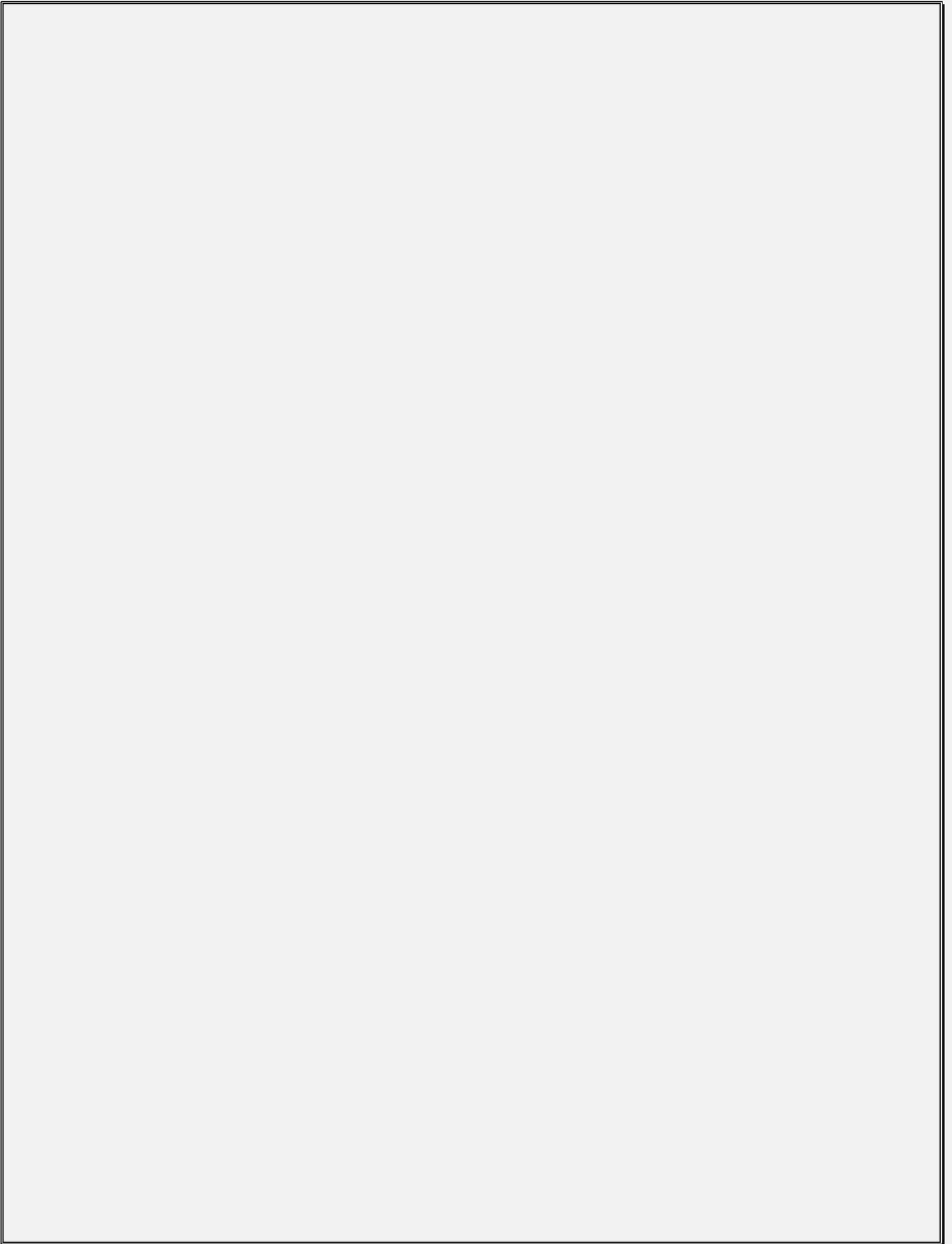


**MICHIGAN
DWI/SOBRIETY
COURT IGNITION
INTERLOCK
EVALUATION
2014 REPORT**

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ACKNOWLEDGEMENTS

This report was made possible through the efforts and cooperation of many criminal justice professionals in the state of Michigan. The authors of this report would like to extend their thanks and appreciation to the following people and organizations:

- Dr. Jessica Parks: Problem Solving Courts Data Manager, State Court Administrative Office (SCAO).
- Ms. Dian Gonyea: State Court Administrative Office (SCAO).
- Hon. Harvey Hoffman: Chief Judge, 56th A District Court, Michigan Association of Drug Court Professionals (MADCP).
- Hon. Michael Haley: Judge, 86th District Court.
- Hon. Dennis Girard: Judge, 96th District Court.
- Ms. Lynn Kirkpatrick: Director of Probation Services, 8th District Court.
- Mr. Gary Secor: Court Administrator, 61st District Court.
- Ms. Carol Stocking: Court Administrator, 86th District Court.
- Ms. Pamela Blue: Chief Probation Officer, 86th District Court.
- Ms. Jennifer Thom: Deputy Court Administrator, 51st District Court.
- Ms. Jennifer Bennon: Court Administrator, 96th District Court.
- Dr. George Grant Jr.: Dean, College of Community and Public Service, Grand Valley State University.
- Dr. Kathleen Bailey: Director, School of Criminal Justice, Grand Valley State University.

The opinions, findings and conclusions expressed in this report are those of the author(s) and not necessarily those of the Michigan Supreme Court, State Court Administrative Office and/or the Michigan Association of Drug Court Professionals. The Michigan Association of Drug Court Professionals funded this report.

INTRODUCTION & BACKGROUND

Purpose of the Report

This report was commissioned by the Michigan Association of Drug Court Professionals (MADCP) and was produced pursuant to Michigan Public Act 154 of 2010, in cooperation with the State Court Administrative Office (SCAO). Its purpose is to provide the legislature, the Secretary of State, and the Michigan Supreme Court, documentation related to the program participants' compliance with court ordered conditions, their progress through the program, and the outcome(s) of being placed on interlock restrictions. This document is the third annual report: it provides the reader with an overview of issues pertaining to ignition interlock programs in Michigan, nationally, and internationally. It also summarizes the study design, provides a description of the data, analyzes the operation and effectiveness of the DWI/Sobriety Court interlock pilot program, and discusses innovative practices, obstacles, and lessons learned from the first three years of the study.

Use and Audience

This report is directed toward legislators, court administrators and other criminal justice practitioners who are interested in the use of ignition interlock devices as a means of controlling and reducing drunk driving recidivism in the state of Michigan. Section 1 provides the reader with supplemental information regarding the nature and extent of drunk driving, and the use of interlocks to monitor and control offenders beyond the issues discussed in the 2012 and 2013 reports. Following this review, Sections 2 and 3 provide the methods and findings of the 2014 Ignition Interlock Pilot Program in Michigan. Finally, Section 4 provides the reader with general conclusions and a summary of the first three years of the interlock program.

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EXECUTIVE SUMMARY

Overview

This report was commissioned by the Michigan Association of Drug Court Professionals (MADCP), and was produced pursuant to Michigan Public Act 154 of 2010, in cooperation with the State Court Administrative Office (SCAO). Its purpose is to provide the legislature, the Secretary of State, and the Michigan Supreme Court documentation related to operation of Michigan DWI/Sobriety Court Ignition Interlock Pilot Program. This section represents a summary overview of the findings in the 2014 report.

The Present Study

The primary goal of this 2014 study is to determine whether ignition interlock devices are an effective means to control drunk driving recidivism among chronic DWI offenders. More specifically, this study was guided by the following research objectives, as set forth in the PA154 legislation:

- a) The percentage of program participants ordered to place interlock devices on their vehicles who actually complied with the order;
- b) The percentage of program participants who removed court-ordered interlocks from their vehicle without court approval;
- c) The percentage of program participants who consumed alcohol or controlled substances;
- d) The percentage of program participants found to have tampered with court-ordered interlocks;
- e) The percentage of program participants who operated a motor vehicle not equipped with an interlock;
- f) Relevant treatment information about program participants; and,
- g) The percentage of program participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL, 257.625 (i.e. convicted of a new driving under the influence offense).

To accomplish this goal, the present analysis compares: 1) subjects enrolled in the Ignition Interlock Pilot Program (the experimental group, total n=450), to 2) a DWI/Sobriety Court comparison sample drawn prior to the creation of the pilot program (not under interlock restriction) (first comparison group, total n=508), and also to a sample of standard probationers drawn from across the state of Michigan (second comparison group, total n=407). The data were obtained through the Michigan Drug Court Case Management Information System (DCCMIS) and the Michigan Judicial Data Warehouse (JDW).

This research is based on data drawn from five purposefully selected partner courts that are representative of the state of Michigan in the context of: 1) region 2) level of urbanization and 3) population:

- The 61st District Court (Grand Rapids; Kent County).
- The 86th District Court (Traverse City; Grand Traverse County).
- The 8th District Court (Kalamazoo; Kalamazoo County).
- The 96th District Court (Marquette; Marquette County).
- The 51st District Court (Waterford; Oakland County).

