe problems may be referred to intensive outpatient or inpatient programs.

Release forms are signed so that treatment providers can share the treatment plan, monthly feedback forms (Appendix L - DHSMV Feedback Form 77031), and discharge summary with the DUI case manager. Additional communication between the treatment provider and DUI case manager varies by case and treatment provider. The discharge summary contains the number of sessions, what topics were discussed, the client's compliance with the treatment plan, and other notable events along with a relapse prognosis. The DUI program's clinical supervisor reviews the discharge paperwork and is responsible for approval and notification to the DHSMV of treatment completion. This documentation could potentially provide a measure of the quantity and type of treatment for interlock users and thus an opportunity to compare interlock users who had treatment and those who did not. However, since the documentation is not automated and privacy laws would be an issue, use of this data is not likely feasible. DUI program staff would have to copy the forms and black out any personally identifying information in order to share the information for evaluation purposes.

Treatment providers and DUI program staff meet quarterly to share information and attend training workshops. Issues are discussed regarding the interlock, the rationale for referrals, interpretation of data and general myths and misconceptions about the interlock log reports; however, no formal training on the interpretation of the interlock data is provided for the treatment providers. The interlock vendors report that some treatment providers do not understand how the interlock works and thus call the vendors with excuses that their client has communicated to them about interlock violations.

Court

After conviction, **t**he court order specifies within the guidelines of the law the length of the license suspension and the length of the interlock requirement. Education and treatment (if treatment is required) must be completed before applying to the DHSMV for an interlock license. Given the strong supervision component provided by the DHSMV together with the DUI programs in Florida, court involvement with interlocks is not widespread. It does not occur often, but judges do have the discretion to order interlocks for any DUI offender and to require a lower lockout BrAC level. Florida legislatively developed the intensive administrative supervision program for multiple offenders (the SSS program) before DUI courts were in vogue in an effort to prevent unlicensed driving by those with long-term license revocations.

The Miami-Dade State's Attorney's office sponsors a pretrial diversion program, "Back on Track," that allows first DUI offenders to participate in a 6- to 12-month program to avoid a DUI conviction. Offenders are required to attend substance abuse classes and counseling, perform community service, submit to drug testing, and pay fines. Those with high BAC or test refusals upon arrest have an additional requirement to be on the interlock for six months. Upon successful completion of the program, the State will amend the DUI charge to reckless driving. The program is monitored by two private not-for-profit companies under contract. These monitors insure interlock installation and receive violation reports from the vendors, but reportedly are not required to report interlock violations to the State's Attorney's office. As this is a separate program, the DHSMV does not monitor interlock data for violations from this or other pretrial diversion programs.

Data Sharing

Per administrative code, DUI program case managers/evaluators have web access to the vendor websites for regular access to the interlock data. When interlock clients are initially referred to treatment, the violation reports compiled to that point by the DUI program case managers are provided to the treatment providers. In some cases, new violation information may also be provided to treatment providers by the DUI case managers. Further, during the large group quarterly meetings of DUI program staff and treatment providers, both general and specific information about interlock violations are shared.

Data for Evaluation

The Florida DHSMV has researchers on staff that have conducted evaluations independently and jointly with PIRE scientists. Two studies that have been published in journals as well as three ongoing studies are described in the Previous Evaluations section below.

Further, as described in the NHTSA's *Case Studies of Interlock Programs* (2012), "the DHSMV has a system that conducts weekly recidivism tracking reports on its interlock users. The system tracks subsequent DUI offenses during and after interlock periods for those who have completed the requirement, those who de-installed early, and those who moved to a different jurisdiction. Importantly, DHSMV's data systems can also identify the number of offenders who had an administrative requirement for interlock, but not yet installed, and the number who had a judicial requirement, but have not yet installed it." (NHTSA, 2012)

Barriers to More Use of Interlock Data

- Some treatment providers do not understand the interlock. Currently, no training on interpreting interlock data is provided for treatment providers, but they could be invited to the training provided by vendors for DUI program staff.
- There is turnover among the DUI program staff and varying levels of familiarity with IID data by program supervisors; thus, the skill levels in using the data vary widely across the State. Skills are required to understand the clinical implications of the warnings and failures.
- Multiple offenders have an abstinence requirement, so they must come up with excuses for violations rather than issues that contributed to the violation. If the client admits to drinking as the cause of any positive BrAC readings, they will be dismissed from the SSS program for the duration of the 5- or 10-year revocation. Thus, offenders rarely (if they have been drinking) accurately report the reason for the readings, further complicating the intervention efforts by program staff and treatment providers.
- The previously high fail level of .051+ lead both clients and even DUI program staff/treatment providers to become desensitized to clinically significant warn levels of .02 to .05. Anecdotal evidence from DUI program staff and DHSMV staff suggest that clients do not behaviorally respond to the immediate feedback of a warning showing up on their IID, so they continue their drinking behavior. (The fail level was reduced to .025 in 2013.)
- DUI program staff and DSHMV staff have shared concerns that knowingly driving at levels between .02 and .05 (without any sanctions) may actually reinforce the faulty belief

system of some DUI offenders that driving after limited drinking is safe. There is a strong belief that these warn readings are clinically significant.

Previous Evaluations

There are three ongoing studies of interlocks in Florida and two completed evaluations:

An ongoing NIAAA study being conducted by PIRE in 2012-2013 will compare the breath-test data from the interlock data recorder for offenders in Florida to those from four other sites (Quebec and Alberta, Canada; Texas; and New Mexico, where installation has generally occurred closer to the time of the DUI conviction). The objective of this study is to determine the extent to which breath-test data, as well as prior offenses on the driver record and rate of progress toward reinstatement, predict future recidivism and the utility of these measures to provide an objective criteria for establishing the length of time the reinstated offender should be required to be on the interlock. The study will also use the interlock recorder data and driver records to compare the recidivism of offenders with no violations while on the interlock and with 1, 2, and 3+ violations. Behavioral categories and compliers versus noncompliers will be compared and an attempt will be made to verify treatment completion and its effect on recidivism.

A second ongoing study will compare the recidivism while on the interlock with recidivism following interlock removal for nine groups of interlock users in Florida. Initial analysis of the data indicates that, as expected, recidivism rates increase substantially following removal of the interlock. Since the length of time on the interlock is determined by the seriousness of the offense, offenders with bad records are assigned longer interlock periods and demonstrate greater increases in recidivism following deinstallation. The increase in recidivism rate following removal of the interlock varies substantially from a doubling of the rate for those with 6-month interlock requirement to a 500 percent increase for those with a 12-month requirement. These large increases following removal point to the importance of developing methods for motivating interlock users to continue the drinking and the driving behaviors adopted while on the interlock.

The objective of this study to start in late 2012 is to evaluate a comprehensive education and treatment program in place for the last decade—long enough to build a sufficiently large group of treated offenders to provide a strong measure of its effectiveness on the postinterlock period recidivism of treated offenders. The 10-year data set available from the Florida interlock program provides a rich basis for studies on the implementation of interventions with interlock users. Several analyses will be conducted to achieve four main aims:

Aim 1: *To determine the value for reducing DUI recidivism of mandating treatment programs for high-risk interlock users.* Monthly recidivism rates between 2002 and 2008 will be compared with rates between 2008 and 2012 following the enactment of the law requiring mandatory treatment for users with three interlock violations.

Aim 2: *To determine the value of placing interlock users with moderately increased recidivism risk in monthly monitoring programs.* The effectiveness of monitoring will be measured by interlock performance measures while on the interlock by comparing interlock data-log data before and after the monitoring is applied. Recidivism rates and

interlock performance measures (e.g., % positive tests) will be compared before and after imposition of monitoring.

Aim 3: *To determine the value of placing interlock users with a small increase in recidivism risk in brief motivational educational interview programs.* The effectiveness of monitoring will be measured by interlock performance measures while on the interlock by comparing interlock data-log data before and after the monitoring is applied. Recidivism rates and interlock performance measures (e.g., percentage of positive tests) will be compared before and after imposition of monitoring.

Aim 4: *To conduct cost-benefit and cost-effectiveness analyses of the overall influence of the three intervention programs, and of each program individually, if positive benefits can be demonstrated for any of the interventions.*

Voas, R. B., Tippetts, A. S., & Grosz, M. (2013). Administrative reinstatement interlock programs: Florida, a 10-year study of success. *Alcoholism: Clinical and Experimental Research*, 37(7), 1243-1251. doi: 10.1111/acer.12078

Background. Interlocks reduce driving-under-the-influence recidivism by 64 percent, but offenders resist installing them, preferring to risk driving while revoked. One method of motivating offenders to install an interlock is require it for reinstatement of their driver's license. This report updates an earlier evaluation of the administrative reinstatement interlock program (ARIP) procedure implemented in 2002.

Method. Driver records and interlock program records covering 120,000 DUI offenders were followed over 10 years. The flow through the sanction system—conviction, reinstatement, interlock program, and postinterlock period—is described. Logistical regression was used to identify the characteristics of offenders who installed interlocks, and survival analysis was used to evaluate the recidivism of offenders in the various stages in the Administrative Restricted Interlock Program.

Results. At any given time, approximately one-third of the convicted offenders were serving their license-revocation periods. Half of the offenders who completed their revocation periods did not qualify for reinstatement. Offenders who qualified for reinstatement and installed interlocks had lower recidivism rates.

Conclusions. After 10 years, Florida's ARIP is a mature system that succeeds in forcing all reinstating DUI offenders to install an interlock for at least 6 months, but half of all DUI offenders either fail to or are unqualified to reinstate their licenses and therefore do not enter an interlock program.

Voas, R. B., Tippetts, A. S., Fisher, D. A., & Grosz, M. (2010). Requiring suspended drunk drivers to install alcohol interlocks to reinstate their licenses: Effective? *Addiction, 105*(8), 1422–1428. doi: http://dx.doi.org/10.1111/j.1360-0443.2010.02987.x

Aims. To evaluate a new method being used by some states for motivating interlock installation by requiring it as a prerequisite to reinstatement of the driver's license.

Design. The driving records of Florida DUI offenders convicted between July 2002 and June 2008 were analyzed to determine the proportion of offenders subject to the interlock requirement who installed interlocks.

Setting. Most driving-while-impaired (DUI) offenders succeed in avoiding state laws requiring the installation of a vehicle alcohol interlock.

Participants. A total of 82,318 Florida DUI offenders.

Findings. Due to long periods of complete suspension when no driving was permitted and the failure to complete all the requirements imposed by the court, only 21,377 of the 82,318 offenders studied qualified for reinstatement, but 93 percent of those who qualified did install interlocks to be reinstated.

Conclusions. Because of the lengthy license suspensions and other barriers that the offenders face in qualifying for reinstatement, it is not clear that requiring a period on the interlock as a prerequisite to reinstating will greatly increase the current installment rate.

B.4 – Illinois Interlock Data Use Profile (2012)

Mid–2010: 10,088 interlocks
Mid–2011: 9,974 interlocks
Mid–2012: 9,841 interlocks
Mid-2013: 9,521 interlocks
Administrative Interlock State
7 interlock vendors

DWI offenders in Illinois are eligible for an interlock in one of three ways: (a) as a condition to obtain a Monitored Device Driving Permit as part of a voluntary program for first offenders; (b) as a condition to obtain a Restricted Driving Permit available to some multiple offenders; or (c) as a condition of a court.

The Secretary of State is the driver licensing authority in Illinois. Table 1 outlines the Illinois Secretary of State's interlock eligibility options.

Table 1. SoS Interlock Eligibility

	First offender[a]	Multiple offender
License suspension	6 months or 12 months for breath-test refusal	1 year or 3 years for breath-test refusal
Hard suspension	30 days	1 and 3 years for breath-test refusal
Eligible for interlock	Voluntary after 30 days	Some are eligible to apply for an RDP in conjunction with the interlock during the suspension period
Time on interlock	6 months 12 months for breath-test refusal	1 year 3 years for breath-test refusal
Required for license reinstatement	No	No
Interlock download	Every 60 days	Initial download 30 days, followed by download every 60 days

[a] Upon conviction, first offenders are assigned to the MDDP interlock program, monitored by the SoS, until and unless they specifically opt out.

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed by the SoS. The differences among States regarding violations are discussed in Chapter 3 and 4.

Table 2. BrAC-related Interlock Violations and SoS Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.025 BAC *Early Recall*—.05 or higher BrAC	A BrAC reading of .05 or more Failing a retest or failing to take a retest Five or more unsuccessful attempts to start within a 24-hour period, excluding a BrAC reading of .05 or more Ten or more unsuccessful attempts to start within a 30-day period, excluding a BrAC reading of .05 or more	First offenders: 3-month extension Multiple offenders: 3-month extension. May result in the cancellation of RDP

[a] Multiple offenders are checked for low mileage by vendors, who in turn may notify the SoS. An automatic check of mileage and the number of starts is being developed.

Background

As required in the Illinois Administrative Code, interlock vendor reports go directly to the office of the SoS. The system for transfer of the vendor data to a State database was determined by a committee while creating the State's first-offender interlock law. The committee included representatives of the DWI Division of Driver Services, Driver Services programmers, Information Technology project managers, IT programmers, general counsel, and administrative hearings. The task of accommodating the new law involved modifying the State driver records system to ensure its compatibility with the interlock database. When the State interlock database was being created, vendors were consulted regularly to ensure that they could provide data in a format compatible with the State database. Vendors were given definitions of various violation types to ensure that all vendors were using the same terms to describe interlock functions. This automated system has simplified the process for staff, decreasing the amount of work needed to monitor interlock violations.

Interlock Data Monitors

DMV/SoS

All interlock vendors submit raw data to the SoS in a format established by that office. Data are further manipulated and entered into the State interlock database. The flagging of violations and generation of violation letters to offenders are automatically processed by the system. The letters to offenders advise of an interlock violation and allow 21 days to provide an explanation in writing of the unsuccessful attempts to start the vehicle and/or the BrAC readings of .05 and above. A second letter gives the violator 10 more days to respond. The need to provide an explanation is facilitated by the interlock installation requirement to "maintain a journal of events surrounding unsuccessful attempts to start the vehicle, failures to successfully complete a retest, or any problems with the device." If the explanation "reasonably assures the Secretary that no violation occurred, no further action will be taken." Otherwise the license suspension and interlock requirement are extended for 3 months for first offenders. First offenders have 30 days

to contest the decision regarding their MDDP. Multiple offenders have 60 days to contest and are subject to a SoS administrative hearing and possible cancellation of their RDP.

Staffing

Four trained staff members evaluate interlock data, hear offenders' explanations of violations, and enter hearing decisions into the database.

Appeals

About two thirds of violations are voided. Few go to the next level of appeal for an administrative hearing. Very few of those appeals are successful.

Courts

Although the least frequent way for offenders to be on interlock in Illinois, the courts may order an interlock as a condition of sentence, bail, or probation. BrAC limits for interlocks required by the court are at the discretion of the individual courts. There are particular counties where judges and prosecutors favor interlock use. Some court staff request interlock data from the interlock vendors in hard copy or via access to secure vendor websites as the interlock data from court-ordered interlocks are not maintained or monitored by the SoS. Other courts reportedly do not have the resources to monitor interlock data. A vendor representative reported that some probation officers will request data from vendors and use it to understand behaviors, such as use of alcohol, use of the vehicle, and compliance with driving restrictions.

Treatment Providers

There is no formal system for sharing interlock data with treatment providers although court officials who access interlock vendor reports may choose, case-by-case, to share the information with treatment providers. DWI offenders are evaluated for alcohol education and/or treatment needs after conviction. Given the short 30 days of hard license suspension for first offenders, if referred, education or treatment may occur simultaneously with the SoS's voluntary interlock installation period. Multiple offenders have at least a 1-year hard license suspension and must complete treatment before becoming eligible for an RDP with interlock.

One treatment provider with 10 to 20 percent of clients on interlock reported discussing the device with clients and their interlock performance. This treatment provider does not see the data logs and did not really feel as though it would be of much use.

Another treatment provider in Illinois with about 90 percent of clients on interlock, reported that when there is suspicious behavior on the interlock logs, they hear about it from probation officers. Clients directly report a lot information as well. Generally his staff has been satisfied with this informal system. He related that interlock data could be useful for those who live far away and come infrequently to the office, providing a window into what is going for these people. That would give him a window into what's going on for these people. However, this particular treatment provider believes it would be more work than it is worth to try to get interlock reports from the SoS and that a release would be required. If there were an easy way to access the data, the information would be more timely and less subject to miscommunication. Online access via the vendors could be useful; however, having to log into multiple websites

would not be worth it. A centralized location could be useful, such as www.showmethebreathresults.com.

Data Sharing

As an unwritten policy, the SoS will only share interlock data if issued a subpoena. The courts, however, can get data on court-monitored interlocks directly from the vendors. Although no formal system exists for the courts to share data with treatment professionals, sharing does occur between probation officers and treatment staff, but not very often. Without a survey, it is not possible to be more specific about the frequency of sharing interlock data.

Data for Evaluation

Individual interlock service centers send data to a single corporate office or headquarters for each of seven vendors. Those corporate vendor offices send updated data to the SoS daily, usually via FTP, although some vendors may send updates via e-mail. The formats of the files may vary slightly, but all contain the required elements and can be imported into the State's DB2 (IBM) relational database. Under the interlock program, data from vendors are merged into the database and interfaced with the main driver record program. The interlock program can distinguish MDDP (first) and RDP (multiple) offenders and can identify those who have been extended for violations. One caveat is that the SoS database does not receive interlock data from court-ordered interlocks as a condition of bond, sentence, or probation; this data could be available from individual interlock vendors.

All data are accessible for evaluation going back to when the database was established in 2009, and currently there are no data storage concerns. Reports can be generated easily on the number of interlock users, the number who opted out, the number of violations, and the number of reviewer-confirmed violations. For example, in 2009, the SoS reported 15,000 instances of offenders' blowing a BrAC of more than .05. A notable statistic in Illinois; alcohol-related fatalities have been reduced from 425 in 2008 to 246 in 2010 (GHSA, 2011)

The SoS would like to conduct an evaluation that matches interlock data with driver records but lacks the resources. On-interlock/off-interlock dates are not maintained in the driver record. Due to privacy laws, data would likely need to be de-identified *before* they could be used by an outside agency for evaluation purposes.

Barriers to More Use of Interlock Data

- Data in the SoS interlock database does not include interlock data reports from offenders required to be on interlock as condition of court bond, sentence, or probation.
- For SoS-monitored interlock users, there is no mechanism for court officials either to access the SoS database or to receive reports.
- Multiple offenders will have completed treatment before their period on the interlock ends, thus making access to the interlock data for treatment professionals, a moot issue.
- First offenders may be in treatment while on the interlock, but there is no mechanism for sharing interlock data with treatment providers.
- The State would like to conduct an evaluation that matches interlock and driver records, but resources for this type of activity are not available.

Previous Evaluations

There have been three previous evaluations of interlocks in Illinois.

Robertson, R., Holmes, E., & Vanlaar, W. (2010). *The implementation of alcohol interlocks for first offenders: A case study.* Ottawa: Traffic Injury Research Foundation.

This report describes the process of creating the first offender interlock law and program in Illinois, including the creation of the system for acquiring data from vendors, importing it to a State interlock database, and automated reports. The report also describes the costs of designing and creating the database.

Raub, R. A., Lucke, R. E., & Wark, R. I. (2003). Breath alcohol ignition interlock devices: Controlling the recidivist. *Traffic Injury Prevention, 4*(3), 199-205.

This study compares the recidivism rates of two groups of Illinois drivers who had their driver's licenses revoked for alcohol-impaired driving and who received restricted driving permits. Drivers in both groups had more than two DWI actions on their records within 5 years or were classed as Level III alcohol dependents. Drivers in one group were required to install BAIIDs in their vehicles and drivers in the other group were not. The research found that drivers with the interlock were one-fifth as likely to be arrested for DWI during the 1 year the device was installed as the comparison group, which did not have the device. Once the ignition interlock was removed, however, drivers in this group rapidly returned to DWI arrest rates similar to those in the comparison group. Additionally, the study showed that this voluntary program in Illinois reached only 16 percent of the drivers who met the requirements for interlock installation. Finally, this study found that individuals who were removed from the interlock program and returned to revoked status continued to drive. Within 3 years, approximately 50 percent of this latter group were involved in a crash, were arrested for DWI, or were caught driving with an invalid driver's license.

Raub, R. A., Lucke, R. E., & Wark, R. I. (2001, June). Program Evaluation (Final Report) *Illinois Secretary of State's Breath Alcohol Ignition Interlock Device Program* (Vol. I). Evanston, IL: Northwestern University Center for Public Safety.

Raub, R. A., Lucke, R. E., & Wark, R. I. (2001). Pilot Implementation Evaluation (Final Report) *Illinois Secretary of State's Breath Alcohol Ignition Interlock Device Program* (Vol. II). Evanston, IL: Northwestern University Center for Public Safety.

Volume I of the study was conducted to look at the current State of the Illinois program, review the relevant literature, summarize similar programs in other States, describe how Illinois currently complies with Federal guidelines, and present guidance for ending the BAIID pilot program and evolving into a permanent, ongoing program. Volume II evaluated the effectiveness of the interlock program in Illinois from its implementation in 1994 until the time of the study in 2001. The study compared RDP offenders who were assigned interlocks to those who were not. The authors found a 20 percent recidivism rate within 3 years of receiving the RDP among offenders not on the interlock, compared to 8 percent among offenders assigned to the interlock.

B.5 – New Mexico Interlock Data Use Profile (2012)

Mid–2010: 12,064 interlocks
Mid–2011: 13,500 interlocks
Mid–2012: 12,781 interlocks
Mid-2013: 12,616 interlocks
Hybrid Interlock State
6 interlock vendors

DWI offenders in New Mexico are eligible an interlock license in one of five ways: (a) imposed as a condition of the court, pre- and post-adjudication; (b) as a condition of court release for multiple offenders; (c) administratively, at any point during the license revocation period; (d) administratively for a 6-month minimum mandatory interlock for license reinstatement; (e) as a condition of Parole.

The New Mexico MVD is the driver licensing authority in New Mexico, although the interlock program is a judicial/administrative hybrid program. Table 1 outlines the court/MVD interlock eligibility options.

Table 1. Court/MVD Interlock Eligibility[a]

	First offenders[a]	Multiple offenders[a]
License suspension (known as revocation in NM)	1 year for conviction	2nd offense – 2 years 3rd offense – 3 years 4th or subsequent – Lifelong suspension but reviewed every 5 years by the District Court
	ALR- 6 months/1 year for refusal	ALR - 2nd or subsequent offense – 1 year
	Younger than 21 Years (.02 BAC) – 1 year for failing or refusing	Younger than 21 years (.02 BAC) – 1 year for failing or refusing
Hard suspension	None with interlock[a]	None with interlock[a]
Eligible for interlock	Yes, for length of license suspension	Yes, for length of license suspensions 4th conviction – Lifelong interlock but reviewed every 5 years by the District Court
Required for license reinstatement	Yes, 6 months minimum[a]	Yes, 6 months minimum[a]
Interlock download	30 days	30 days

[a]Offenders can affirm in court that they have no vehicle and "sit out" the suspension periods; regardless, there is still a 6-month mandatory interlock period for license reinstatement. Those with an ALR also must fulfill the mandatory 6-month interlock requirement for reinstatement or the license converts to a revoked status.

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed by the MVD for those monitored by the MVD. The court consequences for violations are varied as discussed in this section. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC-related Interlock Violations and MVD Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.025 BAC *Early recall setting for MVD and some courts*: 6 start fails in 3 hours or 10 initial or retest fails in one month.[c]	6 start fails in 3 hours or 10 initial or retest fails in one month	No consequences through the MVD for BrAC violation for reinstatement[b] Lifetime interlock offenders may request a District Court hearing for license restoration. At least 6 months violation free of any positive BrAC readings and successful completion of treatment are required by the Department of Taxation Revenue /MVD.

[a] Vendors are required to record mileage since last service visit.
[b] There are a variety of court/probation consequences for violations, but currently, there is no statutory authority for judges to extend the interlock period.
[c] The early recall setting for the Bernalillo Metro Court is one failed BrAC reading.

Background

New Mexico was one of the first States to pass mandatory interlock laws for all offenders (1999-2003), and the Ignition Interlock Licensing Act of 2003 allowed nearly all license-suspended DWI offenders to obtain a special permit to drive with an interlock without a hard suspension requirement (Marques, Voas, Roth, & Tippetts, 2010). These interlock laws account for the unusually high rate of interlock installation (50% in 2007) among DWI offenders (Marques, Voas, Roth, & Tippetts, 2010). In mid-2012, there were 12,400 interlocks installed in New Mexico.

Currently designated "compliance officers" from the MVD, courts, and probation /parole receive individual interlock data through arrangements with individual vendors. The Traffic Safety Bureau has been in a long-term process of establishing a centralized interlock database. Once its Ignition Interlock Data Analysis Project is completed, then TSB will receive all vendor data in a specified format that will make it more readily available for analysis. Initially, the data will be available to monitors upon request, with a possible long-term plan to make it accessible to all compliance monitors.

Interlock Data Monitors

An estimated 60 to 80 percent of offenders on interlock in New Mexico are monitored for violations by the courts.

MVD

MVD staff do not monitor interlock data per se. In the DWI Compliance and Resolution Unit on Reinstatement review interlock performance for offenders applying for license reinstatement. For the most part, these are offenders who claimed to have had no vehicle while on court unsupervised or supervised probation. For reinstatement cases, there is a minimum 6-month interlock requirement. MVD staff make determinations to delay reinstatement (essentially extending) or to revoke the interlock license for cases involving tampering (disabling) or

circumventing the intended usage of an interlock device. Currently, six failed breath tests (initial) at or over .025 within 3 hours or 10 failed breath tests (start or retest) within a 30-day period trigger an early recall of the interlock device to the service center, but there are no MVD-imposed penalties or extensions for these types of "violations." The interlock device itself serves the purpose of separating drinking and driving.

Individuals who have a lifetime requirement or five or ten year revocation before 2005, per law, cannot drive legally without an interlock. Individuals with a lifetime revocation, multiple offenders (4th DWI or more) or 5 or 10 year revocations are allowed to apply for license restoration every 5 years; however, they must first appear before a District Court judge and have a minimum of six clean violation-free months before a full license restoration can be considered. An attorney representing the MVD scrutinizes even low-level positive BrAC readings. The attorney relies on the offender's testimony and compares it with the log reports that are examined for patterns of alcohol metabolization over time; mouthwash will dissipate very quickly, but alcohol consumption will not. During the court hearing, rules of evidence are followed and *any* sign of drinking will negate establishing "good cause" for restoring the license. Successful completion of treatment is verified as well, but interlock log data are not shared with treatment providers.

Staffing

The DWI Compliance and Resolutions Unit has five to seven staff who review interlock completion records for interlock license re-instatement cases.

Appeals

The legal department of the New Mexico Taxation and Revenue Department (under which the MVD functions) represents the State in approximately 500 lifetime revocation license restoration hearings per year in district court.

Court

Court ordered interlock offenders are monitored for at least 6 months. Those convicted of a second or third offense are seldom monitored beyond the first year, converting to an unsupervised probation status, but they remain on interlock. Currently, probation compliance officers contact the individual interlock service centers for each offender and arrange for their preferred method to receive interlock reports, which is often by e-mail. With six manufacturers (and many more service center sites), compliance officers need to understand the differences among the variety of reports. Some reports are reportedly too simple, and some are too complex. Conflicting information was received about the interpretation of interlock reports: one source reported problems interpreting different reports correctly, whereas another source reported, "if you know how to read one vendor's report, you can read them all."

There appears to be variability among how the various types of courts in New Mexico respond to interlock violations, ranging from no response preferring to let the interlock separate drinking and driving, to a probation violation hearing resulting in probation revocation and jail time.

The largest judicial district is the Bernalillo County Metro Court in Albuquerque, with 1,713 interlocks in mid-2012. In conjunction with the court's zero-tolerance policy, probation officers

are required to monitor and report *any* breath-test fails, lockouts, circumventions, and retest fails. Consequently, offenders under supervision of the Metro court have devices set for early recall for any breath test failure while the devices for most other courts and MVD reinstatement cases are set for early recall to a service center after 6 start fails in 3 hours or 10 initial or retest fails in a 30-day period.

The service centers can usually notify the probation monitors within 48 hours after a service visit and provide a "Non-Compliance Report" and, in some cases, a download of the data. A "clean" 5-minute retest is not considered proof that the initial fail was mouth alcohol, as this could indicate an attempted circumvention (e.g., having another person blow into the device). There is no statutory authority for judges to extend the interlock period; however, if a true alcohol violation is established, an offender may be sentenced to 48 hours in jail, required to have an interlock with a camera feature, or use the SCRAM anklet or IN-HOM breath-test device. Additional treatment may be required, along with a relapse prevention plan requested from the treatment provider. This is particularly true for those supervised in DWI/drug court (220 new enrollments in FY2012) where complete abstinence is a requirement. One big interlock monitoring problem is seen as being unable to confirm who took the breath test, although the use of a camera feature is increasing and negating that problem.

The Metro Court also operates a First Offender Enhanced Supervision Program (2,000 annually) for those assessed to be high-risk or high-need offenders; approximately 50 percent have an interlock installed. Approximately 60 probation revocation hearings are generated per month due to interlock violations. State grant funds provide two additional probation officers to the six court-funded positions to provide regular monitoring.

Vendors/Service Centers

Vendors must notify the designated compliance monitors within 5 days of service when there are violations, although certain court compliance monitors want to know as soon as possible. When the MVD is the designated compliance monitor for reinstatement cases, only tampering and disabling of the device violations or missed service appointments are reviewed. The MVD does not want reports sent to them as this would create additional work. They have access to the manufacturer databases and look at the data up themselves when an individual applies to reinstate driving privileges.

When a violation occurs, some of the interlock manufacturers have a centralized system that automatically e-mails or faxes a report to the designated compliance officer. For other manufacturers, the communication is done at the interlock service center level, usually by e-mail. Five of seven vendors have web-based systems that can be accessed by compliance monitors. Vendors may be called into court for probation compliance hearings to verify that the interlock was working properly.

Members of the Metropolitan Court probation team and other members of the court meet every 6 months to discuss issues that affect the probation staff and the vendors. These issues range from notification of installation of the device, violation reports, levels set for lockout, removals, referrals, and all other issues that both the court and the vendors need to address on an ongoing basis.

One manufacturer suggested that having six manufacturers operating in one State creates problems and that fewer manufacturers would simplify logistics for the probation and other compliance monitors.

Treatment

At the court's discretion, an offender can be ordered to attend alcohol education or other rehabilitative services in conjunction with probation. Treatment is mandatory for all repeat offenders regardless of BrAC level. Those assessed as high-risk or high-need first offenders will have treatment requirements as well. There are no hard license suspension periods for those on interlock in New Mexico, so theoretically, many offenders could be in treatment while on an interlock, but enrollment in a treatment program is not an interlock installation requirement.

The director of a counseling agency in the Albuquerque area shared some insight from the treatment provider perspective. Treatment providers never see interlock reports, but the information might be shared with them in one of two ways: if there is a good line of communication between the probation officer and treatment provider and/or if the client is being monitored by a DWI/drug court. For a DWI/drug court, the standard practice is for the team (judge, district attorney, probation officer, treatment counselor, and offender) to meet every 2 weeks for a progress update. They first meet in the judge's chambers before bringing in the offender for discussions. The interlock report results are shared, and if there are any patterns of use, even low levels, the court will address it. The treatment provider will give a current status report on the offender from a treatment perspective (e.g., stable home and work life or not, guarded or not, progressing through the Stages of Change or not). Subsequently, the treatment provider will use information on patterns of use therapeutically, but an established protocol for using the interlock data has not been developed. However, BrAC interlock violations that are substantiated are always met with more intensive treatment; clients are assessed and typically placed in a more intensive treatment program, including more counseling hours, more frequent random urine screens, and more frequent breath testing.

When the validity of a violation report is in question and the client is denying use, if the treatment provider can get the client in for testing on the same day as the violation, the court will order the client to complete an EtG test that will either validate or negate the use of alcohol in the last 48 hours. The EtG tests have helped the courts and treatment providers to better handle clients who are drinking strategically or having technological issues with their interlock. Reportedly, when offenders know that the EtG will provide more in-depth information about their alcohol use, they often will become quite truthful. Sometimes, however, they do get validation that the interlock itself is faulty.

For DWI offenders who are on an interlock through the MVD for license reinstatement, treatment providers receive no information about interlock performance. If a centralized web-based system with a standardized format for interlock reports were available, it would be a welcome tool for treatment providers to use when counseling DWI clients on an interlock.

Data Sharing

Manufacturers are required to send weekly interlock data to the TSB in a specified format for the Ignition Interlock Data Analysis Project, but this database has not yet been used. Over multiple years, it has suffered funding and information technology issues with vendors. Once completed, recidivism analyses using the log data will potentially be facilitated. Once completed, the initial DAP plan does not include regular access to the database by compliance monitors, but data will be available upon request.

Currently, some court compliance officers informally share interlock violation results with treatment providers. Without a full survey, it is not possible to gauge how often this occurs. As previously described, however, regular sharing of interlock violation information with treatment providers does take place in a DWI/drug court setting and is used in some cases, to intensify treatment requirements. The TSB noted that an administrative rule change would be needed to provide regular access to or to disseminate interlock reports to treatment providers.

Data for Evaluation

Any evaluation effort would have to consider the different definitions for successful interlock completion: court and MVD. Some courts require no BrAC fails; the MVD only denies reinstatement of regular driving privileges in cases of tampering, circumvention, missed service appointments or failure to complete the mandatory 6 months with an interlock license. The TSB is looking forward to using its interlock database for evaluation studies.

In addition to the TSB interlock database being developed, a second database is being planned by the State Administrative Office of the Courts; a statewide court system to integrate multiple sources of information on offenders from court, probation, and alcohol education and treatment records. One promising feature of the database is the assignment of risk levels to help focus offender needs for supervision and balance probation officer workload. It is unknown if interlock violations will be one of the factors in assigning risk level; thus, a potentially unique tool to conduct recidivism evaluations with conviction, interlock and treatment information in one database. Further, the AOC provides disposition information on DWI cases by county and court by year beginning in 2007, providing important information on possible changes in levels of enforcement and prosecution. (Supreme Court, New Mexico AOC, April 2012)

As listed in the Previous Evaluations section, Dr. Richard Roth (a traffic safety consultant from New Mexico) has collaborated with PIRE on three publications evaluating the effectiveness of the interlock in New Mexico using both driver records and interlock data. Dr. Roth is also TSB's designee for the receipt of information from interlock vendors documenting the on/off interlock dates for approximately 50,000 DWI offenders, which is crucial information for recidivism studies. Dr. Roth has also conducted some recent comparisons on recidivism for those with and without interlock devices in New Mexico (www.rothinterlock.org).

Like other States, Dr. Roth notes that being unable to determine which interlock users voluntarily continue past their statutory interlock requirement is a complication for an evaluation, albeit not a major complication. It also will be helpful when the MVD adds a code or note to the driver record to designate the last date of interlock service so that those who abscond with a device can be identified; otherwise, it appears that they are on the interlock for a lifetime.

Barriers to More Uses of Interlock Data

The current system with six manufacturer report formats sometimes causes confusion among compliance officers when interpreting the log data. Further, the standard report format for each interlock company is different. Some reports do not provide details, such as those BrAC readings lower than .025 that some court compliance officers want to monitor abstinence closely.

Some vendor reports are too simple; some, too complex. The TSB tried to compare the multitude of differences in event codes and terminology among vendors (Appendix E).

No centralized database of interlock violations.

Ideally, an automated system of violations would automatically populate reports sent to probation officers.

There is a reported concern that readings of .01 and .02 could be due to calibration issues and not alcohol use.

Court personnel have had some difficulties in interpreting data log readings that indicate mouth alcohol.

The use of interlocks with the camera feature is reducing the problem of offenders claiming it was not them who took the failed test.

Individuals who have installed non-court-ordered interlock devices to reinstate their licenses do not need any documentation to remove the device, thus possibly confounding an evaluation effort.

Previous Evaluations

Marques, P. R., Voas, R. B., Roth, R., & Tippetts, A. S. (2010). *Evaluation of the New Mexico ignition interlock program.* (Report No. DOT HS 811 410). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811410.pdf

This *Evaluation of the New Mexico Ignition Interlock Program* begins by summarizing the development of alcohol ignition interlock devices, laws, and programs during the past 22 years. It then reviews the laws that were written in New Mexico from 1999 to 2005. It goes on to characterize current penetration of interlocks relative to alcohol-related risk indicators, followed by detailed methodological reports on eight studies undertaken to understand the effects of several aspects of the New Mexico laws. The eight studies include (1) an evaluation of recidivism among court-mandated offenders who were required to install interlocks but were not allowed to drive those cars; (2) an evaluation of recidivism differences of first-time offenders who installed interlocks relative to matched offenders who did not; (3) an evaluation of the effect of an interlock licensing law that allows revoked DWI offenders to install an interlock on an insured vehicle and drive that way during the remainder of their revocation period; (4) an evaluation of a strong mandate in Santa Fe County during a 2-year period in which electronically monitored house arrest was required for offenders who did not want to have an interlock or claimed no plan to drive; (5) an evaluation of the patterns of elevated BAC tests by hour of the day and day of the week from among the more than 10 million New Mexico breath tests collected by interlock devices; (6) a comparative evaluation of predictors of recidivism including prior DWI, measures of drinking from the interlock event record, age, and other predictors; (7) a report on an interview process that included key informants, such as judges, prosecutors, defense

attorneys, and probation officers, who manage or administer the interlock program; and (8) a report on focus group findings with interlock-using DWI offenders. Each of the eight studies is reported with Methods, Results, and Comments sections. The Conclusion summarizes key findings and places the New Mexico results in the larger context of the national effort to reduce impaired-driving-related injuries and deaths. This report begins with an Executive Summary that touches on all these topics, including key findings, lessons learned, and potential areas for improvement of the New Mexico program.

Roth, R., Voas, R., & Marques, P. (2007). Mandating interlocks for fully suspended offenders: The New Mexico experience. *Traffic Injury Prevention, 8*(1), 20-25.

Objective. in New Mexico, between July 1999 and December 2002, the installation of an ignition interlock was an optional judicial sanction for second and third driving-while-impaired offenders. This is a study of the recidivism of 437 offenders who were convicted and installed interlocks for an average of 322 days during that period.

Methods. The comparison group was a stratified random sample (N=12,554) of the 20,949 offenders who were convicted during the same period, but did not install interlocks. DWI arrest and conviction data for all study participants were received from the Motor Vehicle Department's Citation Tracking System.

Results. Only 11 (2.5%) of the interlock offender group were rearrested for DWI while interlocks were installed, whereas 1,017 (8.1%) of the comparison group were rearrested during an equivalent 322-day period. Survival graphs and Cox proportional hazard regression analyses were used to compare the interlock and noninterlock groups during installation, after installation, and for the entire period up to December 2004. Results indicate a reduction in recidivism of 65 percent during installation. After removal, there was no significant difference in recidivism rates in a 3-year follow up period. Following all offenders for 4 years, including both the period while the interlock was installed and the period after its removal, indicates that the difference in recidivism achieved during installation, though not increased, is maintained, so at the end of 4 years, interlock users still have lower total recidivism than nonusers.

Conclusions. The magnitude of interlock effectiveness reported here is similar to those in other published studies with comparable samples.

Roth, R., Voas, R. B., & Marques, P. M. (2007). Interlocks for first offenders: Effective? *Traffic Injury Prevention, 8*(4), 346-352.

Objective. Vehicle interlocks have been shown to effectively reduce the recidivism of multiple driving-while-impaired (DWI) offenders; however, the evidence for their effectiveness with first offenders has been mixed. Two Canadian studies found that the installation of an interlock reduced first DWI recidivism, but U.S. studies in West Virginia and California failed to find a significant reduction in recidivism for first DWI offenders in interlock programs. The objective of this study was to determine the extent to which such devices were effective with first offenders in New Mexico.

Methods. This study compared 1,461 first offenders, who installed interlocks in New Mexico between January 1, 2003, and December 1, 2005, with 17,562 first offenders convicted during the same period who did not install the units. Cox regression was used to compare recidivism

rates during three periods: (1) while the interlock was on the vehicles of offenders who installed them, (2) after those offenders removed the units until the end of the study period (approximately 2 years), and (3) for the combined period (both while the interlock was installed and after it was removed).

Results. While the device was on the vehicles of the interlock group, their recidivism rate, 2.6 percent per year of exposure was significantly less than the 7.1 percent per year rate of the comparison group. After the device was removed, the recidivism of the interlock group increased to 4.9 percent per year of exposure which was significantly less than the 6.7 percent rate of the comparison group. When the combined periods (interlock on and off) were considered, the interlock group had a recidivism rate of 3.9 percent per year which again was significantly lower ($p<.0001$) than the 6.8 percent rate for the comparison group.

Conclusion. The study provides evidence that interlocks are as effective with first offenders (approximately 60 percent reduction in recidivism when on the vehicle) as they are for multiple offenders. Based on these results, the benefits of requiring an interlock for first offenders exceed the costs by a factor of three to one.

B.6 – North Carolina Interlock Data Profile (2012)

Mid–2010: 8,500 interlocks
Mid–2011: 8,762 interlocks
Mid–2012: 9100 interlocks
Mid-2013: 9,500 interlocks
Hybrid Interlock State
2 interlock vendors as of April 1, 2012

DWI offenders in North Carolina are eligible for an interlock in one of four ways: a) as a requirement for license reinstatement for high BrAC and multiple offenders; b) for reduced suspension for multiple offenders, subject to DMV hearing officer review c) as a court assignment required for BrACs over .015; or d) as a discretionary condition of the court.

Table 1 outlines the DMV interlock eligibility options.

Table 1. DMV Interlock Eligibility

	First DWI offenders	Multiple DWI offenders
License suspension	1 year >.015 BrAC	1 year – two convictions in 7 years 4 years –two convictions in 3 years Permanent revocation – three convictions in 10 years.
Hard suspension	1 year	1 year - Two convictions in a 7-year period. 4 years - Two convictions in a 3-year period (possibly reduced to 2) Permanent revocation for three convictions in 10 years. (possibly reduced to 3 years)
Eligible for interlock	Yes – 1 year on interlock after 1-year hard suspension	Available for reduced suspension for multiple offenders, subject to DMV hearing officer review
Time on Interlock	1 year	1 – 7 years
Required for license reinstatement	Yes – for high BrAC	Yes
Interlock download	60 days	60 days

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC-related Interlock Violations and Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
First offenders: .04 BrAC Multiple offenders: .00 BrAC	One failed retest (interlock as a condition of license reinstatement)	1-year license suspension
Early recall: .08 BrAC and higher	One failed start or retest (interlock under a conditional license as a result of reduced suspension or revocation)	1-year license suspension plus the remainder of the original suspension period
	One missed retest	

[a]No formal system for checking low mileage. The Interlock provider may report suspicious mileage readings to officials and/or officials may request and review information if they suspect an offender has not been driving the interlocked vehicle.