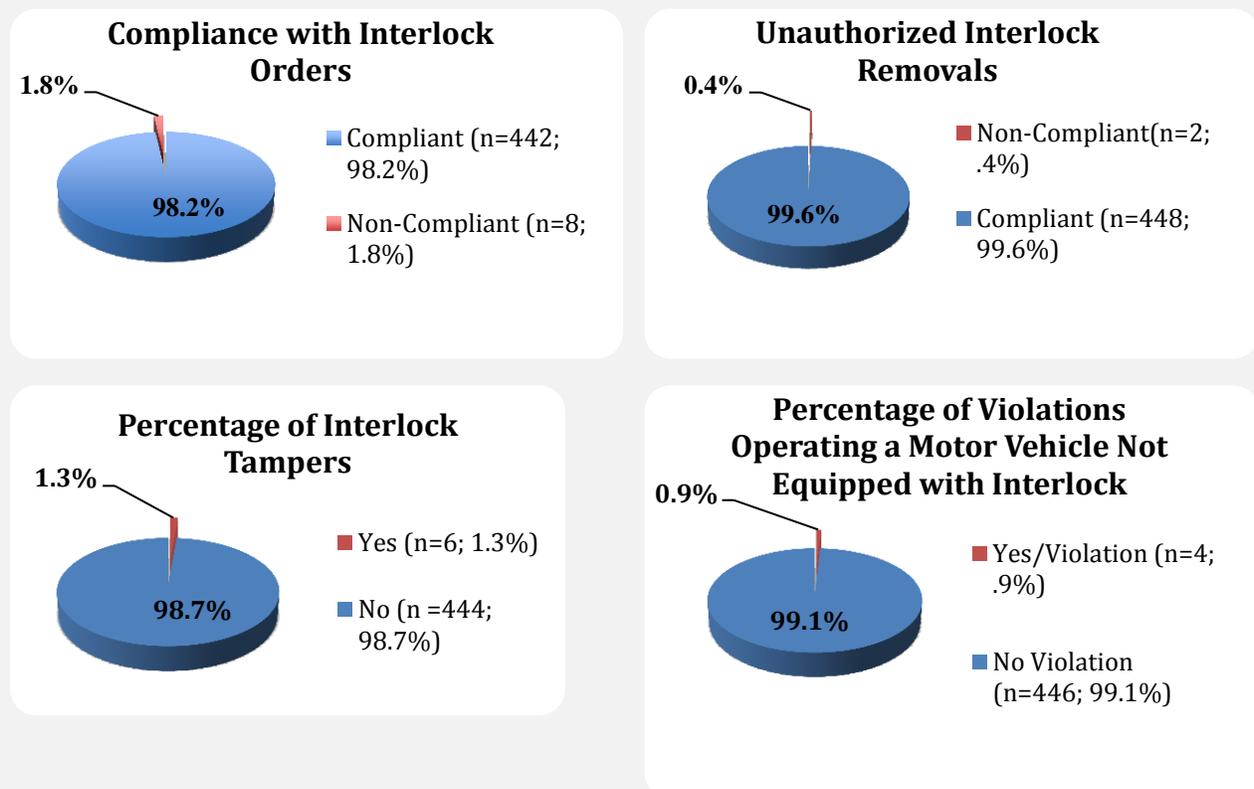
Key Findings

Based on analysis of data from the first three years of this project, the ignition interlock pilot program has been largely successful; it appears that ignition interlocks represent a promising method of reducing recidivism (particularly DWI recidivism) among repeat drunk drivers in the state of Michigan.

More specifically:

- An estimated 98.2% of interlock program participants ordered to install interlock devices on their vehicles have complied with those orders;
- Approximately 0.4% of pilot program subjects removed the interlock devices without authorization;
- Approximately 1.3% of the Interlock Program Participants tampered with a court ordered interlock;
- Less than 0.9% of the Interlock Program Participants operated a motor vehicle not equipped with an interlock device

All of this data is graphically summarized below:



- Alcohol and drug use among Interlock Pilot Program Participants is substantially lower in comparison to similar offenders not under interlock supervision;
- Ignition interlock clients were more likely to improve their levels of education between the start and the completion of their programs. They also received significantly higher numbers of incentives/rewards from the courts, attended more 12-step meetings, were drug tested more often (but were less likely to test positive), spent less time in jail, had fewer warrants issued against them, had fewer treatment contact hours, and enjoyed a higher number of overall sobriety days.
- The “typical” Interlock Program Participant is Caucasian, male, single and is approximately 35 years old. The demographic characteristics of the Non-Interlock Group are relatively similar to those of the pilot program subjects.
- In comparison to the Interlock Pilot Program group, Non-Interlock comparison subjects are less likely to have full time employment and report lower levels of education. They are also less

likely to have received previous treatment for substance abuse issues and have somewhat more “complex” drug abuse histories.

- With respect to overall program success, in the Interlock Pilot Program group, 252 clients successfully graduated from DWI/Sobriety Court by the end of 2013: only 29 failed (a failure rate of 10.3%). By way of contrast, in the DWI/Sobriety Court comparison group (absent of ignition interlocks), 136 out of 403 clients did not successfully complete their programs (a failure rate of 33.7%). Multivariate analysis controlling for demographic and background characteristics of offenders validated this finding: offenders not under interlock supervision have over 3x greater odds of “failing out” of DWI/Sobriety Court than offenders who are in the pilot program.

With respect to recidivism, this 2014 study found that:

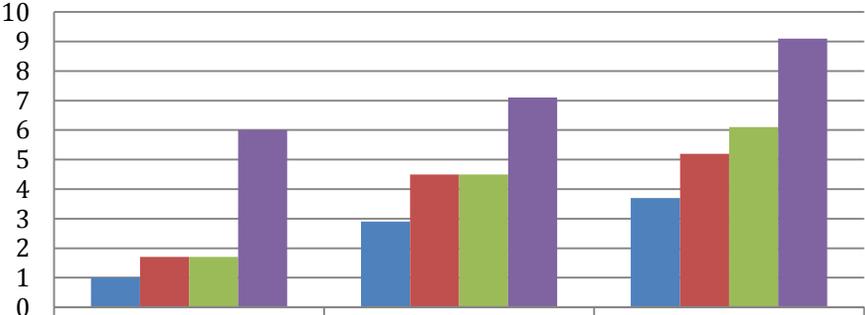
- In comparison to the non-interlock offenders in DWI/Sobriety Court, and Standard Probationers, Interlock Program Participants have the lowest recidivism rates for operating under the influence both one and two years after the initial conviction for DWI;
- Interlock Program Participants have the lowest recidivism rates for all criminal offenses within one and two years of their initial DWI offense (see figure on the following page).

Insight into the operation of the Ignition Interlock Pilot Program during its third year of operation was gained through a series of informal telephone conversations with partner courts conducted during the Fall, of 2013. Highlights included:

- There have been very few changes in key personnel within the partner courts: generally, the pilot program exhibited remarkable stability over the study period.
- A few process related issues were noted that could conceivably impact the pilot program (e.g. a change in one court’s drug screening process, the availability of grant monies to allow low SES clients in one jurisdiction to obtain and pay for interlock devices). Generally, however, the impact of these changes was expected to be minor.
- A few outstanding issues pertaining to administrative matters, and the process of reporting relevant information to the Secretary of State (SOS), remain to be resolved.
- While a few technological issues with interlock hardware were reported, partner courts generally found interlock vendors to be responsive to their concerns. One court is now pilot testing an advanced GPS enabled interlock device that features real time monitoring through the use of cell phone technology.
- Several partner courts suggested that creating a computer interface, which would permit BAIID data to be downloaded directly into DCCMIS, would allow them to operate more efficiently.
- Both court staff and interlock clients generally report highly positive experiences with the pilot program.

Interlock Participant Recidivism Rates

Shown in Percentages



	Interlock Group	Non-Interlock Group	Traditional Probationers
■ DWI < 1 Year	1	2.9	3.7
■ DWI < 2 Years	1.7	4.5	5.2
■ All Crimes < 1 year	1.7	4.5	6.1
■ All Crimes < 2 years	6	7.1	9.1

SECTION 1: ALCOHOL USE & INTERLOCKS

INTRODUCTION

Alcohol-impaired driving (having a blood alcohol level of .08 or higher) is a serious public health issue in the United States. In 2012, there were 10,322 drunk-driving related fatalities in the US, accounting for approximately one-third of all traffic-related deaths. Moreover, two-thirds of non-fatal crashes were attributed to drinking and driving (Vital Signs, 2011). Additionally, self-report studies have found that approximately 2.2% of the driving population had at least one impaired driving episode within a 30-day period (Bergen, Schults, Beck & Qayad, 2012), and the actual number of alcohol-impaired driving episodes are estimated at over 46 million annually (Fell & Voas, 2013). Other research by the National Highway Traffic Safety Administration (NHTSA) estimates that alcohol-related vehicle crashes cost about \$37 billion annually (Impaired Driving, 2012). Meanwhile, official statistics from the FBI's Uniform Crime Reports (UCR), showed that approximately 1.4 million people were arrested for drunk driving in 2012 (Federal Bureau of Investigation, 2013).