Background

The North Carolina DMV administers the interlock program had over 9,000 interlocks. Initially, one certified vendor was specified in the interlock legislation; recently, however, that has changed to allow other vendors to apply for certification and there is a second certified vendor as of April 2012.

An interlock is required for license reinstatement, although there are significant hard suspension periods. Offenders may request an administrative hearing to have an interlock-restricted license to reduce the hard suspension/revocation periods.

When an offender applies for an interlock as a condition of reinstatement, the DMV reviews only retests for violations; this appears to be a unique feature among the States reviewed for this study. For offenders with restricted privileges resulting from an administrative hearing for a reduced suspension period, re-tests *and* over-the-limit BrAC start readings are reviewed. Another perhaps unique feature is the different interlock lockout levels for first offenders (.04 BrAC) and for multiple offenders (.00 BrAC). The early recall level is set at .08; this also appears to be higher than other States reviewed for this study.

Interlock Data Monitors

DMV

The one interlock vendor that has been providing services statewide for many years provides weekly violation reports in both print and electronic form to the DMV. Offenders report for download of interlock data every 60 days, and the vendor flags those cases in which alcohol readings are determined to be the result of mouth contaminants or ambient substances (estimated to be roughly 80 percent of the positive BrAC readings.) DMV staff monitor reports and act on violations. One staff member at the DMV central office reviews the vendor's weekly reports and identifies verifiable positive BrAC readings that are over the limit. Approximately 200 letters per month are then sent to notify offenders that violations were identified and that driving privileges are suspended or revoked.

Appeals

Offenders have 10 days to appeal. An estimated 85 percent of offenders who are on the interlock, as required for reinstatement, request a hearing, and an estimated 65 percent are successful in their appeals. A smaller proportion of offenders on the interlock for a reduced hard suspension period also are successful in their appeals. Data on appeal outcomes are not readily available.

Despite the low proportion of readings judged as verifiable breath alcohol, and the smaller percentage of hearings in which the original decision to resuspend is upheld, a large proportion of offenders assigned to the interlock is ultimately re-suspended due to violations. This is because one violation is grounds for resuspension and due to the low BrAC limit for multiple offenders (.00).

Court Officials

The law requires that courts assign an interlock for BrACs ≥ than .15; in other cases, the courts may choose to assign an interlock. Some offenders are court ordered and then monitored by the DMV and other offenders court ordered and court monitored as a condition of probation. For court-ordered (pretrial and probation) and monitored interlocks, the court determines what constitutes a violation. Because individual judges set the conditions of interlock use, the types of behavior that constitute a violation will vary on a judge-by-judge, offender-by-offender basis. There is no formal system for sharing the data collected by the DMV with court officials. If the interlock is court-ordered, the court will arrange with the vendor to provide reports as needed.

The pretrial program involves 30 days of civil license revocation while on interlock before the license is returned. At least one county in North Carolina decided against interlock use for their pretrial DWI program. They use in-home BrAC abstinence monitoring instead of interlock.

Discussions with officials of DWI courts suggest that offenders being handled by those courts are not generally assigned interlocks, either because the offenses are resulting in stricter sanctions (e.g., incarceration) or because judges of those courts are generally disinclined to assign interlocks.

Treatment Providers

There is no formal system for sharing interlock data with treatment providers. Court officials who access interlock reports decide case-by-case whether to share that information with treatment providers. Usually, court-ordered education or treatment requirements will have been completed before an interlock is installed, although treatment completion is not a requirement to be eligible for an interlock. Discussions with treatment providers and DWI court officials suggest that use of interlocks by DWI offenders while in treatment is rare.

Data Sharing

The DMV receives interlock violation reports via e-mail; thus, the State has no central database that would allow the DMV to easily share its data with others. The one interlock provider that has operated in the State for many years does have the capability to provide web access to interlock records, but the DMV does not utilize that system.

Data for Evaluation

The North Carolina DMV can distinguish in the driver records between those assigned administratively and those court ordered. It may not be possible, however, to track how many times an interlock has been assigned, driving privileges reinstated, and then lost due to violations. North Carolina had only one interlock vendor for many years thus possibly making evaluation somewhat simpler than States with multiple vendors. There are no known restrictions on accessing data for a recidivism study.

Barriers to More Use of Interlock Data

No barriers were noted by the DMV staff regarding use of interlock data under the current system.

Long hard-suspension periods are not conducive to being in treatment simultaneous with interlock.

Historical dates when offenders are on and off the interlock are not maintained in the driver record, but available through the vendor.

Data on court-ordered and monitored interlocks is not maintained by the DMV but with only one interlock provider to date, all data is in essence centralized with the one vendor.

Previous Evaluations

Popkin, C. L., Stewart, J. R., Beckmeyer, J., & Martell, C. (1993). An evaluation of the effectiveness of interlock systems in preventing DWI recidivism among second-time DWI offenders. In H.-D. Utzelmann, G. Berghaus & G. Kroj (Eds.), *Alcohol, Drugs and Traffic Safety - T-92: Proceedings of the 12th International Conference on Alcohol, Drugs and Traffic Safety*, Cologne, 28 September – 2 October 1992 (Vol. 3, pp. 1466-1470). Köln, Germany: Verlage TÜV Rheinland GmbH.

A 62 percent reduction in recidivism while the interlock was installed was found, compared to restricted-license and suspended drivers without interlocks, and a 7 percent increase in recidivism was found after the device was removed.

B.7 – Maryland Interlock Data Profile (2012)

Mid–2010: 9,600 interlocks
Mid–2011: 9,000 interlocks
Mid–2012: 10,480 interlocks
Mid-2013: 10,925 interlocks
Administrative Interlock State
5 interlock vendors

DWI offenders in Maryland can be eligible for an interlock in one of multiple ways: (a) per se, voluntary for first offenders to reduce license suspension period; (b) mandatory for BAC > .15, multiple offenders, and chemical test refusals; (c) MVA Medical Advisory Board/Reinstatement condition; (d) Office of Administrative Hearings for license reinstatement under certain conditions; (e) opt-in under points assignment associated with a DWI/DWI; and (f) interlock option in lieu of suspension for those younger than 21; and (g) condition of the court.

Table 1 outlines the Maryland Motor Vehicle Administration interlock eligibility options. The MVA monitors violations for all interlocks in Maryland, including the approximately 20 percent of the State's interlocks that are court monitored as well.

Table 1. MVA Interlock Eligibility

	First offender	**Multiple offender**
License suspension	6 months 12 months >.15 BrAC & chemical test refusals	12-18 months
Hard suspension	None	1 year
Eligible for interlock	Voluntary Mandatory >.15 BrAC & chemical test refusals	2nd offenders can apply after 45 days
Time on Interlock	Length of license suspension	Length of license suspension
Required for license reinstatement	No Yes, >.15 BrAC	Yes
Interlock download	Every 30 days	Every 30 days

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed by the MVA. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC-related Interlock Violations and MVA Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.025 BAC Early recall trigger – vendor's allowed to use their own criteria	Any BrAC > .025 not "voided" with a 5-minute retest Failing a retest Failing to take a retest	One-month extension for every month there is a violation Upon 4th month with violations, early removal and original suspension/revocation imposed

[a]Interlock users with fewer than 50 starts per month are flagged for low use. Offenders must provide a letter of explanation.

Background

Over 18 months the Maryland MVA and interlock vendors agreed upon procedures, violation event codes, and definitions. A centralized automated system for interlock data management was then pilot tested and implemented. When the program was designed, vendors were provided with violation event codes and definitions, but vendors are not required to use the same vocabulary.

Interlock Data Monitors

MVA

The MVA Driver Wellness and Safety Division staff administers the Ignition Interlock Unit, with more than 10,000 interlocks currently in use. They receive daily uploads of raw data from the five interlock vendors to the Interlock Program System. The data are structured and coded to flag violations and automatically generate necessary action notices. Receiving the raw interlock data rather than filtered data from vendors potentially can reduce the amount of disparity that can arise in the violation filtering process among multiple vendors. Offenders who have one or more interlock violations in one month will have their time on the interlock extended automatically by 1 month, unless they successfully appeal the extension. Offenders can have violations in up to three calendar months and be extended before the interlock is removed for excessive violations. One unique feature of the Maryland program is that offenders may not request a copy of their data reports from vendors, which discourages arguments with vendors about violations. The extension letters, however, provide detailed information about the violation with the date, time, type of violations, and BAC, if applicable. (See a Sample Letter in Chapter 5.) The MVA's interlock case managers are available by e-mail and telephone for offenders to ask questions or register complaints. Upon a fourth month with a violation(s), the interlock is removed by the vendor and the offender receives a 30-day suspension of the interlock-restricted license. An offender may re-apply for an interlock but must restart the interlock period, as installation months must be continuous to complete the requirement. If incomplete, the original license suspension period is reinstated. However, special MVA nurse case managers may recommend additional treatment in lieu of license suspension for interlock violations.

Unlike some other States, the MVA monitors the interlock data and extends the interlock period for violations for court-ordered interlocks as well.

Staffing

The MVA Interlock Unit has up to 17 staff members who monitor interlock violations. There are also 15 special case managers, 10 of whom are nurses, who review applications for reinstatement and cases for those at risk for early removal of the interlock due to violations. They receive guidance from the Medical Advisory Board on some cases.

Appeals

Offenders may appeal an extension directly to the MVA Interlock Unit via telephone, e-mail, facsimile, letter, or in-person visit. As many as 1,450 violation letters are sent to offenders per month, but about 1,800 offenders per year are ultimately extended on the interlock. Thus, many initial violations are being "overridden" upon appeal. This is primarily due to mechanical issues with the vehicle and having passed a requested retest within 5 minutes. Vendors may be involved in the appeal process if documentation is needed for system error or technician errors during calibration of the device. If an offender's appeal to the Interlock Unit is unsuccessful, he or she can appeal to the MVA Office of Administrative Hearings.

Courts

There are 1,500 to 2,000 court-ordered interlocks per year in Maryland. These offenders are sent to the Drinking Driver Monitor Program, under the Parole and Probation Division. Court-ordered offenders each have a set of special conditions, among which may be self-help groups, an alcohol education and/or treatment program, MADD Victim Impact Panel, shock trauma tours, and SCRAM. They may be subject to breath tests with a preliminary breath tester and random urine screen tests for alcohol use as well.

To obtain interlock reports, the policy is that DDMP monitors can complete a request form to the MVA to receive paper copies of violation reports, but only for supervisees with court-ordered interlocks. The monitors also can obtain reports directly from vendors. Monitors do not make decisions regarding interlock violations, but they must inform the court within 10 days of a violation. The court then decides the consequences it will impose, if any. In some special cases, the court orders the offender to remain abstinent. For violations, the judge can extend the interlock period, suspend the interlock license, or impose additional counseling or treatment requirements. Any disputes regarding the validity of an interlock violation must still be appealed to the MVA.

The PPD is upgrading its data systems in early 2012. It plans to use an FTP system that will allow the MVA to submit interlock violation information to PDD electronically, which will then generate an e-mail with violation information to the DDMP monitors. This system will allow monitors to receive regular, automatic updates on violations for those on court-ordered interlocks.

Treatment

DWI offenders are assessed upon conviction and required to undergo some type of alcohol education and/or treatment that is monitored by the Probation Department's DDMP until completion for those on a court-ordered interlock. Because first offenders have no hard suspension period and second offenders can apply after 45 days of hard suspension for an

interlock, theoretically, many offenders are in treatment while on interlock. Some offenders must refrain from alcohol use and may be in alcohol counseling or treatment while on the ignition interlock. Monitors reportedly should share interlock BrAC violations with treatment providers, but this exchange of information is informal, so it is unclear how often this happens.

One large treatment provider explained that the use of interlock data that appears to "catch" the client would not support their treatment modality of trying to be supportive in every possible way. Although urine screening is used for alcohol use, it was explained that the thinking is that "an outside monitor could easily compromise the therapeutic alliance that we are attempting to enhance."

For MVA-monitored interlocks, MVA case managers (some of whom are nurses) review the cases for offenders referred by the OAH and the MAB for interlock consideration. Offenders on track for interlock early removal and original license suspension imposition after 4 months with interlock violations will sometimes be referred for additional treatment in lieu of early removal and license suspension. Interlock violation reports are not shared with treatment providers for privacy reasons; however, offenders may share their violation letters, which contains details of the violation, with their treatment counselors.

Data Sharing

As in other States, issues between the courts and licensing agencies regarding the receipt and ownership of interlock log data have arisen. The MVA Interlock Unit's automated system will allow the MVA to more easily share data with the PPD for court-ordered interlock users, as well as have one centralized depository of interlock data for the MVA and the courts.

The PPD recently upgraded its data systems and now uses an FTP that allows the MVA to submit interlock violation information to the PDD electronically, which will then generate an e-mail with violation information to the DDMP monitors. This system allows monitors to receive regular, automatic updates on violations for those on court-ordered interlocks.

There is no formal mechanism for sharing interlock data with treatment professionals.

Data for Evaluation

As previously described, the Interlock Program System receives raw interlock data from all five interlock vendors, scans for violations, transfers the data to the MVA's Digital Imaging Workflow System (which tracks offender activity, correspondence, and information), and generates violation letters. The Interlock Program System was designed with the capability to print a Monthly Statistics Report that assists in tracking success rates and reasons for failure to complete the interlock period successfully. The report includes Participants with Impositions (those whose original suspension period was imposed for violations), Failure to Appear (for vendor monthly service and download), Extensions by Violation Numbers, Correspondence Printed (final notices, immediate removal, successful completion, violation notices), Infraction Overrides by Reason, and Infractions. Having these data available monthly would provide a good opportunity for various evaluation efforts.

The start and end dates assigned to the interlock are not maintained on the driving record; the "J" ignition interlock restriction is on the offender's record without an end date, but it is removed once the interlock period has been successfully completed. With an automated system, however, it will make it easier to match violation data and driver records than in the past. The MVA Driver Wellness and Safety Division also can easily track individuals referred for enrollment into the interlock program via multiple referral sources: the court, MAB and OAH for reinstatement, per se, high BrAC, points participation, and repeat offenders.

The storage of interlock data will eventually become an issue. The MVA is reviewing which data it will keep and for how long (i.e., create a mechanism to keep the violation data and delete the rest.)

Barriers to Better/More Use of Interlock Data

Offenders misuse the device, which generates many complaint calls.
Implementing legislative changes is a slow and complicated process.
Privacy issues currently prevent direct sharing of interlock results with treatment providers.

Previous Evaluations

Three studies (abstracts follow) have been conducted in Maryland, each using the interlock recorder data to examine interlock user recidivism: (a) The Zador et al. article (2011) compared close offender monitoring of interlock violations to lax monitoring and concluded that close monitoring of the interlock data substantially enhanced compliance with requirements of the ignition interlock. (b) The Rauch et al. (2011) study was the first to report significantly lower recidivism among the interlock group than a control group after the ignition interlock license restriction program ended. (c) The 1999 Beck et al. study concluded that the interlock program effectively reduced recidivism among drivers with multiple alcohol offenses, at least while the restriction was in effect.

Zador, P. L., Ahlin, E. M., Rauch, W. J., Howard, J. M., & Duncan, G. D. (2011). The effects of closer monitoring on driver compliance with interlock restrictions. *Accident Analysis and Prevention, 43*(6), 1960-1967. doi: 10.1016/j.aap.2011.05.014

This was a randomized controlled trial of 2,168 DWI multiple offenders assigned to a statewide ignition interlock program in Maryland compared noncompliance with interlock requirements among drivers who were closely monitored (by Westat staff) and drivers who received standard monitoring (by the Motor Vehicle Administration). Compliance comparisons relied on datalogger data from MVA's interlock providers plus driver records that contained demographic information, prior alcohol-related traffic violations, their dispositions, and interlock duration. Measures for quantifying noncompliance included rates per 1,000 engine starts for initial breath-test failures at varying BAC levels and periods, retest failures, retest refusals, interlock disconnects, startup violations, and summation measures. Regression analysis estimated the effects of closer monitoring on noncompliance, using linear mixed models that included random driver effects and fixed effects for study group assignment, prior alcohol-related traffic violations, and months of continuous datalogger data with a quadratic function that assessed changes and rates of change in interlock noncompliance over time.

All the separate noncompliance rates and summary measures derived from them were lower for closer monitored than control drivers for continuous data series of at least 6, 12, or 24 months. The differences for initial test failures and the two summary measures were statistically significant. Most measures of noncompliance decreased significantly as continuous time on the interlock increased. Parallel trends in each study group indicated that drivers learned to improve their compliance over time. Thus, this study convincingly demonstrates that closer monitoring substantially enhanced compliance with requirements of the ignition interlock and that regardless of group assignment, compliance increased over time.

Rauch, W. J., Ahlin, E. M., Zador, P. L., Howard, J. M., & Duncan, G. D. (2011). Effects of administrative ignition interlock license restrictions on drivers with multiple alcohol offenses. *Journal of Experimental Criminology, 7*(2), 127-148.

This study investigated, under real-world conditions, whether a statewide 2-year administrative ignition interlock license restriction program in Maryland was effective in reducing subsequent alcohol-related traffic violations among multiple offenders and whether any reductions in recidivism could be maintained after the program ended and interlock license restrictions were removed. A total of 1,927 drivers eligible for relicensure were randomly assigned to either the 2-year interlock license restriction program or the normal and customary sanctions afforded multiple offenders in Maryland. Recidivism was defined as incurring a subsequent alcohol impaired driving violation during the 2-year intervention or 2-year postintervention periods. Compared to the control group, participation in the interlock license restriction program reduced drivers' hazard (or risk) of a subsequent alcohol-impaired driving offense by a statistically significant 36 percent during the 2-year intervention, 26 percent during the 2-year postintervention period, and 32 percent during the entire 4-year study period. This investigation of interlock program effectiveness is the first to report significantly lower recidivism among the interlock group than its control group after the ignition interlock license restriction program ended. Possible reasons for this novel finding and areas for future research are discussed.

A NHTSA report on this same study is under currently under review.

Beck, K., Rauch, W., Baker, E., & Williams, A. (1999). Effects of ignition interlock license restrictions on drivers with multiple alcohol offenses: A random trial in Maryland. *American Journal of Public Health, 89*(11), 1696-1700.

This investigation sought to test the effectiveness of a statewide ignition interlock license restriction program for drivers with multiple alcohol-related traffic offenses. A total of 1,387 multiple offenders eligible for license reinstatement were randomly assigned to participate in an ignition interlock program (experimental group) or in the conventional postlicensing treatment program (control group). The arrest rates of these two groups for alcohol traffic offenses were compared for 1 year during the ignition interlock license restriction program and for 1 year after unrestricted driving privileges were returned. Participation in the interlock program reduced offenders' risk of committing an alcohol traffic violation within the first year by about 65 percent. The alcohol traffic violation rate during the first year was significantly less for participants in the interlock program (2.4%) than for those in the control group (6.7%). However, there was no statistically significant difference between these groups in the second year, after the interlock license restriction was lifted. The study concluded that ignition interlock license restriction programs are effective at reducing recidivism among drivers with multiple alcohol offenses, at least while the restriction is in effect.

B.8 – Texas Interlock Data Use Profile (2012)

Mid–2010: 31,150 interlocks
Mid–2011: 33,064 interlocks
Mid–2012: 37,564 interlocks
Mid-2013: 39,027 interlocks
Court Interlock State
9 interlock vendors

DWI offenders in Texas are eligible for an interlock in one of four ways: (a) as a condition of probation or parole; (b) as a mandatory condition of pretrial bond for repeat offenders; (c) by application to the court for an occupational interlock restricted license; and (d) in some counties, as part of pretrial diversion program for first offenders.

Unlike the other eight States featured in this report, Table 1 on interlock eligibility displays court interlock eligibility as the driver licensing agency (Department of Public Safety [DPS]) in Texas is not involved with interlock eligibility or monitoring for offender interlock violations.

Table 1. Court Interlock Eligibility

	First DWI offenders	Multiple DWI offenders
License suspension	90 days if BrAC ≥.015 180 days refusal	2nd offense—1 year; 2 years for refusal 3rd offense—3 to 10 years
Hard suspension	90 days	1 year
Eligible for interlock	Yes, for BrAC ≥.015, only by court order	Yes, only by court order
Time on interlock	Not less than 50% of probation term	Not less than 50% of probation term
Required for license reinstatement	Yes, if court ordered	Yes, if court ordered
Interlock download	30-60 days	30-60 days

Table 2 provides a list of only BrAC-related interlock violations and the possible variable consequences imposed by the courts. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC-related Interlock Violations and Court Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.03 BAC set by State Early Recall—Five or more violation points for an illegal start, failed test, missed retest	Depends on individual court requirements; case-by-case decisions.	Discretionary and Variable: Extension on interlock for full rather than half the probationary period, extension of probation, revocation of interlock or probation, jail time, addition of SCRAM or in-home breath tester, additional treatment.

[a]Some vendors flag low starts. The response to low starts varies by court.

Background

Texas is a judicial interlock State with over 37,000 interlocks as of mid-2012. The courts send DWI conviction orders to Department of Public Safety, restricting offenders to the operation of an interlock-equipped vehicle. Offenders have 30 days to install an interlock or their driver's license will be "cancelled." Interlock data are monitored by the courts, and responses to violations are tailored to the offender and the circumstances. Probation officers from each county Department of Community Supervision (a.k.a. probation department) play a major role in monitoring the data and keeping the judges informed. There is no central depository for interlock data; each interlock vendor maintains these data.

The DPS monitors the interlock vendors and service centers and requires that vendors use a standard report format.

Interlock Data Monitors

Department of Public Safety

In Texas, the requirement for interlock devices is the result of judicial orders, but several other program functions lie with the DPS. The DPS driver license division places and removes interlock restrictions on drivers' licenses per court orders. The DPS breath alcohol lab approves manufacturer devices to be used for all judicial orders in Texas. The Regulatory Services Division certifies interlock vendors and installers as well as monitors performance and reporting of the interlock service centers. The DPS requires a standard format (Appendix D) for all reporting to ensure compliance with the law and to support the monitoring of defendants compliance by the judiciary. The report format was created in a joint effort between the DPS, manufacturers, and the judiciary. The DPS does not monitor interlock log data, as this is a court function.

Courts

Information from several large counties in Texas is summarized here.

Once a judge signs an order that includes an interlock (required by law for not less than 50 percent of the probation supervision term)**,** the probation department schedules the installations and removals and monitors the violations in conjunction with the interlock vendors. Although

web access is available to vendors, probation officers prefer to receive the violation reports by e-mail, and sometimes by fax or postal service.

The counties reviewed for this report have no standard interlock violation guidelines that trigger particular consequences for offenders, so probation officers handle violations case-by-case, keeping in mind the special probation and interlock conditions that have been ordered and the practices and requirements of the sentencing judge and prosecutor. This allows for individualized responses, although one recent annual report for a large Texas county probation department recommended the establishment of specific interlock periods of installation and a departmental policy that states the protocol for violations and failure to comply (Bexar County, 2009 Annual report). In general, a positive breath alcohol test will be met with both a sanction, such as a short-term jail sentence, and increased treatment or a new referral to treatment.

Interlock vendors send violation reports to the probation officer within 48 hours. The probation officer may contact the vendor for more information about violations before deciding on an appropriate consequence for a particular offender. There was one report that probation officers and prosecutors are reluctant to move forward on interlock violations and request a hearing before the judge because the overall goal is successful completion of probation, which necessarily includes successful completion of the interlock period. Conversely, a director of a large probation department noted that usually there is little tolerance for any BrAC higher than .02 that is confirmed with a retest.

A judge in one of the larger counties in Texas orders several hundred interlocks per month, including pretrial bond and post-trial DWI cases. After meeting with interlock vendors in the State, two companies were selected as having met the judge's criteria for seamless and immediate use of interlock devices and the data reports. The criteria included ease of access and availability for interlock users, installation within 4 to 5 days of a court order, daily downloads (preferred) with cell-based interlock devices or at least weekly data downloads, and results sent directly to the court with integrated photographic identification. He does not like it when vendors filter the data for what appears to be mouth alcohol readings, explaining that screening for true violations is the court's job. This judge and his court coordinator initially monitored violation reports received by e-mail and fax from the vendors. The workload grew too great, however, and now the probation department monitors the violation reports and keeps the judge informed of violations. Although the State lockout level is set at .03, he considers BACs of .02 to be a violation as do some other courts. He requires that vendors have interlock users sign a document acknowledging that any type of alcohol or alcohol-based product and drugs (other than prescription) are prohibited while on interlock. If the interlock user has *any* positive BrAC readings, additional technological monitoring devices may be required (e.g., in-home breath-testing unit, portable breath-test unit, ankle transdermal alcohol-monitoring device), in addition to some jail time. An alcohol assessment and treatment may be required as well.

A large first offender pretrial diversion program with 1,800 cases per year monitored by the probation department conducts a rigorous qualifying assessment process including six evaluation assessment instruments. For those who are borderline qualified, the probation department looks at motivational and criminal thinking scores to help decide. Those who score a 0, 1 or 2 are required to be on interlock for six months; those who score 3, 4, or 5 have a 1-year requirement. There is zero tolerance for BrAC violations while on interlock. A review of 4,800 pretrial

diversion cases revealed 40 recidivists, for an approximate recidivism rate of .008 percent. (Reference was requested, but not received.)

Interlock Vendors

Texas is a particularly challenging State for interlock vendors because each county and/or individual court may have special requests regarding what constitutes a violation and special reporting requirements. One vendor has 30 different report formats for Texas. Despite the DPS requirement for a standard format from vendors, the vendors do receive complaints from court-monitoring authorities that report formats among the various vendors are not standardized and are time consuming and cumbersome to use.

The regulations specify that vendors notify the court within 48 hours after download of data that indicates a violation. The code also specifies that vendors maintain data on offenders for 5 years. Vendors are sometimes called upon to testify in court hearings to verify a reported violation.

Treatment Providers

A drug and alcohol education program is required for first offenders and a repeat offender course for multiple DWI offenders. If assessed as in need of treatment, it must be completed within 180 days of starting probation; so theoretically, offenders are under probation supervision and on an interlock while in a treatment program. One probation department reported that interlock violation information is always shared with treatment providers for felony DWI cases.

A supervisor of a large county substance abuse treatment program stated that his contracted treatment providers would welcome any additional information to hold clients accountable, such as the interlock violation reports. The judges in this court interlock State would have to agree; however, as there would be HIPPA concerns. An acceptable consent form(s) would have to be developed.

Data Sharing

One vendor indicated that they need specific notarized permission from their interlock client before sharing interlock results with any person or agency other than the sentencing court.

In one county, there are multiple steps involved to confirm a violation (retest result, verification by vendor, photo matching), plus each judge may respond differently to violations. Consequently, it was felt that giving treatment providers direct access to the vendor interlock violation reports could be problematic and confusing so it was better for probation officers to share the information with treatment providers as needed.

Another court indicated that violation data are not shared with treatment providers, as this action would require the court's specific permission for each case and would compound the workload.

Barriers to More Use of Interlock Data

Nonstandard violation definitions and different technologies among vendors.
Different reporting requirements among judges.
Standardization is difficult because probation is decentralized; it is under local control.

Real time downloads would make the data more useful. Not all vendors have this option.
Daily or weekly electronic transfer of interlock data into a probation case system would be more efficient. Violation data received by probation via e-mail is currently on paper.
Fewer vendors, for example two or three, would simplify procedures and issues.
Not enough staff to read the reports.
Treatment providers and interlock vendors have to know they have mutual clients in order to share data.
No organized and structured interlock monitoring within the same organization with definitions and guidelines for interlock violations and for sharing of data.
Communication issues arise when too many any voices involved in efforts to coordinate between DPS and the court system.
No central tracking of information on sanctions for interlock violations, extensions, and early terminations.

Data for Evaluation

Due to the decentralized nature of the court-based interlock system in Texas, data on interlock violations would have to come from the eight vendors. The widely varying practices among courts regarding violations and extensions would have to be kept in mind when designing an evaluation effort. Looking at a large county court system, rather than the entire State, would likely produce more valid results, although it was reported that obtaining local DWI conviction data would be challenging and that outcome data on interlock success or failure from the probation department are not available. The DPS is in the process creating a DWI tracking system that will be available in 2013 which could assist in tracking recidivism among interlocked offenders.

Previous Evaluations

One study that was conducted in Texas and two research briefs by the Texas Transportation Institute is described in this section. The NIAAA sponsored study was a preliminary effort conducted in 2001-2004 using the interlock reports in conjunction with brief individual and group therapy.

Marques, P., Voas, R., Tippetts, S., Blackman, K., Timken, D., & Field, C. (2007). Motivational intervention keyed to interlock use reduces the rate of positive BAC tests. In B. K. Logan, D. S. Isenschmid, J. M. Walsh, D. Beirness & J. Morland (Eds.), *Proceedings of the T2007 Joint International Meeting of TIAFT/ICADTS/IIS, August 26-30*, Seattle, WA.

This NIAAA study examined the question of whether a structured manual-based 12 hour motivational support program known as SIP (Support for Interlock Planning), specifically keyed to the interlock, can improve the separation of drinking and driving initially, and later reduce the recidivism rate of offenders after the period of interlock controlled driving has ended. Less than 10 percent of 320 first time offenders ordered to the program by judges in Dallas, Tarrant, and Collin County, Texas failed to complete the intervention program; 292 (90%) completed it. The intervention included four structured group (total 8-10 hours) sessions and four individually focused sessions (approximately 2 hours). During the individual sessions, counselors reviewed breath test records and other information germane to behavior change. Pre and post surveys with

AUDIT, DRINC and other assessments determined that within the offender groups exposed to the SIP intervention, there were strong changes across all subscales in reported drinking and drinking related consequences ($p < .0001$).

In order to approach the question of whether there was an overall benefit to the intervention program relative to no program, data from the ignition interlock records were examined and compared to nonequivalent but matched comparison groups of offenders with ignition interlocks who were not similarly ordered onto SIP. Three of the five interlock providers operating in the area could supply comprehensive and readable records of breath-test data; intervention and comparison cases' BAC test data were studied from those providers. Several prior reports have shown that a higher rate of elevated breath tests relative to total breath tests is predictive of future DWI recidivism. Accordingly, this study examined the relationship between intervention and BAC test data as a proxy for future driver risk. Controlling for provider and vehicle usage, those offenders who had the benefit of the SIP intervention were significantly less likely to have elevated breath tests than those who were not in the program ($p < .03$). It was concluded that a behavior change intervention based on a motivational enhancement approach, and keyed to the ignition interlock data, can facilitate behavior change of interlock-using DWI offenders. Long-term outcome differences based on future recidivism cannot be adequately estimated in this study due to the restricted sample size available for study.

A 2011 Ignition Interlock research brief by Texas Transportation Institute identified two issues related to interlock use in Texas. First, 9 percent of the population live in rural areas of the State and do not have access to interlock vendors. Second, those interlock users on pretrial bond and those with occupation license interlocks are not monitored by probation because it would have large budget implications (TTI Ignition Interlock brief, 2011).

A 2011 Impaired Driving research brief by TTI noted that there is little data collected and analyzed in Texas related to the DWI process, including ignition interlock orders making it difficult to measure the effect of DWI countermeasures. Three questions that TTI would to like to answer if the data were available are, "What are the recidivism rates for first-time and multiple DWI offenders in Texas? Do the rates vary by geographic/demographic area? Does the variance depend on the sentencing including the ordering of ignition interlock devices?" TTI also identified a statewide concern that first DWI offenders often are being allowed to plea to lesser offenses. A deferred adjudication program in conjunction with interlock is suggested as way to potentially address this issue (TTI Impaired Driving brief, 2011).

B.9 – Washington Interlock Data Use Profile (2012)

Mid- 2010: 13,407 interlocks
Mid–2011: 16,479 interlocks
Mid–2012: 28,021 interlocks
Mid-2013: 18,016 interlocks
6 interlock vendors
Administrative State

DWI offenders in Washington are eligible for an interlock in one of three ways: (a) as a condition to obtaining a reduced hard license suspension period (eligible to apply immediately after arrest); (b) as a condition of license reinstatement for both first and multiple offenders; or (c) as a condition of the court or deferred prosecution.

Table 1 outlines the Department of Licensing interlock eligibility options. An estimated 75 percent-80 percent of the State's interlocks are monitored administratively.

Table 1. DoL Interlock Eligibility

	First DWI offenders	**Multiple DWI offenders**
License suspension	90 days 12 months if BrAC ≥.015 24 months for breath-test refusal	2 to 3 years 900 days to 4 years if BrAC ≥.015 2 to 4 years for breath-test refusal
Hard suspension	None with interlock	None with interlock
Eligible for interlock	Yes	Yes
Time on interlock	1 year 2 years – deferred prosecution	5-10 years
Required for license reinstatement	Yes	Yes
Interlock download	60 days	60 days

Table 2 provides a list of BrAC-related interlock violations and the consequences imposed. The differences among States regarding violations are discussed in Chapters 3 and 4.

Table 2. BrAC Related Interlock Violations and DoL/WSP Consequences[a]

BrAC lockout levels	BrAC violation triggers	Consequences for violations
Start BrAC—.025 BrAC *Early recall* - .04 or higher	BrAC readings of .04 or higher Failure to pass a retest Failure to take a retest Failure to schedule appointments (included in the 4-month violation-free requirement)	Extended 4 months if final 4 months are not violation-free. This process can be repeated indefinitely.

*Fewer than 50 starts in 60 days will be reported by vendors to the Washington State Police.

Background

An Ignition Interlock Legislative workgroup that included all stakeholders and some legislators enabled Washington to pass legislation (effective January 2009) that allowed DWI offenders to be eligible for an interlock immediately after arrest rather than after a hard license suspension period. A somewhat unique feature of the Washington program is that interlock users are monitored for tampering, circumvention, and low vehicle starts initially, but then are required to be completely violation-free, including BrAC related violations (effective January 2011), for the final four months of the interlock period or be extended an additional 4 months; this process can be repeated indefinitely.

The interlock program is administered by the Washington State Police (WSP) Impaired Driving Section and the DoL. The WSP monitors offender compliance and oversees certification and monitoring of vendors. The DoL assigns restricted licenses and releases offenders from the interlock restriction when offenders successfully complete the program. The six interlock vendors currently certified in Washington have primary responsibility for examining interlock data for violations and reporting to the WSP and the DoL. Having the interlock vendors be the primary data monitors reduces the amount of State funds needed for monitoring.

Interlock Data Monitors

Washington State Police Staff

A Washington State Trooper who administers the interlock program receives reports by e-mail from vendors on interlock tampering, circumvention, and low starts (fewer than 50 in a 60-day cycle). The Trooper can go to the vendor websites for more detail if needed. WSP Troopers follow up on these reports by visiting offenders at their homes, interviewing them, and inspecting the vehicle and the interlock. The WSP also has a program of random inspections at the homes of interlock users to determine whether non-interlock-equipped vehicles are being used. Agencies (e.g., courts and treatment providers) will sometimes request that the WSP review offenders' data online and provide them with a report. This does not require a consent process because the program rules allow the data to be shared with officials including impaired driving programs and courts.

Staffing

One WSP Trooper administers the interlock program, but multiple troopers conduct the random home visit inspections.

Appeals

There is no appeal process; however, if warranted, the WSP investigates complaints about vendor reports of violations and extensions.

Interlock Vendors/Department of Licensing

Interlock vendors have primary responsibility for examining interlock data for certain violations (tampering, circumvention, low starts) and reporting those violations to the DoL and the WSP. Tampering and circumventions may result in suspension of an interlock-restricted license. Vendors use a standard DoL form (Interlock Status Verification, Appendix H) to confirm that the last 4 months on the interlock have been violation-free (including BrACs .04+, failing or failing to take retests, and missed appointments) and that the offender can be released from the interlock restriction.

Reportedly, five of six interlock providers have the ability to make interlock data available online to agents of the court, including judges, prosecutors, probation officers, law enforcement officers, and treatment providers. The vendors determine whether those applying for access can be authorized on a case-by-case basis.

Courts

Courts may assign offenders to interlock use and extend interlock periods at their discretion. The courts may require only limited reports from vendors that verify the interlock installation, or the courts may require periodic interlock reports from vendors. The type of report required varies with each court and with each offender. Most interlock vendors will allow court officials to view offenders' data online, but courts have reportedly tended not to use this system, opting instead to request reports from the vendors or from the WSP.

A DWI diversion program called "Deferred Prosecution" is available to an offender only once in a lifetime in Washington. The program requires 5 years of unsupervised probation, 2 years in treatment, abstinence, and interlock depending on the number of previous DWI convictions: one year on interlock for those with one previous conviction; two years for a 2nd DWI conviction, and 10 years for a third conviction. A deferred prosecution probation officer does receive violation reports from vendors by e-mail, fax, and mail. He/she then notifies the judge of the violation and may informally notify the treatment provider as well. Because these participants have not been convicted and the goal of the program is to address alcohol dependency, there are usually no additional judicial penalties for positive BrAC violations unless the violations are chronic. Random urine screens can be added as part of the treatment program. Positive BrAC readings also prompt the treatment provider to adjust the treatment plan to prevent further relapses. If the program is successfully completed, the judge will dismiss the original DWI charge.

Treatment Providers

Theoretically, for some offenders who are assessed to be in need of alcohol treatment, participation in a treatment program is more likely to occur during the interlock period rather than after, because there are no hard suspension periods required if an interlock is installed. There is, however, no established system for sending interlock data to treatment providers. Treatment providers may or may not be informed by court officials of issues related to interlock data when information is exchanged during DWI court proceedings, usually by a probation officer. Because these instances of sharing the data during DWI court proceedings are informal and not recorded, it is not possible to quantify how often it happens.

Information from a representative of treatment providers suggested that most are unfamiliar with the system of obtaining data online and some are getting violation reports directly from the vendors. Some treatment providers expressed an interest in interlock data as a potential tool, but they are not certain how often they would use it. There were several concerns about the reports, however. They can be numerous, lengthy, and difficult to interpret, especially given the presence of "false positives." Moreover, the information in the vendor report may be several weeks old (depending on date of last data download) by the time it is seen. Finally, treatment providers may not understand the reports without training.

Data Sharing

The WSP has been working to publicize the availability of data via vendors' websites to other potential users. A training video has been made for law enforcement officers to be used during roll calls to not only educate officers on interlocks, but to make them aware of the availability of data if necessary to build a case. The WSP interlock program manager regularly makes presentations to court officials and treatment providers to educate them on interlock issues, including the availability of the interlock data.

Interviews with court officials, treatment providers, and interlock providers suggest that access to interlock vendor data is still relatively unknown and underused. This is due to unfamiliarity with the system, alternatives to the system, and the low-perceived value of interlock data among some potential users.

Barriers to More Use of Interlock Data

- The current system of having vendors serve as primary monitors of interlock data is considered satisfactory by the interlock program manager, as it provides monitoring and data management at no cost to the State. The lack of a State-maintained database is therefore not considered a barrier in Washington. (Many States consider it unacceptable for vendors to serve as primary monitors and decision-makers about violations because it is a potential conflict of interest.).
- The WSP shifted resources to monitor compliance, but the resources are still inadequate to handle all of the offenders in the interlock program. Troopers would like to do more home visits so that offenders are aware that someone is monitoring them. Currently, however, the workload is too large to allow for widespread visitation across the State (TIRF, 2010).

Access to interlock vendor data through vendor websites by courts and treatment providers is relatively unknown and underused.

It appears that some treatment providers find the process of accessing and using interlock data to be too cumbersome.

Data for Evaluation

The Washington Traffic Safety Commission has been conducting a study using interlock data from the State's interlock vendors that will be matched with driver records. The study includes an analysis of recidivism rates and driver compliance with interlock requirements. A final report was completed in early 2014 (see below). A legislative mandate requires vendors (under a contractual agreement with the State Motor Vehicle agency) to submit data to WTSC in a specified format for evaluation purposes. The data have been submitted quarterly in two Excel spreadsheet files for each vendor. The first file contains, for each offender, records for each time the interlock device was serviced, which includes the number of tamper-circumvention events, numbers of successful and failed starts and retests, and the high BAC values for start attempts and retests during the period. A second file contains information and dates on installations and de-installations. Having standardized data presumably simplified the process of preparing the data for analysis, compared to acquiring raw event data for all offenders from all the vendors. (Appendix K, WTSC Sample Form - Quarterly Reminder and Reporting Format for Ignition Interlock Data)

Previous Evaluations

There have been three evaluations of ignition interlocks in Washington State.

The Washington State legislature mandated a pilot program to gauge installer and service center compliance with regulations, citizen compliance with installation orders, and recidivism rates among interlock program participants. Two counties (King County and Yakima County) were selected as test sites. WSP conducted visits to offenders' homes to confirm interlock installation. They also visited installers to confirm proper calibration and reporting. In the fourth quarter of 2008, King County had a compliance rate of 74 percent for installations, whereas Yakima County had a much lower rate of 41 percent. In an effort to increase compliance, public service announcements (PSAs) in English and Spanish were distributed, media was contacted, ride-alongs were conducted, and treatment and probation training were instituted. These activities increased the level of compliance to 79 percent by the second quarter of 2009 (Shelley Baldwin 2010 Interlock Symposium).

McCartt, A. T., Leaf, W. A., Farmer, C. M., & Eichelberger, A. H. (2012, March). *Washington State's alcohol ignition interlock law: Effects on recidivism among first-time DWI offenders.* Arlington, VA: Insurance Institute for Highway Safety.

A 2012 study by the Insurance Institute for Highway Safety looked at trends in recidivism of first-time offenders following the implementation of a first-offender law in 2004. Using Washington State driver records, the authors found an increase in interlock installation rates for all offender types, including an increase from about 5 percent to about one third for first offenders. Recidivism rates were reduced by about 11 percent for "simple" DWI (i.e., not aggravated by crash or high BAC) offenders and about 12 percent for all first offenders. The

authors concluded that greater reductions in recidivism could be achieved with increased interlock use rates. Interlock data were not used as part of this study.