Controlling Drinking & Driving

Preventing and controlling drinking and driving is a complex issue, requiring a series of interrelated alcohol control activities and policies that often are directed toward the behavioral and cultural attributes of alcohol consumption in the US. According to Nelson, et al., (2013) generally these policies fall within four broad domains:

- Pricing (taxes, wholesale and retail price restrictions);
- Physical access / availability (age restrictions, laws restricting sales, liability for over-serving, host-related laws, hours and day-related restrictions, etc.);
- Drinking and driving (zero-tolerance, graduated licenses, open container, lower BAC laws, harsher sanctions, etc.); and,
- Promotion (anti-alcohol marketing campaigns, signage, restrictions on alcohol advertising, etc.)

Of interest, is that many of these alcohol-related policies fall outside the direct control of the criminal justice system. In fact, the two most effective practices – pricing and limiting access to alcohol (see Nelson, et al., 2013) arguably cannot be directly controlled by the criminal justice authorities.

In other cases, the police and courts can (and do) control or prevent drunk driving through offender and vehicular-based sanctions. Some of the traditional offender-based sanctions to deter and prevent drinking and driving have included: license suspension and revocation, fines, probation, jail, and even prison sentences. In other cases, strategies have been directed toward the vehicle in order to prevent it from being driven illegally. These vehicular-based sanctions include measures that increase the visibility of offenders' vehicles to the police and public. Such sanctions may include removing vehicle registration stickers from license plates, confiscating or impounding license plates, and circulating "hot lists" of license plate numbers of convicted drunk drivers to local police. In addition to these visibility efforts, other strategies have been directed toward preventing the operation of, or physical access to, an offender's vehicle. These efforts have included vehicle immobilizations, forfeitures, and impoundment (Voas, 2011; DeYoung, 2013).

Besides these efforts, other technological-based interventions have been created to control drinking. One of the most widely used technologies to monitor alcohol use by probationers is Secure Continuous Remote Alcohol Monitoring (SCRAM), a transdermal alcohol testing system, which is a bracelet device that is attached to an offender's ankle, that continually monitors and detects alcohol (Fell & McKnight,

2013). Other technologies are designed with the specific goal of separating drinking from driving. For example, in 2008, the Coalition for Traffic Safety and the NHTSA created the Alcohol Detection System for Safety (DADSS). This is a \$10 million venture with US automakers designed to explore the use of “seamless” non-intrusive alcohol technologies as standard equipment or options on motor vehicles. This technology will detect the drunk driver and prevent him or her from starting a DADSS equipped vehicle if the driver has a blood alcohol level of .08% or higher. Some additional new technologies that are being explored include tissue and breath-based spectrometry that measures alcohol concentrations in human tissue or breath. The use and improvement of proven technologies, such as unobtrusive alcohol interlocks, are also being extended (Ferguson, Traube, Zaouk & Strassburger, 2009).

All of these measures, used alone or in conjunction, have been found to be somewhat effective in deterring offenders from drinking and driving. The key to controlling drinking and driving, however, is designing a multifaceted approach. As pointed out by DeYoung (2013):

“A complete vehicle-based program is part of a larger system of sanctions and treatments that dissuade all drivers from driving drunk, incapacitate and deter impaired drivers that are apprehended and punished, and rehabilitate those that are alcohol dependent. No single measure or group of measures, as in the case of vehicle-based sanctions, is a stand-alone solution and those that have a firm evidence base need to be integrated thoughtfully so that they complement each other and not work at cross-purposes” (p. 35).

The NHTSB (2013) also supports an integrated approach to combatting drunk driving that uses a variety of targeted interventions - specifically the use of in-vehicle alcohol detection tools, and the increased use of ignition interlocks.

The Chronic Drunk Driver

Of particular concern are the repeat drunk drivers, who are defined in the State of Michigan’s repeat offender laws as:

- (1) A person with two or more alcohol-related convictions within 7 years;
- (2) A person with three or more convictions for driving with a suspended, revoked, or denied license within 7 years; or
- (3) A person with three or more alcohol-related convictions within the last 10 years.

As explained in the 2013 report (Kierkus & Johnson, 2013), statistically, these offenders are involved in accidents and fatal car crashes more often than first time offenders (Scott et. al, 2006), and they account for up to 35% of all DWI convictions (Schnell et. al., 2010). The extant literature also shows that these individuals may be different from “typical” drunk drivers, especially in the context of their psychopathology, where these chronic or “hard core” drunk drivers have co-occurring substance abuse and psychiatric issues that serve as trajectories to future drunk driving episodes (Lapham, Skipper & Russell, 2012). For instance, research by Lapham, Baca, McMillan and Palidus (2006), found that in a sample of repeat drunk drivers, the majority were alcohol dependent, had drug abuse or dependence disorders and other non-substance abuse disorders that included depression and dysthymic disorders. Similarly, McCutcheon, et al.’s, (2009) analysis of chronic drunk drivers and comorbidity concluded that the repeat offenders had higher rates of: lifetime depression, antisocial personality disorders and lifetime drug use and dependence compared to those with no or one DUI conviction. Other psychological issues could also include Post-Traumatic Stress Disorder (Peller, et al., 2010) as well as conduct and bipolar disorders (Shaffer, Nelson, LaPlante, LaBrie, Albanese, & Caro, 2007).

Because of the complex problems and needs of the repeat drunk driver, there is consensus in the literature that traditional sanctions are relatively ineffective in preventing recidivism among this group of offenders

(Albanese & Shaffer, 2003; Lapham, Kapitula, Baca & McMillan, 2006; Freeman, et al., 2006). In fact, Hubicka, et al., (2010) write that "...Because drunk driving is not only a symptom of alcohol problems, but also of other covarying psychosocial problems ... socioeconomic and mental health problems and criminality, rehabilitation programs ought to take into account the whole situation" (p. 729). Therefore, what is likely to reduce recidivism in this cohort of drunk drivers include traditional sanctions (jail, fines, license suspensions and probation), combined with progressive treatment options, rewards, and incentives for compliance that are administered under the careful and continuous monitoring of the courts and social service providers (Kierkus & Johnson, 2013; see also Lapham & England-Kennedy, 2012; Dowling, MacDonald & Carpenter, 2011).

Problem Solving Courts & Drunk Driving

One important integrated approach in controlling and treating the repeat drunk driver are "problem-solving courts". Problem solving courts first emerged in 1989 in Miami where progressive court administrators adopted a new, novel approach called "therapeutic jurisprudence" to reduce the "revolving door" of repeat drug offenders in the court (Goldkamp, White & Robinson, 2001; Haisley, 2013). As reported in the previous Ignition Interlock Reports (Kierkus & Johnson, 2012, 2013), under this model, courts still use and rely upon traditional means of punishment: incarceration, probation, and fines. However, they also employ a team-based, and non-adversarial therapeutic jurisprudence approach. The treatment team includes practitioners from the medical and drug treatment professions, and criminal justice professionals (including judges, prosecutors, defense attorneys and probation personnel), who "partner" to develop a comprehensive treatment plan for offenders in an effort to change their long-term behaviors and actions related to drinking and driving.

According to the National Institute of Justice (Drug Courts, 2014), the core elements of these treatment models include: 1) offender assessment, 2) treatment services, 3) judicial interventions, 4) extensive monitoring of offenders, and, 5) the use of a variety of graduated sanctions and incentives that offenders progress through. To date, this therapeutic philosophy and model has expanded to over 2,700 drug courts in operation in the US (How Many, 2012). Over time, these courts have become even more specialized, targeting distinct populations and leading to the creation of juvenile, family, tribal, campus, reentry, veteran and co-occurring drug courts. Problem solving courts have also been created to address domestic violence, mental health and DWI-related offenders. The 10 key principles that guide problem solving courts can be found in Appendix A.

DWI Courts

As discussed in the 2012 & 2013 report (Kierkus & Johnson, 2012; 2013) like drug courts, DWI courts use post-conviction, problem-based punitive and therapeutic interventions to address the issue of drinking and driving. Since the creation of the first DUI court in Dona Ana, New Mexico in 1995 (Ronan, Collins & Rosky, 2009), these courts have also expanded in number and scope throughout the United States. According to recent data from the National Institute of Justice (Drug Courts, 2013), there are approximately 208 DWI courts in operation in the United States; the NADCP (2014) also reports that in 2011 there were over 400 hybrid courts in operation throughout the United States that accept both drug and DWI offenders (a.k.a. sobriety courts). These programs are specifically designed to target first time high blood alcohol concentration (BAC) offenders (i.e. "superdrunks") and chronic/repeat DWI offenders (NADCP, 2012) through well-designed, comprehensive programs that:

"A DWI Court is an accountability court dedicated to changing the behavior of the hardcore offenders arrested for DWI. The goal of DWI Court or DWI/Drug Court is to protect public safety by using the highly successful Drug Court model that uses accountability and long-term treatment to address the root cause of impaired driving: alcohol and other substance abuse." (NADCP, 2014, np)

- Emphasize the replacement of jail time with low-cost monitoring programs paid by the offender;

- Maximize sanction alternatives to increase flexibility in meeting offender needs;
- Use behavioral triage to create performance-based sanctions;
- Control the consumption of drugs and/or alcohol;
- Focus on offender needs in meeting monitoring and program requirements; and,
- Use monitoring data to enhance offender screening and assessment.

As highlighted in the previous Interlock Report (Kierkus & Johnson, 2013), while it may be perceived that DWI Courts are “soft” on criminals, this is an incorrect assumption. These courts still use traditional sanctions that include jail time, fines, and license revocations. In addition, they also employ a problem solving therapeutic approach that addresses DWI as both a public safety issue, and an illness or condition that needs to be properly diagnosed and treated. As such, this approach also uses novel and specific treatment programs that employ advanced and cost-effective technologies (Voas et al., 2011). Offenders advance through a series of progressive stages where they receive a variety of treatment interventions and sanctions that may include incarceration, intensive supervision, mandatory drug and alcohol testing, and on-going status hearings. Treatment interventions can also include residential and outpatient treatment (in both a group and individual context), Alcoholics Anonymous, mandatory educational programs, and counseling.

IGNITION INTERLOCKS

One relatively new technology that has been proven to be successful in preventing and deterring repeat drunk driving is the ignition interlock. In a simplistic sense, an ignition interlock is a mechanical alcohol sensor that is permanently affixed to the ignition system of a vehicle which verifies that the operator’s blood alcohol level is below a specified limit. If not, the vehicle cannot be started, and in the case of a rolling restart (a test to measure the driver’s blood alcohol level while in operation), the vehicle may not be able to re-started and subsequently driven. While there are a variety of interlock manufacturers and designs, they all share some common components that are shown in the adjacent box.

Since their first use in California in 1986, the use of Breath Alcohol Ignition Interlock Devices (BAIDs) or “interlocks” to control and monitor drinking and driving has rapidly spread throughout the United States, growing at a rate of approximately 15% annually (Marques & Voas, 2013). It is estimated that there are currently 280,000 interlocks in use nation-wide, where approximately one-quarter of all drunk driver offenders are under some type of interlock supervision (Safety Report, 2013). In fact, all 50 states currently have interlock-related laws for repeat offenders; while a minority use interlocks to monitor first time offenders (Schults & Bergen, 2014), and the NHTSA (NTSB Recommends, 2013).

Interlock Components

- A sensor located in the vehicle compartment (and a control unit mounted on the engine) that records the driver’s blood alcohol content (BAC);
- A rolling re-test system that requires the operator to re-test after the vehicle is underway;
- A tamper resistant mounting system in the engine compartment that is inspected every 30 or 60 days; and a monitoring system that can detect any attempts to bypass the interlock device; and,
- A data recording system that records the BAC measurements, test compliance, and engine operation (to ensure that the offender is actually driving the designated vehicle(s)).

(From: Marques et. al., 2010)

Continued Acceptance

The interlock has also gained widespread acceptance by entities outside the criminal justice system. Government organizations such as the NHSTA (2009) report that the interlock is a “promising sanction (p.1) and shows “great promise in reducing subsequent drinking and driving” (p. 5); recommending that interlocks be equipped in vehicles driven by high risk groups including teenage and commercial drivers

(*Reaching Zero*, 2013). Furthermore, the American Automobile Association (AAA) is encouraging the expanded use of interlocks (Hirsch, 2012), while interlock manufacturers and vendors are also marketing their products to private sector companies that have fleet vehicles to control drinking and driving on the job (*All About*, 2014). The continued interest and acceptance of interlocks has also led some manufacturers to explore the feasibility of interlocks being equipped on vehicles as a standard accessory. Rich (2012) refers to this as an “impossibility measure”. This is a deterrent strategy that applies to all persons and prevents them from being able to engage in a particular prohibited conduct. The media have also discovered interlocks: *Time Magazine* has identified interlock technologies as one of the best inventions of 2011 (Grossman, 2011).

The interlock is also gaining acceptability with the public. A recent study conducted by the Center for Disease Control (CDC) found that 69% of respondents supported the use of interlocks (Schults & Bergen, 2013). Likewise, results from the AAA Foundation for Traffic Safety (2012) study showed that 3 out of 4 persons support the use of BAIID devices. Similar results have been found in European driver surveys, where again, approximately three-quarters of European drivers support the use of interlocks for drivers convicted of DWI (Vardaki & Yannis, 2013). While acceptance levels are relatively high, some scholars posit that the social acceptability of these devices needs to be further enhanced by introducing interlocks to non-offenders in order to create a sense of “normality” and “a critical mass” of drivers (Bailey, et al., 2013).

The popularity of the interlock is not limited to the United States. In many Scandinavian countries, interlocks are required on school busses and some companies have voluntarily installed them on their commercial vehicles. In fact, in Sweden, it is estimated that 85% of all public busses, and 60% of taxis, have interlocks (Vehmas, Sirkiä, & Kinnunen, 2012). Moreover, the government’s Intelligent Vehicle Safety System (IVSS) research and development program encourages academics, automakers, and the public sector to explore and develop new innovations in preventing drunk driving (Alcohol ignition, 2007; Swedish Public, 2013). Besides Sweden, interlocks have widespread use in other European countries where they are voluntarily installed on commercial/fleet vehicles (Vehmas, et al., 2012). Additionally, Australia also uses interlocks to reduce and control drunk driving with reported success in reducing recidivism (Fleiter, Lewis & Watson, 2013). Finally, Canada also has interlock-related legislation; and, like the research conducted in the United States, they have been found to be effective in reducing drinking and driving and recidivism among chronic drunk drivers (Randum, et al., 2013).

How They Work

As explained in last year’s report (Kierkus & Johnson, 2013), while there are functional and design differences among interlock manufacturers, a typical system consists of two main components: a handheld unit that is located in the vehicle, mounted in close proximity to the steering column, and a unit located under the vehicle’s hood that is attached to the vehicle’s starter system. In order to start the vehicle, an operator follows a series of audible and visual prompts on the handheld device, beginning with the subject blowing into a mouthpiece. The user is also required to provide a continuous and uninterrupted, flow of air (breath) for a certain period of time to ensure that a sample of “deep lung air” is measured. The component gasses in the sample are then measured and recorded. Depending upon how the interlock is programmed (set at the discretion of the court), these measurements are taken at the first start-up of the vehicle, and randomly during its operation, where the user is required to submit a breath sample during what is referred to as a “rolling re-test.” These retests must be completed within a certain time period after the vehicle has been stopped (and parked in a safe location).

If the offender is compliant, then the interlock “unlocks” the vehicle ignition system, allowing the vehicle to be operated. If, however, the operator’s blood alcohol level exceeds a certain BAC set by the court, two basic options exist: 1) an audible alarm goes off until the vehicle is turned off, and a violation is reported to the court. Then, the interlock device must be reset by an interlock service technician within a

set period of time; or, 2) the interlock “locks out” the ignition, not allowing the operation of the vehicle at all, where again, the violation is reported to the court. In “warn level” cases, where there is a blood alcohol level present, but not high enough to warrant a violation or lockout, the interlock records the alcohol violation, but it may still allow the vehicle to be driven.

The interlock also records a large amount of additional information that can be used by the court as part of the offender’s treatment plan. Besides its primary purpose of recording alcohol-related violations, interlocks record: the number of vehicle starts; the number of interlock attempts; warnings, and failures; start and end times of the vehicle’s operation; the number of miles travelled; visual images of the driver (and perhaps passenger); and (in some cases), GPS tracking data to ensure that the vehicle is used only for court-mandated activities. Generally, this information is downloaded on a monthly basis by interlock service technicians. In many cases, violations and other “flags” (as determined by the court) are immediately reported to court personnel by the interlock vendor. Or, increasingly, probation staff can immediately access the data through the interlock provider’s secure web site.

It should also be understood that a BAIID device is more than simply an incapacitation device, or specific deterrent to prevent a person from driving (Kierkus & Johnson, 2012). By its use, the interlock can also serve as a behavioral reinforcement tool, “rewarding” offenders by allowing them to operate a motorized vehicle when no blood alcohol level is present, as well as making offenders answer for their actions to the court, if found to be in violation. By restricting the vehicle’s use, offenders may also be restrained from associating with other alcohol-dependent persons, subsequently modifying their lifestyles toward alcohol abstinence. The interlock can also be used to ensure sobriety compliance by randomly monitoring alcohol consumption even when offenders are not driving. Some courts, for instance, require offenders to also use the interlock as an in-home breath-alcohol monitor or breathalyzer to prove that they living an alcohol-free lifestyle.

There are presently a wide variety of interlock devices, manufactured by a variety of vendors, on the market. While their designs may differ to some degree, all modern interlocks use fuel cell technologies that have been proven to be valid and reliable in measuring blood alcohol levels in a variety of climatic and user-related conditions. Since 1992, the NHTSA has also provided model specifications (*Model Specifications*, 2013) for interlock manufacturers and for the certification of BAIIDS by state organizations. Further updated in 2013, based on feedback from interlock companies and state programs using interlocks to monitor drunk driving offenders, these model specifications set manufacturing, installation, and maintenance, standards to ensure the reliability of the interlocks in the context of durability, precision, and accuracy.