Grondel, D. T. (2014, April). *Evaluation of the Washington State ignition interlock pilot program 2009*. Olympia, WA: Washington Traffic Safety Commission. Available at http://wtsc.wa.gov/wp-content/uploads/2014/06/Ignition-Interlock-Pilot-Program-Evaluation_2012.pdf

Washington State first enacted ignition interlock laws in 1987. The laws have been modified several times over the past two decades to expand ignition interlock device use and increase compliance. In 2009 Washington State created Ignition Interlock Licenses and modified the existing ignition interlock laws. The Washington Traffic Safety Commission evaluated the effects of the 2009 law on recidivism and compliance. This report provides an evaluation of drivers who had an IID installed during 2009 under the new laws. Utilizing data provided by ignition interlock vendors and the Department of Licensing, WTSC evaluated installation compliance, noncompliance behaviors, and recidivism. The evaluation showed:

Installation compliance has improved.

- An installation compliance rate of 56 percent, higher than the 33 percent compliance rate reported in an evaluation of the 2004-2006 laws.

There is a high frequency of driver noncompliant actions after the IID is installed.

- Among IID drivers, 8.2 percent started their vehicles either never or rarely (0-9 starts per month). An additional 5.1 percent of drivers exhibited minimum vehicle use (10-19 starts per month).
- Overall, 21 percent of interlocked drivers were found to have tampered with the IID at least once. Among drivers who tampered with their IIDs, the average number of tampering attempts was 11.6 times.
- Overall, 73 percent of interlocked drivers experienced one or more start failures; the average number of start failures was 10.8. Ten percent of these drivers had 27 or more start failures. The average BAC reading for start failures was .09.
- Failures in random retests occurred for 37 percent of all drivers with an average of 1.6 retest failures. The average BAC reading was .06 for retest failures.
- Vehicle lockouts occurred among 25 percent of the drivers, with an average of 1.32 lockouts.

The IID significantly lowered recidivism among second and third-plus DUI offenders.

- Among first driving under the influence offenders, no significant difference in recidivism was found between the IID drivers and non-IID drivers. Differences in age and prior driving history between IID drivers and non-IID drivers did not affect the results.
- Among second DUI offenders, there was a significant difference in recidivism between the IID drivers and non-IID drivers. Second DUI offenders with an IID had a 26 percent lower recidivism rate.
- Among third-plus DUI offenders, there was a significant difference in recidivism between the IID drivers and non-IID drivers. Third-plus DUI offenders with an IID had a 28 percent lower recidivism rate.
- Several factors related to the IID may affect recidivism rates.
- The lower the number of vehicle start attempts, the higher the likelihood of recidivism.
- The greater the number failed starts, the greater the likelihood of recidivism.
- The higher the average BAC reading at vehicle startup, the greater the likelihood of recidivism.
- Fewer months of IID use lead to a greater likelihood of recidivism.
- The greater the number of IID tampers, the greater the likelihood of recidivism.
- These results suggest that drivers most likely to recidivate are those that provide higher BAC samples, those who accumulate numerous failed start attempts, and those with many attempts at device tampering. Furthermore, drivers with few vehicle start attempts and fewer months of IID use had higher recidivism rates. The finding of no recidivism effect among first DUI offenders was unexpected; however, interlocks were installed for a shorter time among first DUI offenders than for second and third-plus DUI offenders. Nearly one-third of first DUI offenders had interlocks removed within four months after installation. This issue has since been addressed with law changes in 2011 requiring compliance-based removal. The 2009 law does appear to have increased the rate of interlock installation. These study findings suggest that many drivers do comply with interlock requirements, while a significant minority were in substantial non-compliance. Appropriate strategies for dealing with these drivers, such as intensive monitoring with the threat of jail time, must be considered.

Appendix C:
State Issued Violation Reporting Forms

C-1 – California

C-2 – Georgia

C-3 – Oklahoma

STATE OF CALIFORNIA
DMV
DEPARTMENT OF MOTOR VEHICLES

A Public Service Agency

921

NOTICE OF NON-COMPLIANCE IGNITION INTERLOCK

(See back for instructions)

DRIVER LICENSE NUMBER

SECTION I DRIVER INFORMATION

DRIVER'S NAME *(FIRST, MIDDLE, LAST)* | SUFFIX (JR., SR., III)

MAILING ADDRESS *(STREET)* | APARTMENT/SPACE NUMBER

CITY | STATE | ZIP CODE

RESIDENCE ADDRESS *(if different from mailing address)* | APARTMENT/SPACE NUMBER

CITY | STATE | ZIP CODE

BIRTH DATE *(MONTH, DAY, YEAR)* / / | HOME TELEPHONE NUMBER ( ) | WORK TELEPHONE NUMBER ( )

SECTION II MANUFACTURER/FACILITY INFORMATION (The following facility previously installed this device manufactured by):

MANUFACTURER

FACILITY NAME | BUREAU OF AUTOMOTIVE REPAIR NUMBER

FACILITY ADDRESS

SECTION III IGNITION INTERLOCK DEVICE INFORMATION (The following device was in non-compliance):

SERIAL NUMBER | DATE OF INSTALLATION

SECTION IV VEHICLE INFORMATION (This ignition interlock device was in the following vehicle):

MAKE | YEAR | LICENSE PLATE NUMBER | VEHICLE IDENTIFICATION NUMBER

SECTION V IID NON-COMPLIANCE INFORMATION

The IID installed in the above vehicle shows evidence of:

Attempt(s) to bypass on: _____ DATE

Tampering on: _____ DATE

Attempt(s) to remove on: _____ DATE

The above driver failed three or more times to comply with the requirement for maintenance or calibration of the IID:

1st Failure to comply on: _____ DATE

2nd Failure to comply on: _____ DATE

3rd Failure to comply on: _____ DATE

SECTION VI FACILITY USE ONLY

I certify under penalty of perjury under the laws of the State of California that the foregoing information is true and correct.

INSTALLER'S PRINTED NAME | DAYTIME TELEPHONE NUMBER ( )

INSTALLERS SIGNATURE | DATE SENT TO DMV | DATE SIGNED

DISTRIBUTE COPIES AS FOLLOWS:

Original : Mail to: Department of Motor Vehicles
Mandatory Actions Unit, M/S J233
P.O. Box 942890
Sacramento, CA 94290-0001

Copy : Driver
Copy : Installer
Copy : Manufacturer or Manufacturer's Agent

OKLAHOMA IGNITION INTERLOCK
VIOLATION REPORT

PARTICIPANT INFORMATION

Name	Date of birth	Case number

Mailing address	City	State	Zip code
		OK	

Home telephone	Other telephone	DL state	DL number

REPORTING PARTY INFORMATION

Name	Telephone	E-mail address

Mailing address	City	State	Zip code

MONITOR INFORMATION

Name	Telephone	Fax number
Oklahoma, DPS	405-425-2424	405-425-2660

Mailing address	City	State	Zip code
PO Box 11415	Oklahoma City	OK	73136

VIOLATION INFORMATION

☐ **Three penalty fails, at startup, within a fifteen (15) minute time frame** *O.A.C. 40:50-1-3.2(a)(1)*

Date: _____ **Time:** _____ **BrAC:** _____

Date: _____ **Time:** _____ **BrAC:** _____

Date: _____ **Time:** _____ **BrAC:** _____

☐ **Illegal start** *O.A.C. 40:50-1-3.2(a)(2)* **Date:** _____ **Time:** _____

☐ **Retest violation(s)** *O.A.C. 40:50-1-3.2(a)(3)*

First retest violation **Date:** _____ **Time:** _____

Second retest violation **Date:** _____ **Time:** _____

Third retest violation **Date:** _____ **Time:** _____

Additional retest violation **Date:** _____ **Time:** _____

☐ **Device removal** *O.A.C. 40:50-1-3.2(a)(4)* **Date:** _____

☐ **Tampering** *O.A.C. 40:50-1-3.2(a)(5)* **(Describe Below)**

Comments:

Appendix D:
Uniform Formats Required by States

D-1 – Colorado

D-2 – New York

D-3 – Texas

Colorado Interlock Performance Report

Vendor Information:
Name of Vendor
Phone #
Device\Model
Location of Service
City, State, Zip
Date service conducted

Client Information
Installation Date:
Name of Client
Address
City, State, Zip
DL#
Phone #
Vehicle Information:
Year
Make
Model
Tag#
Color

Summary of Events:

Engine Starts	9999
Mileage	9999999
Pre-Start Tests:	
Pass	9999
Fail	9999
Running Retests:	
Pass	9999
Fail	9999
Missed	9999
Temporary Lockouts	9999
Start Violations	9999
Emergency Overrides	9999
Early Recalls	9999

Continuation or attached sheet with blocks of full log addressing each and every abnormal event plus five events before and after each

New York State
Uniform Ignition Interlock Monitoring Report

Service Center
Full Address
Phone #
Fax #
Vendor Representative

Date of Service
Date Report Generated
Report Period

Device/Model
Handset Ser. #
Relay Ser. #
Camera Unit
Last Calibration Date

Client Information
Monitor Case Number
CJTN
County
Installation Date
Removal Date
Name
DOB
Full Address
License # (CID)
Phone #

Monitor Information
Name
Full Address

Phone #
Fax #
E-Mail

Vehicle Information
Mileage (between service visits)
Make and Model
Plate #
Color
VIN
Vehicle Owner

Numeric Summary of Events
Missed Start Re-Test
Failed Start Re-Test
Missed Rolling Re-Test
Failed Rolling Re-Test
Missed Service Visits
Violation Lockouts
Illegal Starts
Apparent Tampering or Circumventions

High BrAC (≥0.05)
Engine Starts
Engine Stops
Power Offs
Power Ons
Handset Disconnects
Handset Connects
Authorized Starts
Aborts

Detailed Events
Date and Date

Time	Event	Result/% BrAC

Manufacturer Interpretation of Data (if available)

Summary Report Format

Service Center Information:	**Monitor Information**
Name of vendor: Device/Model: Camera: Y / N Address: City, State, Zip: Phone #: Fax #: Technician Performing Service: Date service conducted:	Monitoring Authority: Address City, State, ZIP CODE Phone # Fax # Condition (e.g. bond, pre-trial, probation, parole, etc.):
Client Information: Case/Cause #: SID #: Installation Date: (Name of client) D.O.B: (Address) (City, State, Zip) DL #: Phone #: **Vehicle Information**: *Mileage: (Year/Make/Model) Lic Plate #: Color:	**Payment status:** **(If in arrears, amount)** **Calibration Confirmation Results:** **Comments:**

SUMMARY OF EVENTS

Event	**Total**	**Consistent with Alcohol**	**Confirmed Violation**
Illegal Starts			**Y N N/A**
Initial Tests Passed >0		**Y N N/A**	**Y N N/A**
RR Passed >0		**Y N N/A**	**Y N N/A**
High BrAC		**Y N N/A**	**Y N N/A**
RR Refused			**Y N N/A**
RR Failed		**Y N N/A**	**Y N N/A**
Engine Starts			
Handset Disconnect			**Y N N/A**
Lockouts		**Y N N/A**	**Y N N/A**
Authorized Starts			
Aborts			**Y N N/A**
Power Off			**Y N N/A**
Power On			**Y N N/A**
Tampering			**Y N N/A**
Missed Appointment			**Y N N/A**

Appendix E:
Various Vendor Sample Interlock Summary and Detailed Interlock Reports

Test Provider (Parent)

LifeSafer Interlock, Inc.

Client Event Log Summary

Name:	Reload FC100 Test	Log Begin Date:	8/26/2010 12:58:05 AM
Address:	1 Fake Road	Log End Date:	8/26/2010 1:24:25 AM
	Cincinnati, OH 45212	Date Downloaded:	8/26/2010 1:25:00 AM
DOB:		Total Log Events:	12
Drivers License:	bogus987	Device Serial #:	
Odometer:	30	Relay Serial #:	
Program Type:	**CONSUMER**		

Client Comments:

Technician Comments:

BrAC tests at the fail level or higher

8/26/2010 1:08:46 AM	Thursday	aborted hum
8/26/2010 1:10:38 AM	Thursday	blow timeout
8/26/2010 1:12:33 AM	Thursday	BrAC Reading 0.157
8/26/2010 1:12:40 AM	Thursday	** BrAC FAILED
8/26/2010 1:12:40 AM	Thursday	VIOLATION, HIGH BrAC
8/26/2010 1:12:40 AM	Thursday	VIOLATION RECALL
8/26/2010 1:12:40 AM	Thursday	LOCKOUT, HIGH BrAC

High BrAC violations

8/26/2010 1:10:38 AM	Thursday	blow timeout
8/26/2010 1:12:33 AM	Thursday	BrAC Reading 0.157
8/26/2010 1:12:40 AM	Thursday	BrAC FAILED
8/26/2010 1:12:40 AM	Thursday	** VIOLATION, HIGH BrAC
8/26/2010 1:12:40 AM	Thursday	VIOLATION RECALL
8/26/2010 1:12:40 AM	Thursday	LOCKOUT, HIGH BrAC
8/26/2010 1:12:40 AM	Thursday	LOCKOUT, first temporary

High BrAC lockouts

8/26/2010 1:12:40 AM	Thursday	BrAC FAILED
8/26/2010 1:12:40 AM	Thursday	VIOLATION, HIGH BrAC
8/26/2010 1:12:40 AM	Thursday	VIOLATION RECALL
8/26/2010 1:12:40 AM	Thursday	** LOCKOUT, HIGH BrAC
8/26/2010 1:12:40 AM	Thursday	LOCKOUT, first temporary
8/26/2010 1:24:01 AM	Thursday	Calibration Stability
8/26/2010 1:24:25 AM	Thursday	Calibration Confirm Result 0.049

Total Violations: 3
Total engine starts: 0
Total number of tests: 12

Warning: 20 mile(s) driven since last monitor.

Confidential Information - Doc.No.:

Draeger Safety Diagnostics, Inc
20436 Lynchburg Hwy 450
Lynchburg, VA 24502

SERVICE PERIOD REPORT:

Client Name:					
DOB:		Installation Date:		Vehicle Make:	
SSN:		Handset S/N:		Vehicle Model:	
License #:		ControlBox S/N:		Vehicle Year:	
Program ID:		Type of Service:	Violation Reset	Vehicle Tag:	DRAEGER
Service Date:		Total Events:	859	Vehicle VIN:	
Period:	12/18/2008 TO 12/29/2008	Next Service:	01/07/2009 16:45 WED	Odometer:	

E-3

Initial Tests:

Total Tests	: 36
Passed	: 30
Pass >0	: 0
Failed	: 0
Failed - High BAC	: 3
Refusal	: 3
Lockouts	: 3

Service:

Calibrations	: 1
Accuracy Checks	: 1
Breath Test Checks	: 0
Service Reminders	: 11

Breath Sample:

Test Retries	: 6
Overflow	: 0
Blow Time	: 0
Blow Volume	: 2
No Suck	: 0
Suck Gradient	: 2
Suck Volume	: 2
Reference Pulse	: 0
Sample Pulse	: 0
Breath Trend	: 0
Breath Heater	: 0
Smoke Detected	: 0

Codes & Pins:

Access Code	: 0
Accesses	: 0
Free Start PIN	: 0
Free Starts	: 0

Retests:

Total Retests	: 25
Passed	: 25
Passed >0	: 0
Failed	: 0
Failed - High BAC	: 0
Refusals	: 0
Lockouts	: 0
Warnings	: 0

Power:

Total CB Losses	: 0
CB Short Losses	: 0
HS Low Power	: 0
HS Disconnects	: 0
HS Disc. Violations	: 0

Vehicle Activity:

Total Engine Runs	: 35
Total Untested Engine Runs	: 0
Total Engine Offs	: 35
Total Ignition Switch On	: 75
Engine Runs - Type 1	: 0
Engine Runs - Type 2	: 35
Vehicle Activity On	: 36
Vehicle Activity Off	: 4

Current Violation Counts:

Untested Engine Runs	: 0
CB Power Losses	: 0
HS Disconnects	: 0
Failed Initial Tests	: 0
Failed Retests	: 0
Retest Refusals	: 0
Initial Test High BAC	: 3
Retest High BAC	: 0
Initial Test Lockouts	: 0
Retest Lockouts	: 0
Consecutive Retest Refusals	: 0

Questions or Problems ???
For Report Assistance Please Call (866) 385-5900 Ask for Reporting

Draeger Safety Diagnostics, Inc
20436 Lynchburg Hwy 450
Lynchburg, VA 24502

VIOLATION REPORT: Detail

Client Name	:	
D O B	:	
SSN	:	
License #	:	
Program ID	:	
Type of Service	:	Violation Reset
Service Date	:	12/29/2008 17:58 MON
Total Events	:	859
Monitoring Period	:	12/29/2008 to 01/07/2009
Installation Date	:	
Vehicle Make	:	
Vehicle Model	:	
Vehicle Year	:	
Vehicle Tag	:	
Vehicle VIN	:	
Odometer	:	
Next Service Date	:	01/07/2009 16:45 WED

EVENT#	Date	Time	Day	Description	BrAC	Add'l Text
586	12/27/2008	04:51:01 PM	SAT	Breath Test Ready		
587	12/27/2008	04:51:02 PM	SAT	Breath Test Started		
588	12/27/2008	04:51:11 PM	SAT	Initial Test Passed	0.000	Percent
589	12/27/2008	04:51:11 PM	SAT	Starter Relay Closed		
590	12/27/2008	04:51:11 PM	SAT	Free Start Timer On		2 minute(s)
591	12/27/2008	04:51:11 PM	SAT	Ignition On		
592	12/27/2008	04:51:12 PM	SAT	Engine Run		Voltage
593	12/27/2008	04:51:12 PM	SAT	Free Start Timer Off		
594	12/27/2008	04:51:34 PM	SAT	Ignition Off		
595	12/27/2008	04:51:34 PM	SAT	Engine Off		
596	12/27/2008	04:51:34 PM	SAT	Engine Run Time		00:00:21
597	12/27/2008	04:51:34 PM	SAT	Free Start Timer On		2 minute(s)

EVENT#	Date	Time	Day	Description	BrAC	Add'l Text
598	12/27/2008	04:53:34 PM	SAT	Free Start Timer Expired		
599	12/27/2008	04:53:34 PM	SAT	Starter Relay Opened		
600	12/27/2008	04:53:34 PM	SAT	HS Power Switched Off		
601	12/28/2008	12:45:21 PM	SUN	Ignition On		
602	12/28/2008	12:45:21 PM	SUN	HS Power Switched On		
603	12/28/2008	12:45:24 PM	SUN	Ignition Off		
604	12/28/2008	12:45:40 PM	SUN	Breath Test Ready		
605	12/28/2008	12:45:47 PM	SUN	Breath Test Started		
606	**12/28/2008**	**12:46:03 PM**	**SUN**	**Initial Test Failed High BAC**	**0.034**	**Percent**
607	12/28/2008	12:46:03 PM	SUN	Initial Test Lockout 1 On		5 minute(s)
608	12/28/2008	12:51:03 PM	SUN	Initial Test Lockout 1 Expired		
609	12/28/2008	12:51:03 PM	SUN	HS Power Switched Off		
610	12/28/2008	12:51:11 PM	SUN	Ignition On		
611	12/28/2008	12:51:11 PM	SUN	HS Power Switched On		
612	12/28/2008	12:51:13 PM	SUN	Ignition Off		
613	12/28/2008	12:51:28 PM	SUN	Breath Test Ready		
614	12/28/2008	12:51:31 PM	SUN	Breath Test Started		
615	**12/28/2008**	**12:51:48 PM**	**SUN**	**Initial Test Failed High BAC**	**0.036**	**Percent**
616	12/28/2008	12:51:48 PM	SUN	Initial Test Lockout 2 On		15 minute(s)
617	12/28/2008	01:06:48 PM	SUN	Initial Test Lockout 2 Expired		
618	12/28/2008	01:06:48 PM	SUN	HS Power Switched Off		
619	12/28/2008	01:06:49 PM	SUN	Ignition On		
620	12/28/2008	01:06:49 PM	SUN	HS Power Switched On		
621	12/28/2008	01:06:51 PM	SUN	Ignition Off		
622	12/28/2008	01:07:04 PM	SUN	Breath Test Ready		
623	12/28/2008	01:07:09 PM	SUN	Breath Test Started		
624	12/28/2008	01:07:16 PM	SUN	Breath Sample Error		Short Suck
625	12/28/2008	01:07:44 PM	SUN	Breath Test Ready		
626	12/28/2008	01:07:47 PM	SUN	Breath Test Started		
627	**12/28/2008**	**01:08:02 PM**	**SUN**	**Initial Test Failed High BAC**	**0.033**	**Percent**
628	12/28/2008	01:08:02 PM	SUN	Initial Test Lockout 2 On		15 minute(s)
629	12/28/2008	01:08:02 PM	SUN	Violation Reset Mode		Initial High BAC
630	12/28/2008	01:08:08 PM	SUN	Service Reminder		5 day(s)
631	12/28/2008	01:23:02 PM	SUN	Initial Test Lockout 2 Expired		
632	12/28/2008	01:23:02 PM	SUN	HS Power Switched Off		
633	12/29/2008	09:31:04 AM	MON	Ignition On		
634	12/29/2008	09:31:04 AM	MON	HS Power Switched On		
635	12/29/2008	09:31:08 AM	MON	Ignition Off		
636	12/29/2008	09:31:10 AM	MON	Service Reminder		4 day(s)
637	12/29/2008	09:31:23 AM	MON	Breath Test Ready		
638	12/29/2008	09:31:26 AM	MON	Breath Test Started		
639	12/29/2008	09:31:35 AM	MON	Initial Test Passed	0.000	Percent
640	12/29/2008	09:31:35 AM	MON	Starter Relay Closed		
641	12/29/2008	09:31:35 AM	MON	Free Start Timer On		2 minute(s)
642	12/29/2008	09:31:40 AM	MON	Ignition On		
643	12/29/2008	09:31:43 AM	MON	Engine Run		Voltage
644	12/29/2008	09:31:43 AM	MON	Free Start Timer Off		
645	12/29/2008	09:32:27 AM	MON	Vehicle Activity Detected		
646	12/29/2008	09:39:14 AM	MON	Ignition Off		
647	12/29/2008	09:39:14 AM	MON	Engine Off		