Interlocks: A Public Health Promotion Tool:

According to Dawson and Grill (2012), one approach or intervention to health promotion includes shaping existing norms, manipulating or changing preferences and even coercing a person to change his or her behaviors. Interlocks perform all of these activities.

Interlocks & “Defense in Depth”

In some cases, there may be concerns that an offender is circumventing or tampering with the interlock device in order to drink and drive. However, the design elements of the interlock, combined with the administrative court practices and legislation, provide a “defense in depth” approach to deter and readily detect any circumvention or tampering efforts.

Some design element countermeasures include:

- **Installation Safeguards** - In order to prevent a person from tampering with, disabling or removing an interlock from the vehicle, interlocks are only installed by certified technicians. When installed, they are hardwired into the vehicle’s ignition system, where the base unit is permanently affixed to the vehicle – often under the dashboard, or in the glove compartment.

- ***Tamper Notifications*** - By their design, any tampering of the wiring or device itself will result in the interlock disabling the vehicle and the court staff receiving notification of the tamper. Additionally, during the mandatory monthly maintenance and calibration of each interlock device by certified service technicians, these devices are inspected for any signs of tampering. To further prevent tampering, the components of the interlock (and the wiring) are also affixed with tamper-proof seals.
- ***“Hum and Blow”*** - Another sophisticated interlock feature is that the user must “hum” a specific tone into the interlock while simultaneously providing a breath sample (the “blow”). This combination of “humming and blowing” requires training by an interlock technician and practice by the user. If a person does not properly perform a “hum and blow,” the interlock will register the attempt as a failure, which can result in the interlock “locking out” the vehicle from operation, and alerting the court that a failure has occurred.
- ***Visual Surveillance*** - Most interlocks (depending upon the model and manufacturer) have a built-in digital camera that records the image of the person using the interlock. To ensure that another person did not provide a breath sample, court personnel can use this image as a comparison and verification tool to ensure that no circumvention occurred.

Administrative or program countermeasures include:

- ***Review of Interlock Data*** - Interlock offender data is downloaded monthly by interlock technicians at certified service centers. This data is also reviewed by court personnel who can determine use patterns (i.e. to and from work, court-mandated appointments) to ensure that the interlock-equipped vehicle is being operated within the parameters specified by the court.
- ***Periodic Reviews*** – Actions by the DWI/Sobriety Court also serve as countermeasures. Activities including home visits, drug and alcohol tests, and court monitoring serve to remind offenders of the interlock rules, while reinforcing the point that the interlock must be used in an appropriate manner.
- ***The Threat of Program Failure*** - The specific threat of being removed from the interlock treatment program, and receiving a traditional sanction, such as jail, and losing driving privileges, can also serve as an effective deterrent for some offenders.

Some legislative countermeasures include:

- ***Tamper & Circumvention-Related Legislation*** - Many states (including Michigan) make it a criminal offense to tamper with or circumvent an ignition interlock.
- ***Vehicle Registration Restrictions*** - In order to prevent the use of non-interlock equipped vehicles, a program condition could require offenders to have only one vehicle registered in their name during the interlock period. In other cases, the threat of additional criminal sanctions could deter interlock circumvention and tampering. For example, the state of New York requires individuals sentenced to an interlock to claim, under oath, that they no longer own other vehicles, and if found to be lying, they can be charged with perjury (Campbell, 2013).

UPDATED REVIEW OF THE LITERATURE

The previous editions of this report provided a comprehensive review of the literature regarding interlocks (Kierkus & Johnson, 2012; 2013). Based on this review, it can be concluded that interlocks are an effective and popular way for the courts to control the actions of drunk driving offenders throughout the United States. This popularity is primarily based on the strong empirical evidence that shows they prevent drinking and driving, while lowering recidivism rates, primarily among hard core, repeat drunk drivers. Since the publication of the 2013 report, additional research has further substantiated the effectiveness of ignition interlocks at reducing recidivism. Generally, the most recent literature investigated BAIDs effectiveness at reducing recidivism and collision rates. Some of the current literature has also examined the relationship between program design and effectiveness, expanding interlock usage, and the changes and advancements in interlock technologies.

Reductions in Recidivism

The most recently published literature substantiates prior research that ignition interlocks reduce recidivism:

- Voas, et al.'s, (2013a) meta-analysis of the existing interlock research concluded that the use of an interlock as a condition for license reinstatement results in reductions in recidivism between 40 and 90%. Their own 10-year study of recidivism of over 120,000 DUI offenders in Florida found that recidivism rates were 2/3rds lower while a person was on an interlock, compared to offenders serving a revocation sentence, without an interlock sanction (Voas, et al., 2013b).
- McCartt, Leaf, Farmer & Eichelberger (2013) examined changes in recidivism when the state of Washington extended its interlock laws in 2008. The authors determined that recidivism decreased by 11%. They also determined that if the state required 100% installation compliance, recidivism rates would have been further reduced.

Similar findings regarding reduced recidivism has been found in the interlock research from other countries.

- Assailly & Cestac's (2013) longitudinal study of one of France's first interlock programs compared convicted drunk drivers who did not participate in an interlock program to an interlock experimental group. The authors found that the retrospective recidivism rate for interlock participants was 30% less than the control group. Participants in the interlock program also reported that the interlock was one of the more useful factors in the comprehensive program that prevented them from drinking and driving.
- Loeyty's (2013) pre- and post-interlock program study of all interlock participants in Finland since 2008 found that interlock participants had a recidivism rate of 5.7% compared to 30% for non-interlock participants. Additional self-report data also determined that the interlock program had long term effects on alcohol consumption: 31% of the respondents still used an interlock by choice to control their drinking; 19% reported that they stopped consuming alcohol; and, 44% reported drinking alcohol less.

Collision Reductions and Elevated BAC Driving:

Other studies have examined the impact of interlocks on collision reduction and driving with an elevated BAC.

- Bierness and Beasley's (2014) study used roadside driver surveys and accidents to explore changes in drinking and driving. They concluded that the use of administrative sanctions (that include

mandatory license suspensions and the use of interlocks as a condition of administrative reinstatement), regardless of gender, led to a 34% decrease of driving with a BAC of .05 or less, and a 42% drop in driving with a BAC of .05 or higher.

- Macdonald, et al. (2013) studied British Columbia's 2010 Immediate Roadside Prohibition legislation, which included a variety of administrative sanctions including enrollment in its Ignition Interlock Program after a 90-day driving prohibition. The authors determined that the introduction of interlocks as an administrative sanction (combined with publicizing the use of administrative interlocks) led to significant declines in alcohol-related collisions, fatalities, injuries, and vehicular property damage.

Program Design & Administration:

Besides just measuring recidivism, other authors are now trying to determine "why" reductions in recidivism occur by applying social science theory to the issue (Kierkus & Johnson, 2012). Elder (2013), examines the use of interlocks in the context of the theories of punishment (the sociological, criminological and psychological mechanisms under which BAIID devices best function). He argues that the interlock serves as an instrument of incapacitation (preventing the use of a vehicle when the operator has a BAC level).

Other authors, meanwhile, have examined how court programs use interlocks:

- Voas, Kelly-Baker & Taylor (2013) examined actual program design and administration, examining what program monitoring would be the most effective in ensuring post interlock alcohol abstinence. The authors argue that there are five classes of interlock monitoring programs: 1) minimal integrity monitoring that simply ensure that an interlock is equipped on an offender's vehicle; 2) abstinence monitoring that only measures an offender's drinking in association with driving; 3) intensified feedback programs that use interlock data as a part of the offender's treatment program or sanctions; 4) programs that use provider feedback where the interlock provides data to educate users; and, 5) programs integrated with customized treatment. Using the logic of positive reinforcement and learned behaviors, the authors argue that more intensive monitoring (as found in DWI courts) results in improved program performance. Consequently, the authors concluded that the "best" programs to reducing recidivism incorporate information from the interlock to properly design and customize treatment programs, based on the needs of the offender.
- Research by Vanlaar et. al (2013) on the behavioral patterns of offenders in ignition interlock programs in California, Florida, and Texas for the period 1999-2012 determined that the use of both positive and negative reinforcement tools, along with consistent monitoring practices, resulted in greater levels of program compliance, regardless of the offender's gender.
- In a study conducted in Canada regarding interlock participation, Chamberlain, et al. (2013) determined that provinces which had the highest participation rates were those that had more inclusive policies, such as making an interlock a condition of re-licensing and shortening hard suspension periods for participating in the program.

Target Populations:

Some recent literature suggests that the interlock target population could be expanded beyond targeting hard core drunk drivers. For instance, Ferguson (2012) has argued that interlocks (as well as other countermeasures) could play a role in preventing all alcohol-related driving offenses. Other research has proposed that it is possible to increase the number of people under interlock supervision by altering the legal and administrative requirements under which interlock programs operate (Voas et al., 2013a), subsequently increasing the overall benefit of interlocks by enlarging the subject population under supervision. However, it should be noted that such recommendations are controversial: some critics fear

a loss of personal liberty associated with the expansion of the surveillance state (i.e. “net widening”). Moreover, it remains to be seen whether these strategies will ultimately prove feasible in view of the legal and resource limitations under which the criminal justice system operates.