Smart Start Ignition Interlock Report

Smart Start:
Device/Model:
Address:

Phone #:
Fax #:
Vendor Representative:
Date of Service:
Report Generation
Report Period:

Monitor Information:

Name:
Address:

Phone #:
Fax #:
E-Mail:
Condition:

Client Information:

Case #:
SPN/CID/BOT #:
County:
Installation Date:
Removal Date:
Name:
DOB:
Address:

DL #:
Phone #:

Vehicle Information:

Mileage:
Make and Model:
Plate #:
Color:
VIN:

Summary of Events:

Illegal Starts:	0
Warnings (0.020):	0
High BrAC (0.030):	0
Rolling Retest Refused:	2
Rolling Retest Failed:	0
Engine Starts:	39
Engine Stops:	39
Power Offs:	0
Power Ons:	0
Handset Disconnects:	0
Handset Connects:	31
Authorized Starts:	NA
Aborts:	15
Violation Lockouts:	0

Handset #:
Relay #: **Camera**
Unit: Yes
Calibration Confirmation:

Detailed Events

View related photos

Saturday, November 21, 2009

	12:01:13 PM	Ignition On	
	12:01:22 PM	Connected Head	
View Photo	12:01:40 PM	Picture Requested	Test Started
	12:01:40 PM	Abort - Blow Pressure	
View Photo	12:01:56 PM	Picture Requested	Test Started
	12:01:59 PM	Abort - Blow Pressure	
View Photo	12:02:18 PM	Picture Requested	Test Started
	12:02:27 PM	Initial Test-Pass	0.000
	12:02:30 PM	Engine Start	
View Photo	12:02:30 PM	Picture Requested	Vehicle Started
	12:16:43 PM	Rolling Retest Requested	
	12:18:18 PM	Ignition Off	
	12:18:18 PM	Engine Stop	
	12:18:18 PM	Rolling Retest Requested	
View Photo	12:18:18 PM	Picture Requested	Engine Off During Retest
View Photo	12:19:18 PM	Picture Requested	Rolling Retest - 1 min.
	12:20:18 PM	Skipped Rolling Retest	
	12:20:51 PM	Ignition On	
	12:20:53 PM	Engine Start	
	12:21:24 PM	Ignition Off	
	12:21:24 PM	Engine Stop	

Tuesday, November 24, 2009

	11:32:51 AM	Ignition On	
	11:32:57 AM	Connected Head	
View Photo	11:33:12 AM	Picture Requested	Test Started
	11:33:21 AM	Initial Test-Pass	0.000
	11:33:25 AM	Engine Start	
View Photo	11:33:26 AM	Picture Requested	Vehicle Started
	11:42:01 AM	Ignition Off	
	11:42:01 AM	Engine Stop	
	11:42:50 AM	Ignition On	
	11:42:53 AM	Engine Start	
View Photo	11:42:53 AM	Picture Requested	Vehicle Started
	11:47:47 AM	Rolling Retest Requested	
	11:48:38 AM	Ignition Off	
	11:48:38 AM	Engine Stop	
	11:48:39 AM	Rolling Retest Requested	
View Photo	11:48:39 AM	Picture Requested	Engine Off During Retest
View Photo	11:48:55 AM	Picture Requested	Test Started
	11:49:04 AM	Rolling Retest-Pass	0.000
	12:06:16 PM	Ignition On	
	12:06:23 PM	Connected Head	
View Photo	12:06:37 PM	Picture Requested	Test Started
	12:06:45 PM	Initial Test-Pass	0.000
	12:06:49 PM	Engine Start	
View Photo	12:06:50 PM	Picture Requested	Vehicle Started
	12:14:42 PM	Rolling Retest Requested	
	12:15:44 PM	Ignition Off	
	12:15:44 PM	Engine Stop	

	12:15:44 PM	Rolling Retest Requested	
View Photo	12:15:44 PM	Picture Requested	Engine Off During Retest
View Photo	12:16:44 PM	Picture Requested	Rolling Retest - 1 min.
	12:17:43 PM	Skipped Rolling Retest	
	12:22:39 PM	Ignition On	
	12:22:41 PM	Engine Start	
	12:23:06 PM	Ignition Off	
	12:23:06 PM	Engine Stop	
	12:25:38 PM	Ignition On	
	12:25:40 PM	Engine Start	
View Photo	12:25:49 PM	Picture Requested	Test Started
	12:25:59 PM	Initial Test-Pass	0.000
	12:31:02 PM	Ignition Off	
	12:31:02 PM	Engine Stop	
	12:56:41 PM	Ignition On	
	12:56:47 PM	Connected Head	
View Photo	12:57:04 PM	Picture Requested	Test Started
	12:57:13 PM	Initial Test-Pass	0.000
	12:57:16 PM	Engine Start	
View Photo	12:57:16 PM	Picture Requested	Vehicle Started
	1:04:34 PM	Ignition Off	
	1:04:34 PM	Engine Stop	
	1:12:39 PM	Ignition On	
	1:12:45 PM	Connected Head	
View Photo	1:12:59 PM	Picture Requested	Test Started
	1:13:07 PM	Initial Test-Pass	0.000
	1:13:10 PM	Engine Start	
View Photo	1:13:11 PM	Picture Requested	Vehicle Started
	1:13:49 PM	Ignition Off	
	1:13:49 PM	Engine Stop	
	1:14:06 PM	PC Connected	

Smart Start's official interpretation of this client's data is as follows:

There were 39 engine starts during the reporting period which indicates normal usage of the vehicle.

SmartStart is introducing new reports to make you aware of installations, clients who do not show up for installation, and clients who do not return for service (lockouts). For more information about these reports call your SmartStart customer care representative at 800-880-3394.

Reports are available via web, e-mail, or fax. Please call us at 800-880-3394 so you can receive reports the next business morning after clients are serviced. Visit SmartWeb at www.smartstartinc.com.

Appendix F:
Oklahoma Ignition Interlock Field Test to Confirm Standard Report Outputs From Vendors

BOARD OF TESTS FOR ALCOHOL AND DRUG INFLUENCE
Ignition Interlock Certification
Field Test

Manufacturer Name: _____ Device Model No.: _____

1. Call Manufacturer Representative and schedule an appointment for installation of the device.
   Installation information: _____

2. Record the serial number & version of the installed components:
   Component: _____ Serial number/Version: _____
   Component: _____ Serial number/Version: _____

3. Observe the installation of the device and participate in the normal training process. ***Make sure the device is configured for a person 21 years or older with 30+ days programmed in the device.*** Note the color and location of the starter wires: _____

4. Describe the anticircumvention method(s) employed by the manufacturer: _____
   _____

5. When you have completed the installation process and are prepared to leave, attempt to start the vehicle without blowing a breath sample _____ (date / time). Did the vehicle start? YES NO
   Note what you heard and/or saw: _____
   _____

6. Blow a sample in the device and *do not* comply with the ant circumvention method(s) employed by the manufacturer _____ (time). Attempt to start the vehicle. Did the vehicle start? YES NO Note what you heard and/or saw: _____
   _____
   _____

7. Follow the normal operating procedure and start the vehicle _____ (time). Upon a retest request, pull over and comply with any retest(s) and note the time of the retest(s): _____ (prompt)
   _____ (delivered) Note what you heard and/or saw related to the retest request: _____
   _____
   _____

8. When you reach your destination, turn the vehicle off: _____ (time) Wait approximately 20 seconds and attempt to restart the vehicle without blowing a breath sample _____ (time). Did the vehicle start? YES NO Note what you heard and/or saw: _____
   _____
   _____

9. Attach copies of all installation paperwork received. Make any additional notes regarding the installation: _____
   _____
   _____
   _____

10. ***Penalty Fail***

Power the device on. Deliver a high alcohol sample into the device: _____ (time). Attempt to start the vehicle. Did the vehicle start? YES NO Note what you heard and/or saw: _____

_____

_____

Did the service counter reset? YES NO Note what you heard and/or saw: _____

_____

_____

11. ***Illegal Start***

With the device powered OFF, use the prescribed method to bypass the device and start the vehicle: _____ (time). Allow the vehicle to run for at least 4 minutes and note what you heard and/or saw:

_____

_____

_____ _____ (car stopped)

Did the service counter reset? YES NO Note what you heard and/or saw: _____

_____

_____

12. ***Retest Refusal***

Follow the normal operating procedure and start the vehicle: _____ (time). Upon the first retest request _____ (prompt) pull over and refuse the retest by leaving the vehicle running until you see an indication of the retest refusal: _____ (time). Note what you heard and/or saw: _____

_____

_____

Turn the vehicle off: _____ (time). Wait approximately 20 seconds after the retest refusal indication and attempt to restart the vehicle without blowing a breath sample: _____ (time). The free restart should not be enabled and the vehicle should not start. Did the vehicle start? YES NO Note what you heard and/or saw: _____

_____

13. ***Retest Failure***

Follow the normal operating procedure and start the vehicle: _____ (time). Upon a retest request _____ (prompt) pull over and deliver an alcohol sample into the device: _____ (time). Note what you heard and/or saw: _____

_____

_____ Turn the vehicle off: _____ (time).

14. Retest Refusal - Turning the vehicle "off" while a retest is in progress.

Follow the normal operating procedure and start the vehicle: _____ (time). Upon the first retest request _____ (prompt) pull over and turn the vehicle "off" while the retest is in progress: _____ (time). Note what you heard and/or saw: _____

_____

_____

Wait approximately 20 seconds after the retest refusal indication and attempt to restart the vehicle without blowing a breath sample: _____ (time). The free restart should not be enabled and the vehicle should not start. Did the vehicle start? YES NO Note what you heard and/or saw: _____

_____

_____

15. ***Retest Refusal – If possible, unplugging the handset while a retest is in progress. If not, skip this step.***
Follow the normal operating procedure and start the vehicle: _____ (time). Upon the first retest request _____ (prompt) pull over and with the vehicle running disconnect the handset from the base unit: _____ (time). Note what you heard and/or saw: _____
_____
_____
Turn the vehicle "off" after 7 minutes _____ (time). Reconnect the handset _____ (time). Note what you heard heard and/or saw: _____
_____
_____
Wait approximately 20 seconds and attempt to restart the vehicle without blowing a breath sample. The free restart should not be enabled and the vehicle should not start. Did the vehicle start? YES NO
Note what you heard and/or saw: _____
_____
_____

16. Return to the service center and have the device removed.
Note the date and time: _____.

17. Upon arrival at the service center tell the service provider:
    1. To perform their normal calibration service and followed by their normal removal service and provide you with all normal and customary paperwork, and
    2. Inform the service provider that you will need a complete copy of the data log and a copy of any violation reports, if applicable, sent to the BOT, and
    3. Attach copies of any paperwork received.

Appendix G:
NHTSA Key Features Report, Expert Panel Suggested Guidelines

Suggestions From the 2007 Interlock Expert Panel

Although the 10 to 12 manufacturers operating in the United States may have different definitions of reportable events, the 50 States also have several different preferred definitions of events. Conceivably, the State administrators will one day convene with the manufacturers to work through and propose a set of common definitions.

The *Key Features* report noted that the expert panel was in general agreement that national guidelines of some form should be developed with a set of specifications for reporting elements. Because existing devices reflect manufacturer design choices, the panelists understood, at least initially, that the types of information available will be peculiar to the way a manufacturer defined it. Nonetheless, they believed that the process might cohere around consensus standards for definitions once report information could be proposed for consideration.

Specific suggestions in the *2010 Key Features* report that were noted by members of the 2006 Interlock Expert Panel included the following:

1. Use value-neutral wording:

    a. The words used in reports today often pose problems. When a service provider uses the word "violation," the private sector is passing a judgment on the way in which the monitoring entity should regard the report. This would not be a big problem if there were not a sea of nuance surrounding many positive breath test results. Therefore, value-neutral wording would be preferable. The report should summarize "events," and all reports should reflect a similar neutral tone. The interpretation is up to the authority, not the private company. The log file is an event recorder, and "events" should be reported.

    b. The header on a monthly report should NOT be a "compliance" report; it simply should be a report. Compliance is a judgment for the authority to render, based on the evidence presented. When an interlock successfully locks out a positive BAC test, the driver did not drive impaired. Therefore, some [States] view the driver as compliant, since the driver was prevented from driving impaired; others viewed the driver as noncompliant, since the driver attempted to operate the vehicle with a positive BAC. We need to define some of these words carefully; labels acquire meanings. Judges who are presented with reports of "violations," or evidence of "noncompliance," could have their options constrained a priori by the interlock company.

    c. There should be a standard operational definition of the word "circumvention," because this is another word that implies a conclusion.

2. If judgments are rendered, define them operationally:

    a. If the word "violation" were to be retained in monthly reports, the event that reflects a "violation" should be maximally useful to a prosecutor since he/she will

need solid evidence. For example, a breath test that is elevated and results in a lockout is hard to describe as a clear violation, if a breath test 5 minutes later is passed easily. The initial test could reflect transient mouth alcohol from food or mouthwash. (Many ripe fruits contain a small amount of alcohol that can be sufficient to cause a false positive, due to mouth alcohol.) Such events should not be reported as a violation. Some of these types of problems could be overcome with better interpretational algorithms by the manufacturers.

b. Any failed test should be followed by a required retest, in order to improve the confidence of judgments made by the monitoring authority.

3. Assure shared access to information by all divisions of government that need it:

   a. To actively monitor an offender's BAC performance, a method of e-mail notification could ensue when "red flag events" (significant problems) occur. A query-based or online retrieval system also could serve the needs of those court entities who believe they should know immediately when an offender/ driver has had a performance event defined as a violation, circumvention, or noncompliance.

   b. Interlock offenders who travel across State boundaries potentially pose difficulties in how States view interlock licenses. For example, in New Mexico, an ignition interlock license permits driving, but the DWI revocation officially is still on the books during the interlock restriction. [Note, in a real life situation reported by Roth,] a New Mexico offender with an interlock license was arrested for speeding in Washington while driving an interlock vehicle. The Washington officer checked and found his license officially revoked and sent him to jail for driving while suspended. It took a couple of days and much effort before the situation could be resolved. States need to set up rules through the Interstate Compact for Offender Tracking to deal with these cross-State issues.

4. Require consistent notations for bypass or other exceptions due to vehicle repair work:

   a. Vehicles can be expected to need maintenance service, whether or not there is an interlock in operation. Third-party maintenance (TPM) can be expected to be performed by automotive service technicians and they will need some way to start the vehicle that bypasses the interlock. There is a need to better code or approve legitimate vehicle service work by TPM entities. For example, Draeger sends a code to a TPM, so the vehicle can be started without the interlock. This code expires within an hour of issuance. Apparently, a similar method is used by ACS and perhaps other vendors.

   b. When such service requests are submitted to ACS, the company calls the TPM to verify legitimacy and then provides a temporary override code. Smart Start

requires an advance call-in. The vehicle circumvention that occurs is recorded as a disconnect violation, but the record is later marked as an approved exception. Power disconnect is a difficult interpretation problem. If those events enter into the log file, the event recorder should be able to mark them as legitimate service episodes. This [type of exception notation] may not be occurring in some cases. Finally, have the vendors considered the effect of this legitimization process on owners/operators who are skilled enough to repair their own vehicles but do not work in a garage or do repairs commercially? States should develop a consistent set of protocols for making decisions about authorized overrides or bypass.

5. Establish consistent frequency of reports:

    a. The frequency of reporting is still a topic of some dispute. The monitoring authority ideally should have online access to offender interlock performance at any time desired, to perform queries about a particular offender. However, for the routine notification process, most authorities prefer 30-day reports (when they prefer anything at all), and that is the recommendation of this report. Comments relating to report frequency were reviewed by the expert panel or key informants. The following issues were raised.

    b. For those judged compliant, some believe it is acceptable to establish an interval longer than 30 days. This was disputed by others, however, who regard 30 days as a preferred standard.

    c. One contrary view suggested that there is no need to wait 30 days to obtain data—abstinence monitoring advocates would prefer receiving data in real time. There were disputes on this issue that related to the central purpose of the interlock (abstinence monitoring versus the prevention of impaired driving.) Some offender cases were thought to require more frequent review, due to public risk exposure.

    d. One or more panelists believed two report formats should be developed for two (or more) levels of offender severity. This suggests that the content and frequency of reporting should reflect perceived offender risk. Currently, some States extract specific data elements from the vendor database for their own monitoring purposes.

    e. A quality assurance protocol should be put in place to ensure that reports are received by the responsible authority. Perhaps a database could be established to indicate that certain people have not had reports reviewed or received. It would be a way of officially flagging where the responsibility lies for monitoring.

f. Protocols are needed for monitoring providers/vendors, as their full cooperation is critical to making the programs work. Some States such as Maryland achieve this by making periodic inspections on short notice.

Appendix H:
Washington Department of Licensing
Vendor Verification Form – Final Four Months Violation-Free

WASHINGTON STATE DEPARTMENT OF LICENSING

Ignition Interlock Status Verification

Ignition interlock companies must use this form to report ignition interlock activity.

Fax the completed form to (360) 570-4961 or scan and email to interlock@dol.wa.gov

Driver

PRINT or TYPE Driver name *(Last, First, Middle initial)*	Date of birth	Driver license number
Mailing address		
City	State	ZIP code

Activity

☐ Installation . . . . . Date _____

☐ Compliant . . . . . Date _____

☐ Removal/Non-functioning . . . . . Date _____

☐ 4-month compliance release . . . . . Date _____

In the 4 consecutive months prior to this date there have been none of the following incidents:

- An attempt to start the vehicle with a breath alcohol concentration of .04 or more;
- Failure to take or pass any required retest; or
- Failure of the person to appear at the ignition interlock vendor when required for maintenance, repair, calibration, monitoring, inspection, or replacement of the device.

Device type *(check one)*

☐ AutoSense (14) ☐ Guardian (12)

☐ Consumer Safety Technology (15) ☐ LifeSafer (13)

☐ Draeger (11) ☐ Smart Start (10)

Vehicle make/model	Year	License plate number
Vehicle Identificaton Number (VIN)		Device number

Company

PRINT or TYPE ignition interlock company name	Washington business license number
Name of company representative	(Area code) Telephone number
Mailing address	

City	State	ZIP code

RCW 46.20.720

DR-500-011 (R/1/11)W

We are committed to providing equal access to our services.
If you need accommodation, please call (360) 902-3900 or TTY (360) 664-0116.

Appendix I:
Sample Vendor Release Consent Forms

I-1 – Sample Vendor Release From for Monitored Vendor Reports

I-2 – Sample Vendor Request Letter to State for Release of Interlock Reports

Authorization for Release of Interlock Reports

I hereby request that Draeger Safety Diagnostics, Inc. ("Draeger") release data obtained from my ignition interlock device to:

Name ("Designee") _____

Mailing Address _____

Telephone/Fax No. _____

Email Address _____

Purpose for Data Release _____

Profession/License No. _____

Reports may be released to the Designee via any form of communication preferred by Draeger, including verbal, paper, email, fax, website viewing or other electronic means. Fees may apply.

By signing below, Draeger is hereby authorized to release all reported data (past, present and future) obtained from my ignition interlock device to the Designee. I understand that such data may contain evidence of my non-compliance with administrative or legal requirements, and that such evidence may later be used for enforcement or other purposes as permitted by law. I also understand that failure to pay any required fees may result in Draeger's refusal to release reports.

I hereby release Draeger and its affiliates and employees from any and all liability associated with disclosure of my ignition interlock data to Designee, including but not limited to any claim under the Driver's Privacy Protection Act (18 U.S.C. § 2721) or other applicable privacy laws.

I understand that I may revoke this authorization at any time; however, in order for the revocation to be effective, it must be made in writing and said revocation will not affect the disclosure of information that has already been released.

_____
Signature

_____
Printed Name

_____
Date

_____
Date of Birth

Internal Use Only

Consent of the State or monitoring agency required?
□ **Yes** □ **No**

Obtain authorized signature below or attach consent

_____
Signature and Date

_____
Printed Name and Title

Draeger Safety Diagnostics, Inc.
4040 W Royal Lane,
Suite 136
Irving, TX 75063
Tel +1 972 929-1100
Fax +1 972 929-1260

Revised 8/15/2011

USA0208

[Date]

[Name/Add

ress]

Re: Request for Release of Ignition Interlock Data

Dear _____,

Attached is a request and authorization from an ignition interlock client to release his/her data to the listed designee. Please provide your agency's consent to the requested release of data by signing and returning a copy of the attached form, or providing Draeger with other written evidence of your agency's consent.

If you have any questions regarding this request, please do not hesitate to contact _____ at _____.

Sincerely,

[Name/Title]
Draeger Safety Diagnostics, Inc.

Draeger Safety Diagnostics, Inc.
4040 W
Royal Lane,
Suite 136
Irving, TX 75063
Tel +1 972 929-1100
Fax +1 972 929-1260

Appendix J:
Colorado Consents

J-1 – Procedures

J-2 – HIPAA Release of Information Form

J-3 – Colorado State Release of Information Form

Interlock Enhancement Counseling Information Release Process

1. Driver enrolls in IEC administered by a OBH licensed Treatment Facility.

2. Driver signs IEC Information Release Authorization.

3. Treatment Provider retains original Release, faxes copy to DMV, attention "Interlock Compliance".

4. DMV checks DLS and/or OIS records to match against Interlock Restricted Driver status.

    a. If no match, DMV contacts Treatment Facility and advises that Driver is not on DMV program, and may be court ordered. Treatment Facility will advise Driver that Driver must arrange authorization directly with Interlock Provider, that DMV records are not involved. DMV will advise Interlock Provider that Driver will be contacting to provide independent release. Release will still be posted, for recordkeeping purposes, to the unrestricted driver record.
    b. If match, DMV notes record, retains copy and forwards Release Authorization to Interlock Provider.
    c. In either case, DMV logs Release Authorization for data matching and audit purposes, noting key data elements from form and tracking processing time and program conclusion.

5. Upon receipt of Release Authorization, Interlock Provider:

    a. Establishes access for Treatment Facility to web-based drivelog.
    b. Restricts access to only those drivers shown on releases from that Treatment Facility.
    c. Establishes drivelog interpretation support relationship with Treatment Facility.
    d. Converts driver's download schedule to no longer than monthly.

6. Upon conclusion of IEC treatment:

    a. Treatment Facility notifies DMV, and DMV instructs Interlock Provider to remove Treatment Facility access to completed Driver's drivelog information.

INTERLOCK ENHANCEMENT COUNSELING

CONFIDENTIAL INTERLOCK INFORMATION RELEASE AUTHORIZATION

I hereby authorize my Ignition Interlock Service Provider(s) to provide my Treatment Agency with continuing access to any and all information regarding my interlock usage, including but not limited to information regarding my interlock device(s), my use of the device(s), the data recovered from my interlock device(s), and my vehicle(s) with interlock installation(s).

I understand that the disclosed information may be available in various forms, and I specifically authorize the disclosure of this information regardless of the form, whether verbal, on paper, by email, fax, viewing through a website, or by other electronic means. I further understand that this information may contain evidence of my non-compliance with administrative and/or legal requirements for interlock use and that in addition to its use for treatment purposes, my Treatment Agency may use it to seek enforcement of administrative and legal requirements.

I hereby release the Colorado Department of Revenue and my Ignition Interlock Service Provider(s) from any and all liability associated with the disclosure of this information as authorized herein, including but not limited to any claim under the Driver's Privacy Protection Act (18 USC 2721, C.R.S. §24-72-204, §42-1-206).

TREATMENT AGENCY Name		**CLIENT Name – Person Whose Records Will be Released**	
Address, City, State, Zip Code		Address City, State, Zip Code	
Agency License #	Agency DRS #	Colorado DL or ID Number	Date of Birth

My current Interlock Provider(s):

- ☐ Consumer Safety Technology (CST)
- ☐ Draeger Safety Diagnostics
- ☐ Guardian Interlock Systems
- ☐ #1A LifeSafer (fka National Interlock Service)
- ☐ 1A Smart Start, Inc.

Initial the following:

___THIS AUTHORIZATION AND RELEASE REMAINS IN EFFECT UNTIL I REVOKE IT, IN WRITING BOTH TO THE COLORADO DEPARTMENT OF REVENUE AND TO EACH OF MY INTERLOCK PROVIDER(S).

___I UNDERSTAND THAT I MUST AGREE TO MONTHLY DOWNLOADS TO PARTICIPATE AND THAT THE INTERLOCK PROVIDER(S) MAY IMPOSE ADDITIONAL CHARGES IF THIS RESULTS IN MORE FREQUENT PROVIDER VISITS.

As evidenced by my signature, I hereby authorize disclosure of records to the person(s) or agency(s) specified herein.

CLIENT SIGNATURE - Person Whose Records Will be Released	Date Signed

PARENT SIGNATURE – If client is a under 18.	Title or Relationship to Client	Date Signed

THERAPIST PRINTED NAME:	**Email Address:**	**Phone Number:**

INSTRUCTIONS FOR TREATMENT AGENCY USE:

Retain original signed release in Client file.
Fax a copy to DMV @ 303.205.5625, "Attention Interlock Compliance".
DMV will retain a copy and forward a copy to the appropriate Interlock Provider(s).
Interlock Provider(s) will contact Treatment Agency to establish access to interlock information.
If an Interlock Provider has not contacted you, the Treatment Agency, within 10 days of your submission, please fax a message to 303.205.5625 requesting follow-up.
Notify DMV by fax upon conclusion of IEC for this Client.

Release of Information
Name of Counseling Center
Address Here

Client Name:_____Birth Date: _____Soc. Sec #: _____

I understand by signing this form, I am allowing Counseling Center to disclose to and/or obtain information concerning the above named client to:

_____

Name of Person and/or Institution

_____

Complete Mailing Address/Street/P.O. Box City/State/Zip Code

Description of Information to be Disclosed

____Assessment	____Testing Information	____Medication List
____Diagnosis	____Educational Information	____Billing Information
____Psychosocial Evaluation	____Presence/Participation in Treatment	
____Psychological Evaluation	____Continuing Care Plan	
____Treatment Plan or Summary	____Progress in Treatment	____Other _____

The purpose of this disclosure of information is to improve assessment and treatment planning, share information relevant to treatment and when appropriate, coordinate treatment services. If other purpose, please specify:

_____

This authorization is voluntary and I may cancel this consent to release information at any time by sending written notice to Counseling Center at the address above. I understand that any release which was made prior to my cancellation in compliance with this authorization, shall not constitute a breach of my rights to confidentiality. Disclosure of this information carries with it the potential for unauthorized redisclosure and once information is disclosed it may no longer be protected by federal privacy regulations. I understand that I may review the disclosed information or ask questions by contacting Counseling Center at the above address.

I understand that my alcohol and/or drug treatment records are protected under the federal regulations governing Confidentiality of Alcohol and Drug Abuse Patient Records, 42 C.F.R. Part 2, and the Health Insurance Portability and Accountability Act of 1996 (HIPAA), 45 C.F.R. Pts. 160 & 164. Federal law prohibits the person or organization to whom disclosure is made from making any further disclosure of substance abuse treatment information unless further disclosure is expressly permitted by the written authorization of the person to whom it pertains or as otherwise permitted by 42 C.F.R. Part 2.

I also understand that I may revoke this consent at any time except to the extent that action has been taken in reliance on it, and that in any event this consent expires automatically as follows:
•there has been a formal and effective termination or revocation of my release from confinement, probation, or parole, or other proceeding under which I was mandated into treatment, or
•Consent can be revoked and/or expires on the following date:

I understand that I might be denied services if I refuse to consent to a disclosure for purposes of treatment, payment, or health care operations, if permitted by state law. I will not be denied services if I refuse to consent to a disclosure for other purposes.

_____ _____

Signature of Client Date

_____ _____

Signature of Staff Witness Date

Appendix K:
WTSC Reporting Format Requirements for Interlock Data From Vendors for Evaluation

WASHINGTON TRAFFIC SAFETY COMMISSION

Quarterly Reminder and Reporting Format for Ignition Interlock Data

Please send the data reports on installs and removals, and service-event logs including your data for Washington for the time period:
January 1, 2009 through **December 31, 2010.**

The data that you are reporting is for all customers who have an interlock device installed during 2009. Each time a device is installed you will create a record for that person on the EXCEL file named "Install and Removal Data". Then when the device is removed, you will update that person's record with the removal date. Each quarter you will send me a copy of this file which will include all records entered on the file from the beginning of 2009 through the current date.

For the "Service and Event Log Data" file, the only records I will be using in the study are for persons with 2009 device installs, i.e., I will match driver ID, name and DOB from the "Install" and "Service" files to link the data. If you are able to select only the "Service" records for the people in the "2009 Install" file, that would simplify my work. Otherwise, please send a "Service" file including all 2009 and 2010 records from your company's database, and I will do the matching.

Data reporting will cover two years, January 2009 through December 2010. Data on device installations only needs to be reported for one year, January 2009 through December 2009. Data on device removals and service-event logs will be reported for the entire two years.

The EXCEL file formats for reporting these data are described below. There are two separate files: one file for installs-removals and another file for service-event log data.

The file structure for "Installs and Removals" will be one record for each person. For example, installation data for Mr. Irving Interlock would be entered initially. Then, when the device was removed, the record for Mr. Interlock would be updated with the information on device removal.

The file structure for "Service and Event Log Data" will be multiple records for each person, i.e., a separate record is created each time Mr. Interlock has his device serviced and/or re-calibrated.

Each quarterly report will include all records accumulated from January 2009 to the month of the report. Please send the data in "EXCEL 2003" format or an earlier version. Please copy the data to a CD and send via US mail, FEDEX, or UPS; my mailing address is on the next page. Another option is to send as an email attachment. Please insure that the EXCEL file is password protected if you send via email. Also, please use the following convention for file names:

<COMPANY NAME>_<FILE TYPE>_<MM-DD-YYYY>_WA.xls

For example: ABC INTERLOCK_INSTALL&REMOVAL_03-29-2009_WA.xls

INTERLOCK INSTALLS AND REMOVALS.

- **Driver ID**: Driver license number (TEXT format).
- **Driver License State:** Two character State abbreviation.
- **Last**, **First**, and **Middle** Name in text format in separate columns.
- **DOB**: date of birth in DATE format <MM-DD-YYYY>.
- **Driver ZIP**: ZIP code of driver's residence.
- **Provider County**: County of provider-installer's place of business.
- **Install Date**: date of installation in DATE format <MM-DD-YYYY>.
- **Install Reason**: C=mandated by court, L=to get an interlock license, D=deferred prosecution, V=voluntary, O=other.
- **Removal Date:** date of removal in DATE format <MM-DD-YYYY>.
- **Comment**: Optional information.

NOTES: The field "**Install Date**" should not be used for dates of "scheduled installations". It should only include the actual date of installation. The field "**Removal Date**" should be used for the date that the device was actually removed...except in the case of someone who runs away with your equipment. In that case leave the **Removal Date** field blank and explain in the **Comment** field.

SERVICE and EVENT LOG DATA.

- **Driver ID**: Driver license number (TEXT format).
- **Driver License State:** Two character State abbreviation.
- **Last**, **First**, and **Middle** Name in text format in separate columns.
- **DOB**: date of birth in DATE format <MM-DD-YYYY>.
- **Service Date:** date device was serviced and recalibrated (DATE format <MM-DD-YYYY>).
- **Was Device Functioning Correctly prior to service?:** YES or NO.
- **Date of Previous Service**: date device was last serviced (DATE format <MM-DD-YYYY>).
- **N of Events**: total number of events recorded since last service.
- **Tampering-Circumvention**: Number of tamper-circumvention events since last service.
- **Lock Outs:** Number of lock-out events since last service.
- **Start-up Successes:** number of successes.
- **Start-up Failures:** number of fails, highest BAC reading.
- **Random Retest Successes:** number of successes.
- **Random Retest Failures:** number of fails, highest reading BAC.

Please call me at [redacted] or e-mail to PSALZBERG@WTSC.WA.GOV if you have any questions. Thank you for your help,

Phil Salzberg
Washington Traffic Safety Commission
PO Box 40944
Olympia WA 98504-0944

Appendix L:
Florida Ignition Interlock Device Interview Report Used by DUI Case Managers

Ignition Interlock Device Interview Report

Name:_____Client#_____Date_____

Date of DHSMV referral _____ D.O.B. _____ D.L.# _____

Address:_____ Tel. Number:_____

Date of last ignition interlock summary report: _____

Highest BAC reading: _____ # of lock-outs: _____ # of violations: _____

Summarize client's ignition interlock status including the areas of patterns of use of the device, lock-outs/violations, BAC readings, and tampering.

_____

_____

_____

_____

Any reported arrests or convictions?_____ Explain: _____

_____

Any reported traffic tickets or citations? _____Explain: _____

_____

Any reported attendance at sessions for the purpose of:

Education_____	Self-improvement_____	Voc. Training_____
Alcohol therapy_____	Drug therapy_____	Mental health therapy_____
Other_____	Prescribing medicine_____	

If any of the previous items are checked please describe below:

_____

Summarize any questions the client has regarding how the ignition interlock device works.

_____

_____

Summarize the evaluator's recommendations and the client's plan for avoiding future lock-outs and other risky behaviors caused by substance use and his/her plan for living within the requirements of the program.

_____

_____

_____

_____

Evaluator_____Certification#:_____ Date:_____

Client Signature_____ Date:_____

If the Evaluator holds a temporary certificate this form must be co-signed by the clinical supervisor.

Clinical Supervisor_____Certification#:_____Date:_____

_____

Appendix M:
National Center for DWI Courts-Ignition Interlock Device Guidelines

IGNITION INTERLOCK DEVICE GUIDELINES FOR DWI COURTS

NCDC NATIONAL CENTER FOR DWI COURTS

INTRODUCTION

DWI courts target hardcore drunk drivers. Hardcore drunk drivers are defined as individuals with a history of prior impaired driving convictions and/or with a BAC over .15 g/dL. These individuals are often more resistant to traditional interventions for impaired drivers and often suffer from alcohol dependence.

Hardcore drunk drivers pose a greater risk to society and require the higher levels of supervision that exist in DWI courts. An Ignition interlock is one more tool or technology DWI courts can use to increase the monitoring of DWI court participants and improve public safety.

In June, 2010, the Board of Directors of the National Association of Drug Court Professionals adopted the following position statement regarding ignition interlock devices:

> *The National Association of Drug Court Professionals supports the use of ignition interlock devices for DWI Court and Drug Court participants.*
>
> *Research demonstrates that ignition interlock devices are an effective tool in stopping an individual from starting a vehicle after consuming alcohol while the device is installed on that vehicle. The device prevents a vehicle from starting if a person's blood alcohol level exceeds a pre-set limit.*
>
> *Research also demonstrates that once the ignition interlock device is removed from the vehicle, recidivism rates eventually return to pre-installation levels. To achieve a long term change in behavior and reduce long term risk, individuals should also be involved in a comprehensive alcohol/drug treatment program.*
>
> *Community public safety supports the installation of ignition interlock devices to stop an addicted person from driving after drinking while the benefits of treatment are accruing.*

The following guidelines are designed to assist DWI court teams as they consider incorporating the use of ignition interlock devices into their court.

GUIDELINE NUMBER 1: PARTICIPANTS MUST FOLLOW THE LAW. WHEN LEGALLY ALLOWED, PARTICIPANTS SHOULD DRIVE IN AN IGNITION INTERLOCK EQUIPPED VEHICLE.

Most DWI court participants are repeat drunk drivers and thus, typically will not possess valid driver's licenses.

While every state has its own statutory requirements, federal law (23 USC §164a(4)A) provides that subject to state law and restrictions a repeat DWI offender can receive a restricted license to drive, but only if there is an ignition interlock device placed upon the offender's vehicle. Failure to comply with this provision results in a diversion of federal highway safety funds for the state.

Some states have passed legislation using the cited federal language that allows the granting of limited licenses, but only if the offender is in DWI court and an ignition interlock is installed on his vehicle.

State associations of drug court professionals and DWI court team members should consider and pursue similar legislation in their respective states.

GUIDELINE NUMBER TWO: DWI COURT TEAM MEMBERS NEED TO UNDERSTAND STATE DRIVERS LICENSE ADMINISTRATIVE LAW AND PROCEDURE.

Procedures for securing restricted licenses vary greatly state by state. DWI court teams must familiarize themselves with their state's driver's license administrative law and procedure and fashion their DWI court's policies so as to comply with the law and procedure.

It is important to develop a cooperative relationship with the motor vehicle licensing authority in your state with the goal of developing good policy in the application and expansion of DWI court/Ignition Interlock programs.

GUIDELINE NUMBER THREE: DWI COURT TEAM MEMBERS NEED TO UNDERSTAND THE DEVICES AVAILABLE IN THEIR STATE.

Some states have their own technical standards as to what is required of ignition interlock providers. These standards vary greatly between the states. A state's technical requirements may also rely upon The NHTSA 1992 Ignition Interlock Model Specifications.[16]

Many states provide lists of companies that are authorized to offer ignition interlock services in the particular state.

It is important for DWI court team members to understand the capacities of the various devices approved for use in the state so they can be used effectively in a DWI Court Ignition Interlock Program.

[16] NHTSA Model Specifications for Breath Alcohol Ignition Interlock Devices: Federal Register Vol. 7, No 67, Page 11772 et. sec.

DWI courts must work only with ignition interlock providers and devices that are approved for use in the court's state.

GUIDELINE NUMBER FOUR: IGNITION INTERLOCK DEVICES CAN BE USED TO HELP MONITOR A PARTICIPANT'S ALCOHOL USE.

Ignition interlocks were designed to keep a motor vehicle from starting if the driver tests positive for alcohol in excess of a predetermined breath alcohol level.

Ignition interlock devices were **NOT** created to monitor alcohol consumption. However, a number of DWI courts are currently using ignition interlock devices to control both the participant's vehicle and monitor alcohol consumption.

This is only appropriate when:

1) The DWI court has a zero tolerance policy as to alcohol consumption, and

2) The ignition interlock is not used to prove the presence of a particular breath alcohol level in a participant.

Ignition interlock devices can be programmed to require a DWI court participant to make a certain number of alcohol monitoring blows per day, at specified times. A missed test, or a blow that is above a preset alcohol level, is recorded in the device as a violation.

The use of the ignition interlock in this manner can be a great benefit to a participant as the testing device is conveniently located at his or her residence and it is always transported with the participant whenever he or she drives to a different location. Using the same device to control the vehicle and for alcohol monitoring may also result in a cost savings to the participant and the program.

A positive alcohol blow may be indicative of the presence of mouth alcohol and many companies require additional blows when a positive result occurs, to allow the possibility of mouth alcohol to be cleared from the participant's system. Information stored in the data logger from the additional tests can also provide important information as to the underlying alcohol incident.

GUIDELINE NUMBER FIVE: USE PHOTO IDENTIFICATION IGNITION INTERLOCK DEVICES TO PROVIDE PROOF POSITIVE OF WHO PROVIDED THE BREATH SAMPLE.

There are a variety of anti-circumvention features associated with ignition interlock devices designed to limit opportunities that a person other than the program participant/driver is providing the sample for the device to measure.

In the DWI court setting it is critical to identify the individual that is blowing into the device. Many DWI courts are utilizing ignition interlock devices which also provide a photo of the person providing the sample. A number of interlock companies have such devices available and it is important that DWI courts understand how this feature works.

Some DWI court judges report that photo identification technology has greatly increased their acceptance of using ignition interlocks.

GUIDELINE NUMBER SIX: DWI COURT TEAMS NEED TO UNDERSTAND THE USE OF DATA LOGGERS/EARLY RECALL.

Modern ignition interlocks have data loggers which capture and store information about a wide range of vehicle events in the handset. Devices also have a backup of the data in a second location in the event that the handset is lost.

Ignition interlock data loggers are downloaded at the ignition interlock company facility between every 30 to 67 days. Information obtained by these regular data logger downloads is not sufficient to provide the DWI court with timely information needed to effectively address a participant's violation.

Many modern ignition interlocks have an "Early Recall" mechanism. If a DWI court participant fails to comply with the requirements programmed into the device (e.g. blowing positive for alcohol or missing a required blow), the Early Recall mechanism is activated and a message appears on the interlock's screen telling the participant that if he/she does not bring the vehicle in for a data down load within 48 hours the vehicle will no longer start.

Ideally, upon the downloading of a participant's violation at the ignition interlock company's facility, an e-mail is sent to the probation department and a violation can be processed in the normal manner of the DWI court.

A court needs to check with the state's administrative ignition interlock program authority as to the availability of this approach.

The data obtained from the device needs to be made available to the entire team, especially treatment providers, to assist in providing an effective treatment response.

GUIDELINE NUMBER SEVEN: INCENTIVES AND SANCTIONS ARE IMPORTANT IN A DWI COURT IGNITION INTERLOCK PROGRAM.

While the use of ignition interlocks in DWI courts is a relatively new practice, it is important to remember that DWI courts are a type of drug court. DWI courts do not have to reinvent the wheel.

In DWI/drug courts, incentives for good behavior are more effective in changing participant addictive behavior than are sanctions. This same philosophy should be applied to the administration of DWI court using Ignition Interlocks.

Sanctions in DWI/drug courts are progressive, becoming more significant based upon the number of violations and the nature of those violations. Revoking probation and/or removal of the ignition interlock devices should not be done lightly. It is important to recall that public safety is enhanced while

the devices are on the vehicles. DWI/drug courts may want to consider extending the length of time a device is on the vehicle for a violation as an appropriate response.

Revocation of probation and/or removing of the ignition interlock devices must be weighed against an increased likelihood that drinking and driving may result.

GUIDELINE NUMBER EIGHT: INDIGENCE AND PROGRAM COSTS SHOULD BE REVIEWED WHEN USING IGNITION INTERLOCKS.

While DWI court participants frequently have more resources and support systems available than do participants in classic drug courts, it is clear that a significant number of DWI court participants have limited financial resources. Participant resources may be strained by the aggregate of fines, court costs, treatment expense, ignition interlock costs, license reinstatement fees and increased insurance expense.

Using ignition interlocks to both monitor the participant's alcohol consumption and to control the participant's vehicle may result in cost saving for the participant and the program. Furthermore, the ability of the participant in the DWI court Ignition Interlock Program to earn a living may be substantially increased by making it possible for the participant to legally drive to and from employment.