Interlock Technologies:

The review of the literature also shows continued advancements in interlock technologies. For example, researchers are exploring the feasibility of permanent unobtrusive, hands-free sensors located on the vehicle’s steering wheel, or in close proximity to the driver, which can detect trace amounts of ethanol in the user’s breath (Andersson, et al, 2013). Besides the units themselves, recent innovations have emerged to mitigate the stigma or humiliation of using interlocks in public. Quick Start® is marketing “Embarrassment Free” cup disguises that conceal the interlock handset in a plastic cup. Anyone observing its use may think that the user is drinking a beverage using a straw, rather than using a BAIID device. Other entrepreneurs have also filed patents related to beverage disguise devices to conceal interlock handsets, and patents related to enhanced video monitoring devices and biometrics (fingerprints) that would help deter and detect circumvention efforts have also been filed.

MICHIGAN’S INTERLOCK PROGRAM

As shown in previous reports (Kierkus & Johnson, 2012; 2013), the use of interlocks to monitor and control the actions of alcohol-related offenders is not new in the state of Michigan. For years, they have been successfully used by many courts to supplement existing probationary practices for drunk driving and other alcohol-related offenses. What is new, meanwhile, is that they are now being used as a specific component of treating and monitoring offenders who are admitted to DWI/Sobriety Courts. After first being initiated in 2009, by the 56th District Court in Eaton County, Michigan, for high BAC first-time offenders, the success of this program led to the enactment of Michigan Public Act 154 of 2010: the DWI/Sobriety Court Interlock Pilot Project.

This legislation, which became effective January 1, 2011, set eligibility requirements for offenders. In order for offenders to be eligible for admission into one of these courts, they must have been arrested and convicted for a DWI-related offense after January 1, 2011, and have had a total of 2 or more DWI violations in the last 7 years, or 3 or more DWI violations within the past 10 years. Additionally, this legislation created a three-year pilot research project to determine the effectiveness of ignition interlocks in treating and controlling the repeat drunk driver. In this context, PA 154 mandates that the legislature, the Secretary of State, and the Supreme Court be provided documentation about a series of specific research questions (listed in Section 2 of this report).

Companion legislation to PA 154 was also needed so repeat offenders could obtain restricted driver’s licenses. Public Act 155 (effective January 1, 2011) modified the existing Michigan Motor Vehicle Code legislation, establishing new eligibility and licensing requirements for repeat drunk drivers. Under PA 155, repeat drunk drivers (who were previously barred from obtaining a license) could now obtain a restricted driver’s license from the Michigan Secretary of State after a minimum 45-day hard suspension of their driving privileges.

As part of this legislation, eligible offenders must also meet two criteria: 1) be part of an accredited DWI/Sobriety Court program; and, 2) and have an approved and certified ignition interlock device installed on their vehicle(s). These changes, especially in the context of license sanctions, also aligns interlock legislation with Michigan’s “super drunk law” (MCL 257.625, effective October 31, 2010) where a first-time DWI offender with a BAC of .17 (or higher) receives a 45-day hard suspension, followed by a 320-day restricted driving license that requires the installation of an ignition interlock for the entire period of court supervision.

2013 Legislative Changes

In 2013, there were some legislative changes regarding the use of interlocks in Michigan. Primarily, these legislative changes have made the 2010 pilot interlock program legislation permanent; they have established oversight and additional requirements for interlock installers; and, amendments to the criminal code related to tampering and circumvention have been passed to support the new interlock laws. These are summarized below:

House Bill 5020 (Secretary of State Powers & Responsibilities)

House Bill 5020 (effective December 16, 2013), basically establishes the criteria for which the Michigan Secretary of State can issue (and revoke) a restricted driver's license to persons admitted into a DWI/Sobriety Court program. The complete House Bill can be found in Appendix B.

House Bill 5021 (DWI Court Permanency)

HB 5021 eliminated the sunset provision of original House Bill 5273 of 2010 that created the pilot DWI/Sobriety Court program that had become effective January 1, 2011 (which had mandated that this pilot program continue for a period of three years). Per HB 5021, effective January 1, 2015 the DWI-sobriety court interlock program becomes permanent "and shall continue with the same requirements, eligibility, criteria, authority, and limitations as those prescribed in this section for the DWI/Sobriety Court interlock pilot project" (np). The complete House Bill can be found in Appendix C.

Senate Bill 637

This bill amended the Michigan Motor Vehicle Code. SB 637 set criteria and certification standards for interlock manufacturers. This bill also established specific requirements for BAIID installation, service centers, and mechanics. This bill also authorizes the Secretary of State administrative oversight of BAIID devices, service centers, and mechanics.

Senate Bills 638 & 639

These bills were tie-barred to SB 637. SB 638 included amendments to the Code of Criminal Procedure that made "Knowingly providing false information concerning an ignition interlock device" (257.625K (26) and failure to report illegal ignition interlock device" (257.625((28) felony offenses. Furthermore, SB 639 also amended subsection g of the "Motor Vehicle Service and Repair Act" to include a BAIID service center in the definition of a "Motor Vehicle Repair Facility."

SECTION 2: THE STUDY

OVERVIEW OF THE STUDY DESIGN

The design of this study has been progressive in nature. That is, as more data from PA 154 offenders has become available, additional research questions have been addressed. As such, this 2014 report focuses on comparing subjects enrolled in the ignition interlock pilot program to a DWI/Sobriety Court comparison sample drawn prior to the creation of the pilot program, and also to a sample of standard probationers drawn from across the state of Michigan. The primary goal of this report is to determine whether ignition interlock devices reduce and control drunk driving recidivism among chronic DWI offenders. More specifically, this study was guided by the following research objectives, as set forth in the PA154 legislation:

- h) The percentage of program participants ordered to place interlock devices on their vehicles who actually complied with the order;
- i) The percentage of program participants who removed court-ordered interlocks from their vehicle without court approval;
- j) The percentage of program participants who consumed alcohol or controlled substances;
- k) The percentage of program participants found to have tampered with court-ordered interlocks;
- l) The percentage of program participants who operated a motor vehicle not equipped with an interlock;
- m) Relevant treatment information about program participants; and,
- n) The percentage of program participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL, 257.625 (i.e. convicted of a new driving under the influence offense).

THE PARTNER COURTS

At the initiation of the study in 2011, five partner courts were selected that would contribute cases for analysis. Selected courts needed to be DWI or DWI/Sobriety Court programs that anticipated enrolling at least 50 participants in the interlock ignition program between January 1st, 2011 and December 31st, 2013. In the selection of these courts, a purposeful sampling strategy was used to select five courts that would be broadly representative of the state of Michigan in the context of: 1) region, 2) level of urbanization, and 3) population. The final sample of participating courts included:

- 61st District Court (Grand Rapids; Kent County).
- 86th District Court (Traverse City; Grand Traverse County).
- 8th District Court (Kalamazoo; Kalamazoo County).
- 96th District Court (Marquette; Marquette County).
- 51st District Court (Waterford; Oakland County).

A memorandum of understanding was drafted with each court, and the project investigators ensured that the research design met all federal and state human subject protection requirements.

POPULATION & SAMPLE

The samples used in this study are subdivided into three main groups: the Interlock Program Participant Sample, the DWI/Sobriety Court Comparison Sample, and the Standard Probationer Sample.

The Ignition Interlock Pilot Program Participants (Experimental Group)

The target population is drunk driving offenders from the state of Michigan who have been convicted of a second or subsequent drunk driving offense, and who received a restricted driver's license from the Secretary of State after having completed at least a 45-day period of total ("hard") license suspension. These subjects must also have had an ignition interlock device installed on all vehicles registered to them, and have demonstrated adequate progress within an accredited DWI/Sobriety Court program. As of December 31st, 2013, a total of 450 subjects from the five partner courts met these criteria. However, depending upon the research question(s) under consideration, the total number of cases used in different statistical analyses varies. Please see Appendix D for a full explanation of the experimental group samples.

The DWI/Sobriety Court Sample (First Comparison Group)

The first of two comparison groups used in this study consisted of all clients enrolled by the five partner DWI/Sobriety Courts in the year 2010, prior to the implementation of the ignition interlock pilot program. A total of 508 individuals met these criteria. This sample is designed to be as similar as possible as the pilot program subjects, differing only in the fact that comparison group subjects had not been placed under interlock supervision. Sub-samples from this comparison group were also drawn for various analyses. Because of the need to match the comparison group subjects to participants in the DWI/Sobriety Court and standard probationers, the total number of subjects varies depending upon the specific analyses performed. See Appendix E for a full explanation of the samples.

The Standard Probationer Sample (Second Comparison Group)

A second comparison group for this study was constructed by matching as many subjects as possible from the Ignition Interlock Pilot Program Participants to offenders from the state of Michigan who shared statistically similar demographic and offending characteristics. Unlike the pilot program group, and the DWI/Sobriety Court comparison group, these individuals had not been placed on ignition interlock restrictions; nor had they obtained a restricted license from the Secretary of State, or participated in a DWI/Sobriety Court. Instead, these subjects were given standard sentences (including periods of probation; and in some cases, incarceration) typical for chronic DWI offenders in the state of Michigan. The precise matching criteria were developed by, and are available from SCAO. Using these criteria, SCAO was able to match 407 of the 450 pilot interlock participants. The full standard probationer sample is used in all of the analyses described in this report.

DATA

Participating courts submitted data through the Michigan Drug Court Case Management Information System (DCCMIS). To supplement the data available in DCCMIS, SCAO staff downloaded recidivism information from the Michigan Judicial Data Warehouse (JDW) for all of the courts in the state. Based on this information, SCAO staff provided the researchers with a dataset showing whether or not subjects in the study had been reconvicted of various criminal offenses since entering DWI/Sobriety Court. SCAO staff also used the JDW to create recidivism measures for the standard probationer comparison group described above.

In addition to the official data from SCAO, telephone discussions were initiated with each participating court. The purpose of these discussions was to provide key stakeholders the opportunity to informally share their impressions of the pilot program with the study authors. In particular, the research team was interested in collecting information about how any issues raised during the initial site visits conducted in

2011 and 2012 had (or had not) been resolved, and about any additional issues that developed during the third year of the project.

VARIABLES

Appendix G provides a full description of each variable used for statistical analysis. Variables are classified as independent, control, process or outcome.

DATA ANALYSIS

This 2014 interlock report presents four basic types of data analysis:

- 1) Descriptive data regarding the mandated information directed by PA 154, based on the 450 subjects of the Ignition Interlock Program Participant sample;
- 2) Comparative analysis of key demographic, process, and outcome-related variables. Descriptive statistics and basic bivariate inferential statistical analyses (e.g. Chi-square (χ^2) and ANOVA) were used to compare the Interlock Program Participants to the DWI / Sobriety court comparison group.
- 3) Comparative analysis of recidivism data. Comparisons of the Interlock Program Participants, the DWI/Sobriety Court comparison group (the Non-Interlock Group), and the matched group of Standard Probationers were conducted using χ^2 tests, and a Z Test for equality of proportion (where appropriate).
- 4) Multivariate logistic regression analysis was used to explore the effect of being on interlock restrictions (successes and failures) in the DWI/Sobriety Court, while controlling for relevant demographic characteristics.

SECTION 3: FINDINGS

The information presented in this section is focused on data from the first three years of the Pilot DWI/Sobriety Court Interlock Program that became effective January 1, 2011 in the state of Michigan. As such, it includes information from the 450 pilot program subjects (the “Interlock Program Participants”) who were admitted to the interlock program in the five participating partner courts for the calendar years 2011 - 2013. It is divided into the following sections, which follow the research questions set forth in the PA 154 legislation:

- Percentage of program participants: compliance levels;
- Percentage of program participants who removed court-ordered interlocks without court approval;
- Percentage of program participants who used alcohol & controlled substances;
- Interlock tampering episodes;
- Percentage of participants who operated a motor vehicle not equipped with an interlock;
- Relevant treatment information; and,
- New offenses (i.e. recidivism).

This report also provides supplemental information related to the Interlock Pilot Program. This information includes the following:

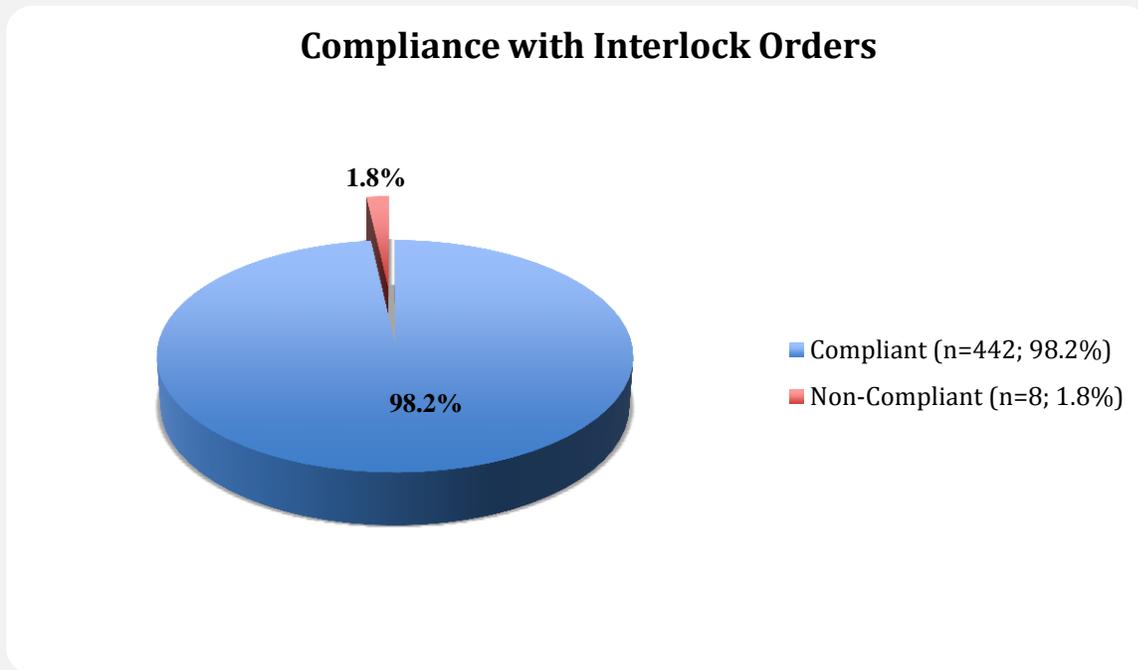
- Background & other demographic information;
- Education, employment outcomes and program failures; and,
- Multivariate analysis of program failure data.

Finally, in order to determine if the performance of the Interlock Program Participants were different from similar offenders, this study also compares these subjects to a comparison group of offenders (the Non-Interlock Group) who were admitted to the five partner groups’ DWI/Sobriety Courts in 2010, prior to the implementation of the pilot program. It then compares recidivism data from both of these groups to a group of Standard Probationers drawn from across the state of Michigan.

PERCENTAGE OF PROGRAM PARTICIPANTS WHO COMPLIED WITH INTERLOCK ORDER

Figure 1 provides a graphic representation of the compliance levels of program participants who were ordered by the courts to place interlock devices on their vehicles, and who complied with the interlock order. Based on the population of 450 offenders in the five participating courts, 442 individuals (98.2%) complied with court orders to place interlocks on their vehicles; only 8 (1.8%) did not comply¹

Figure 1: Percentage of Program Participants Who Complied with Interlock Orders

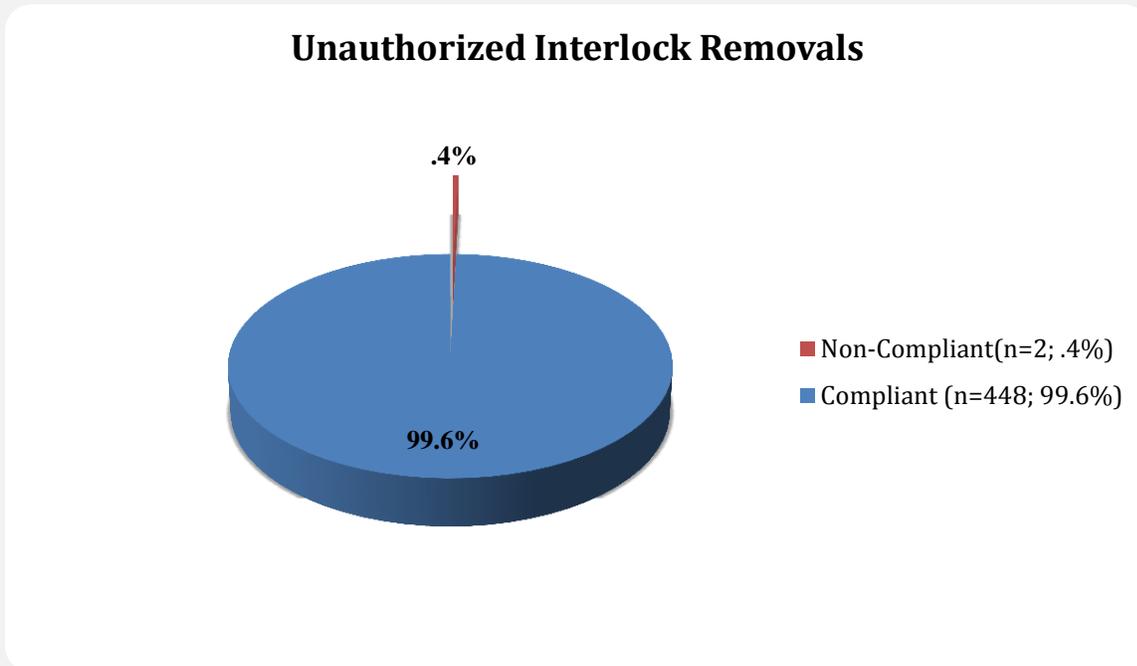


¹A total of 2 cases related to interlock order compliance in the DCCMIS dataset were reported as “missing.” However, in conversations with both partner court staff, and SCAO representatives, the researchers were able to confirm that the missing data almost certainly reflected the fact that the event in question had not occurred; hence, this missing information was re-coded as a “successful” response (i.e. the participant has complied with the interlock order).