However, a DWI Court Ignition Interlock Program must have some method in place to provide ignition interlock services at little or no cost to the truly indigent participant. The development of a form using objective criteria to qualify an individual as an indigent participant is recommended, although being able to afford an ignition interlock is not the same as being able to qualify for representation by a public defender.

GUIDELINE NUMBER NINE: REPEAT DWI OFFENDERS ARE A DANGEROUS TARGET POPULATION KEEPING THE COMMUNITY INFORMED OF THIS PROGRAM IS CRUCIAL.

Repeat DWI offenders carry with them a level of risk that many drug court participants do not. They repeatedly put themselves and others at significant risk by driving a vehicle while impaired on public roads.

Most law enforcement professionals understand that a very high percentage of repeat DWI offenders continue to drive when their licenses are suspended or revoked. However, the public at large, typically, is not aware of this behavior.

If a DWI court participant should be involved in an alcohol-related crash in which someone is injured or killed, it is likely that the public will hold the DWI court Ignition Interlock Program accountable for enabling the participant to be back on the road.

It is important to involve the community at the beginning of the process to increase the understanding on why ignition interlocks are being used in the DWI court and the benefits they bring to the court and the community.

Some DWI Court Ignition Interlock Programs require more than the simple expiration of the 45 day hard suspension before they authorize the issuance of the restricted license. These additional conditions may include, but are not limited to, a longer period of good behavior/clean time and successful completion of certain levels of alcohol/drug counseling. Relapses or certain probation violations may restart the clock before a limited license is issued.

The establishment of these conditions must take into account local considerations, but a fair amount of caution is recommended before the restricted license is granted. Such concerns must be weighed against the understanding that the sooner that the ignition interlock devices are placed on the participant's vehicles, the sooner the protective benefits of the ignition interlocks can be realized.

GUIDELINE NUMBER TEN: DWI COURTS MUST PROVIDE CLEAR WRITTEN POLICY/PROCEDURES FOR THE IGNITION INTERLOCK PROGRAM.

As with all human activity, communication is crucial. Each DWI court utilizing ignition interlocks must include in its Memorandum of Understanding all critical terms detailing the use of the ignition interlocks and related procedures, including but not limited to those issues that have been specifically highlighted in these guidelines.

Some states provide for a number of separate criminal charges that may be committed when using an ignition interlock, such as:

- tampering with or attempting to circumvent the device
- asking a bystander to provide a sample
- a bystander actually providing a sample

A DWI court team should discuss all criminal charges that could be brought as a result of any possible violation, or if any violation would result in additional sanctions in the DWI court. The team's understanding should be reflected in the Memorandum of Understanding.

All DWI Court Ignition Interlock Program participants must be given a handbook that sets forth clear and detailed policies and procedures as to what are their rights and responsibilities in the program, so as to insure that they enter the program with appropriate expectations.

There should be a clear discussion in the participant's handbook to ensure the participant is informed as to any potential criminal charges that may be brought based on his or her use of an ignition interlock device.

The National Center for DWI Courts (NCDC), a professional services division of the National Association of Drug Court Professionals (NADCP), is the only dedicated advocacy, policy, training and technical support organization for DWI courts in the nation. For more information about the NCDC or DWI courts go to **www.dwicourts.org**.

NCDC – 1029 North Royal Street, Suite 201 – Alexandria, VA 22314. 703-575-9400

This document was developed by the NCDC DWI Court Task Force,which was made possible by a charitable donation from the Wine & Spirits Wholesalers of America.

Appendix N:
2013 Survey of Currently Installed Interlocks in the United States – R. Roth

2013 Survey of Currently-Installed Interlocks in the U.S.

Richard Roth, PhD August 30, 2013
RichardRoth2300@msn.com www.RothInterlock.org

The purpose of this report is to track the increases in the utilization of ignition interlocks as a drunk driving sanction in the U.S. This is the eighth annual survey compiled by the author since 2006. Four figures in this report show the national trend and current snapshots for each state. The figures are:

1. the trend in the number of ignition interlocks installed in the US,
2. the number of interlocks currently-installed in each state,
3. the number of interlocks per capita in each state, and
4. the number of interlocks per Fatal Alcohol-Impaired-Driving Crash, FAIDC.

Methodology

Two independent sets of sources were used to estimate the number of interlocks in each state. The fifteen U.S. Interlock distributors comprised one set. The distributors included AlcoAlert Interlock, Alcohol Countermeasure Systems, Alcohol Detection Systems, Autosense, B.E.S.T. Labs, Consumer Safety Technology, Draeger, Guardian Interlock, Instant Interlock, Interceptor Ignition Interlocks, Lifesafer Interlock, Low Cost Interlock, Monitech, Sens-O-Lock of America and Smart Start. Independent official government contacts in each of the states comprised the second source. The data were collected in July-August 2013.

All fifteen US ignition interlock distributors provided estimates for the total number of their ignition interlocks that were currently-installed in the U.S. Fourteen of the fifteen distributors also provided state-by-state estimates of their currently-installed interlocks. Independent state estimates were acquired from forty-six states and those estimates were used for those states in this report. The author was unable to identify state sources in Alaska, Indiana, Rhode Island, and Wisconsin. For each of those four states, the sum of values from the fourteen distributers was increased by a percentage equal to the average U.S. market share of Smart Start, the company that did not report state data.

The columns of Appendix 1 contain the raw data and computed values used in this report.

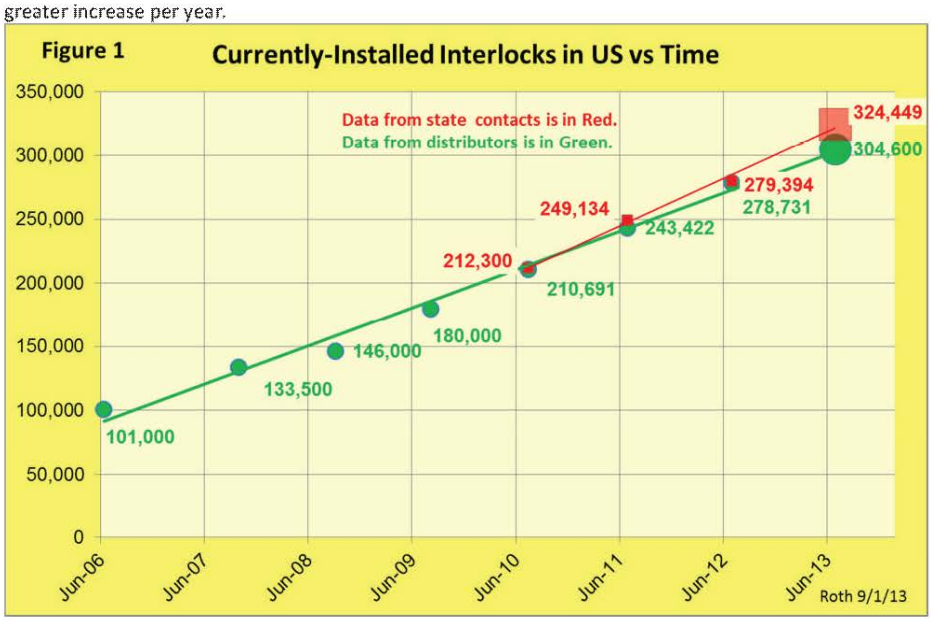
Column 1 lists each of the states and the U.S.
Column 2 is the number of currently-installed ignition interlock devices, IID's, in each state.
Column 3 is the rank of each of the states on the number of currently-installed interlocks.
Column 4 is the population of each state.
Column 5 is the number of IID's per 10,000 population
Column 6 is the state rank on IID's per 10,000 population.
Column 7 is an estimate of the number of Fatal Alcohol-Impaired-Driving Crashes in 2013 based on a linear extrapolation of a least squares fit to the FAIDC data for 2007-2011. This is a surrogate denominator for the number of drunk drivers in each state.
Column 8 is the number of IID's per FAIDC for each state and the US.
Column 9 is the state rank on IID's per FAIDC.

Acknowledgements

The author wishes to acknowledge the state sources and ignition interlock distributors for their contributions of time and data. Special thanks are due to the seven interlock distributors who contributed financial support to this project, namely, Alcohol Countermeasure Systems, Alcohol Detection Systems, Consumer Safety Technology, Draeger, Guardian, Interlock, Lifesafer, and Smart Start.

Results

Figure 1 shows the trend in the total number of currently-installed interlocks in the U.S.[1] The 2013 estimates are based on data supplied by 15 ignition interlock distributors and 46 independent state sources. A least-squares straight line fit to the distributor data indicates average yearly increases of about 30,000 units per year. A similar fit to the four data points from state estimates indicates a slightly greater increase per year.



There are approximately 1,400,000 impaired driving arrests[2] each year in the U.S. Accordingly, the ratio of currently installed interlocks to persons arrested is about 22%.

There are approximately 1,000,000 impaired driving convictions each year in the U.S. So the ratio of currently installed interlocks to impaired driving convictions is about 30%.

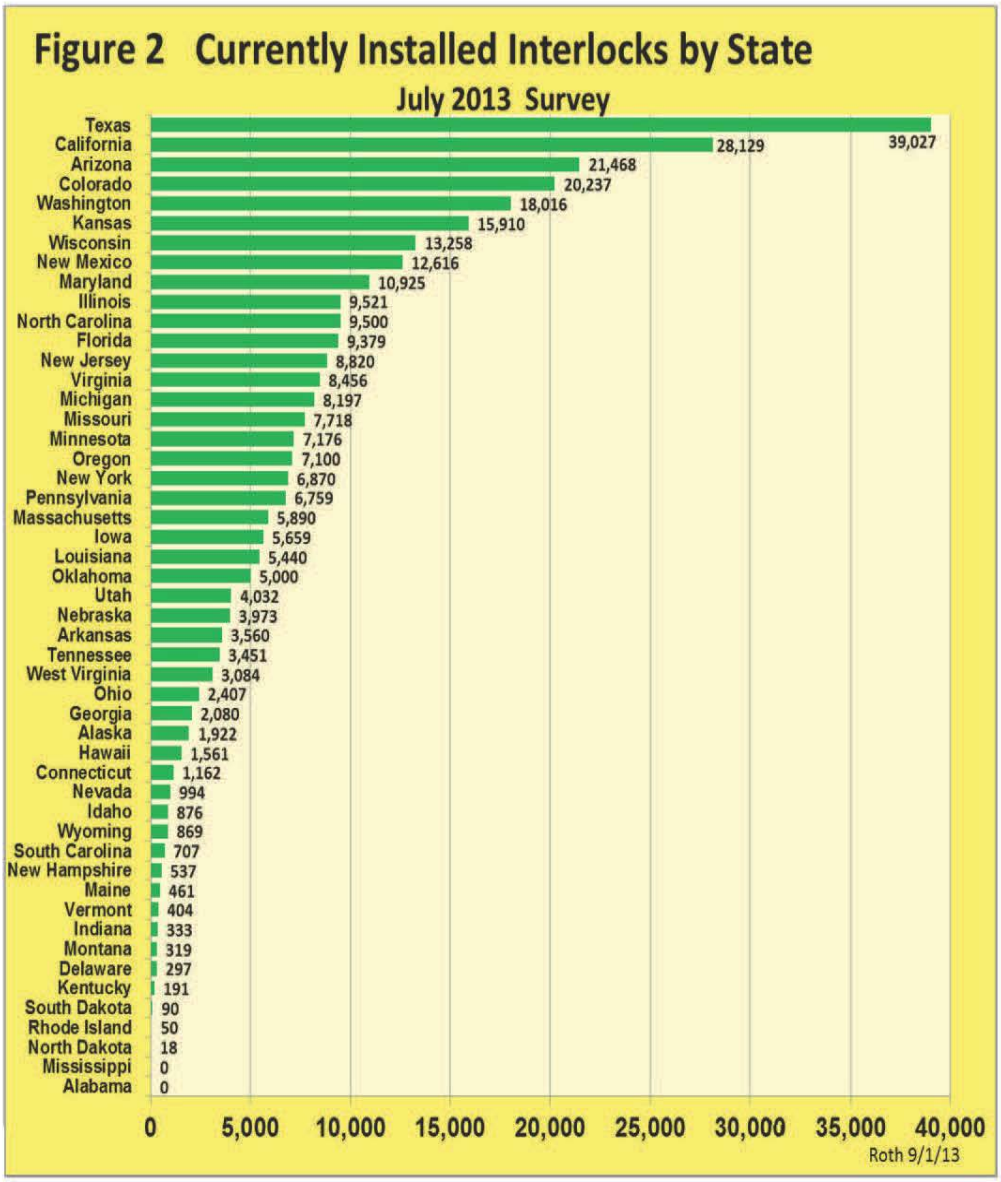
There is about one currently-installed interlock per thousand residents in the U.S.

There are about 41 ignition interlocks per fatal alcohol-impaired-driving crash in the U.S. (305,000 interlocks divided by 7400 fatal alcohol-impaired-driving crashes).

[1] Before 2010 there was insufficient data from state sources for the computation of a national total and only the totals of values from distributors were plotted. For the last 4 years, there has been sufficient state data for a national estimate in addition to the estimate from distributors.

[2] The numbers of arrests and convictions are not uniformly collected in the states. Doing so is complicated by state differences in diversion programs, plea downs, police enforcement, and variations in data reporting. The numbers used for arrests and convictions are the generally accepted estimates for the U.S . The author believes that the actual number of DWI arrests per year is significantly higher than the FBI's estimate which is based on voluntary reporting by law enforcement agencies. For example, the FBI reported 11,307 DWI arrests in New Mexico in 2010 whereas the NM Citation Tracking System reported 16,563.

Figure 2 shows estimates for the number of currently-installed ignition interlocks by state. Texas, California, Arizona, and Colorado have the most with over 20,000 each. Washington, Kansas, Wisconsin, New Mexico, and Maryland have between 10,000 and 20,000. Fifteen states have between 5000 and 10,000; ten states have between 1000 and 5000; and the remaining sixteen states have a combined total of less than 7000 currently-installed interlocks.



3

Figure 3 shows currently-installed interlocks per capita by state. New Mexico, Kansas, Colorado, and Arizona rank highest on this measure. Sanctions have a general deterrent effect only if members of the public know about them. Therefore the number of interlocks per capita represents one relative measure of the general deterrent effect of interlocks in each state.

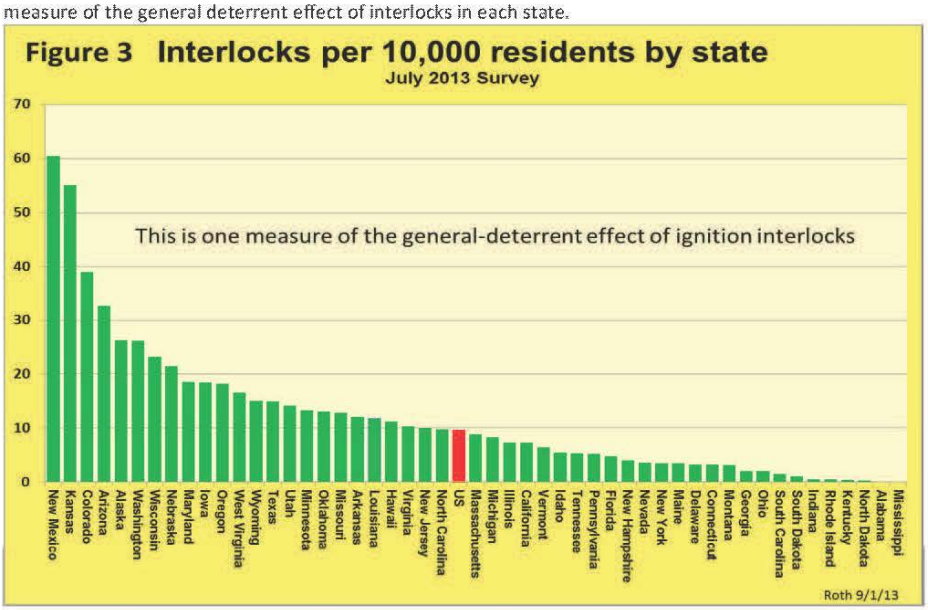
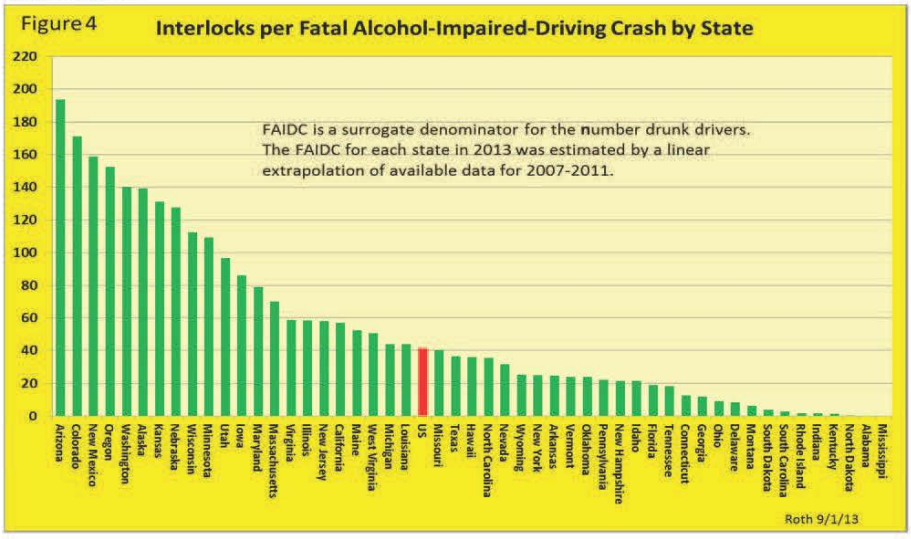


Figure 4 shows the estimated number of currently-installed interlocks per fatal alcohol-impaired-driving crash by state. This is one relative measure of the specific deterrent effect of interlock programs in the states. Arizona, Colorado, New Mexico, Oregon, Washington, Alaska, Kansas, and Nebraska rank highest on this measure.



4

Appendix 1: A summary of raw data and computed values used in figures 1-4

State	Installed Interlocks (IID's)	Rank on IID's	Population Estimate	IID's Per 10,000	Rank on IID's Per 10,000	FAIDC Estimate	IID's Per FAIDC	Rank on IID's Per FAIDC
Alabama	0	49	4822023	0.0	49	172	0	49
Alaska	1922	32	731449	26.3	5	14	139	6
Arizona	21468	3	6553255	32.8	4	111	193	1
Arkansas	3560	27	2949131	12.1	19	144	25	30
California	28129	2	38041430	7.4	28	496	57	18
Colorado	20237	4	5187582	39.0	3	118	171	2
Connecticut	1162	34	3590347	3.2	39	90	13	38
Delaware	297	44	917092	3.2	38	35	9	41
Florida	9379	12	19317568	4.9	33	490	19	36
Georgia	2080	31	9919945	2.1	41	173	12	39
Hawaii	1561	33	1392313	11.2	21	43	36	25
Idaho	876	36	1595728	5.5	30	41	22	35
Illinois	9521	10	12875255	7.4	27	164	58	16
Indiana	333	42	6537334	0.5	45	186	2	46
Iowa	5659	22	3074186	18.4	10	66	86	12
Kansas	15910	6	2885905	55.1	2	122	131	7
Kentucky	191	45	4380415	0.4	47	124	2	47
Louisiana	5440	23	4601893	11.8	20	124	44	22
Maine	461	40	1329192	3.5	37	9	52	19
Maryland	10925	9	5884563	18.6	9	138	79	13
Massachusetts	5890	21	6646144	8.9	25	84	70	14
Michigan	8197	15	9883360	8.3	26	187	44	21
Minnesota	7176	17	5379139	13.3	16	66	109	10
Mississippi	0	50	2984926	0.0	50	94	0	50
Missouri	7718	16	6021988	12.8	18	192	40	23
Montana	319	43	1005141	3.2	40	50	6	42
Nebraska	3973	26	1855525	21.4	8	31	127	8
Nevada	994	35	2758931	3.6	35	31	32	27
New Hampshire	537	39	1320718	4.1	34	25	22	34
New Jersey	8820	13	8864590	9.9	23	153	58	17
New Mexico	12616	8	2085538	60.5	1	79	159	3
New York	6870	19	19570261	3.5	36	275	25	29
North Carolina	9500	11	9752073	9.7	24	267	36	26
North Dakota	18	48	699628	0.3	48	52	0	48
Ohio	2407	30	11544225	2.1	42	258	9	40
Oklahoma	5000	24	3814820	13.1	17	208	24	32
Oregon	7100	18	3899353	18.2	11	47	152	4
Pennsylvania	6759	20	12763536	5.3	32	305	22	33
Rhode Island	50	47	1050292	0.5	46	28	2	45
South Carolina	707	38	4723723	1.5	43	232	3	44
South Dakota	90	46	833354	1.1	44	23	4	43
Tennessee	3451	28	6456243	5.3	31	187	18	37
Texas	39027	1	26059203	15.0	14	1074	36	24
Utah	4032	25	2855287	14.1	15	42	97	11
Vermont	404	41	626011	6.5	29	17	24	31
Virginia	8456	14	8185867	10.3	22	144	59	15
Washington	18016	5	6897012	26.1	6	129	140	5
West Virginia	3084	29	1855413	16.6	12	61	50	20
Wisconsin	13258	7	5726398	23.2	7	118	112	9
Wyoming	869	37	576412	15.1	13	34	26	28
US	304,600		31391 4040	9.7	24.5	7356	41	

5

DOT HS 812 445
August 2017

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

13100-081617-v2