PERCENTAGE OF PROGRAM PARTICIPANTS WHO REMOVED COURT-ORDERED INTERLOCKS WITHOUT COURT APPROVAL

Figure 2 shows the percentage of program participants who removed court-ordered interlocks from their vehicle(s) without court approval. The data show that the majority of program participants (n=448; 99.6%) did not remove their interlocks. Less than half a percent (n=2; 0.4%) of program participants were reported to have done so².

Figure 2: Percentage of Program Participants: Unauthorized Removals

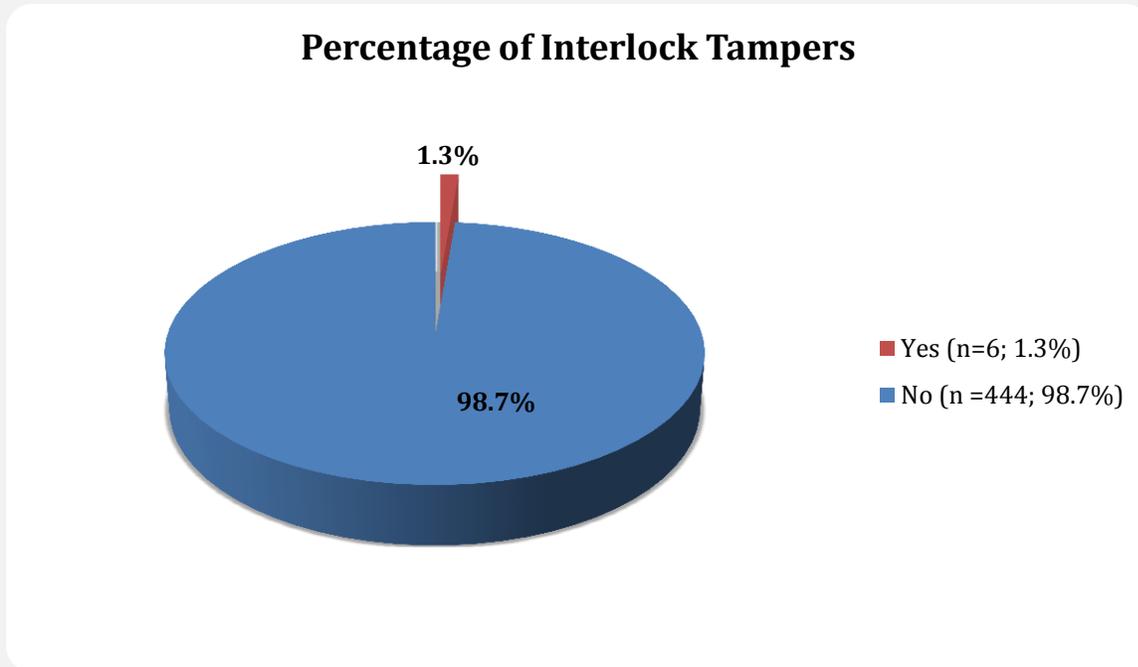


²A total of 178 cases in the DCCMIS dataset regarding interlock removals were reported as “missing.” However, in conversations with both partner court staff, and SCAO representatives, the research team was able to confirm that the missing data almost certainly reflected the fact that the event in question had not occurred; hence, this missing information was re-coded as a “no” (i.e. the program participant did not remove the interlock without approval).

INTERLOCK TAMPERING EPISODES

Figure 3 shows the number of known interlock tamperers by Interlock Program Participants between the start of the pilot program in 2011 and December 31st, 2013. In total, 6 program participants were found to have tampered with an interlock device, comprising a “tamper-rate” of 1.3%. A total of 444 participants (98.7% of the participants), did not tamper with their interlocks³.

Figure 3: Interlock Tamperers

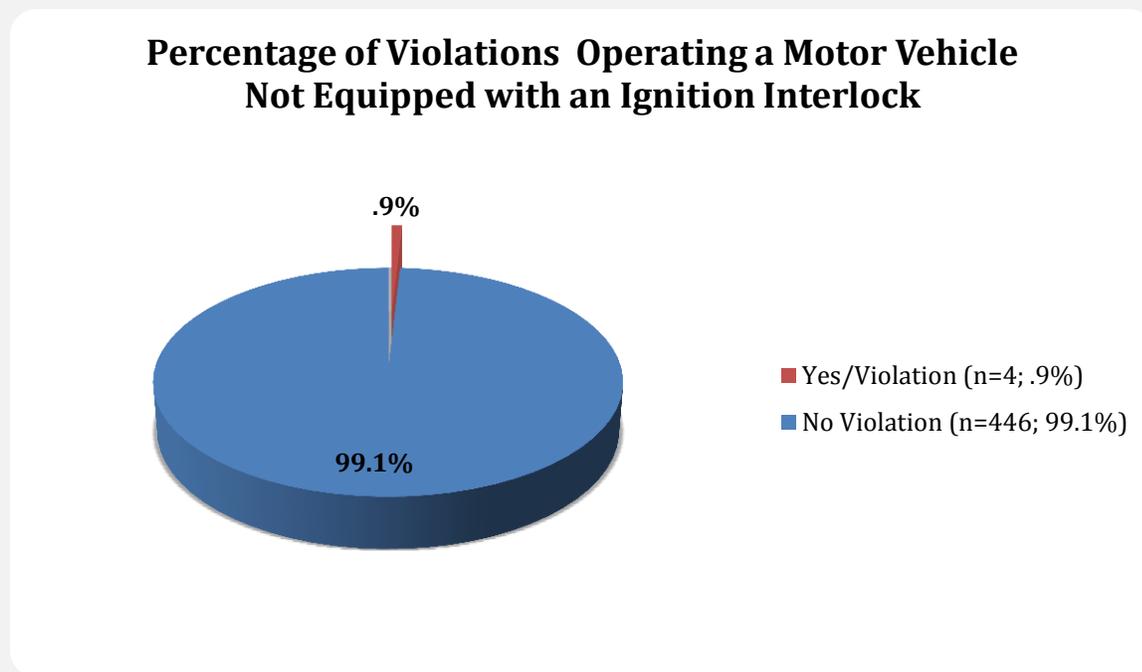


³ DCCMIS data shows a total of 178 missing cases related to tampering. However, in conversations with both partner court staff, and SCAO representatives, the research team was able to confirm that the missing data actually recorded that the event in question had not occurred; therefore, the missing information represents “successful” responses (i.e. the participant did not tamper with the interlock).

PERCENTAGE OF PARTICIPANTS WHO OPERATED A MOTOR VEHICLE NOT EQUIPPED WITH AN INTERLOCK

Figure 4 shows the number of known cases where Interlock Program Participants were found to be operating a motor vehicle not equipped with a(n) interlock. For the period under analysis (2011-2013), only 4 incidents occurred, comprising a violation rate of less than 1%. Therefore, the majority of program participants (n=446; 99.1%) complied with DWI/Sobriety Court orders, only operating vehicles equipped with interlock devices⁴.

Figure 4: Violations: Failures to Operate an Interlocked-Equipped Vehicle



⁴A total of 179 cases in the DCCMIS dataset were reported as “missing.” However, in conversations with both partner court staff, and SCAO representatives, the research team was able to confirm that the missing data almost certainly reflected the fact that the event in question had not occurred; hence, this missing data was re-coded as a non-violation (i.e. the participant did not operate a non-interlock equipped vehicle).

PERCENTAGE OF PROGRAM PARTICIPANTS: ALCOHOL & CONTROLLED SUBSTANCE USE

Table 1 reports the percentage and frequency of Interlock Pilot Program Participants who consumed alcohol and/controlled substances⁵. The data show that of the 281 pilot participants who have completed the program, 181 (or 64.4%) had reported drug and alcohol violations. However, only 15 (5.3%) reported 10 or positive drug or alcohol tests. By way of comparison, in the comparison group, 308 (76.4%) had drug and alcohol violations and 79 (19.1%) had 10 or more violations (with a high of 114 positive tests).

In short, while the data show that both groups had issues with alcohol/drug violations while in DWI/Sobriety Court; those under interlock restrictions appeared to test positive for drugs and/or alcohol less often, and thus seemed able to come to terms with their substance abuse issues somewhat more quickly and successfully⁶.

Table 1. Comparisons of Subjects: Pilot Program and Non-Interlock Subjects Who Consumed Alcohol and/or Controlled Substances

Percentage of Positive Drug/Alcohol Use: Interlock Participants & Non-Interlock Group

<u># of Incidents</u>	Pilot Program Participants			Non-Interlock Group		
	n	%	Cum. %	n	%	Cum %
None	100	35.6	35.6	95	23.6	23.6
One	60	21.4	56.9	50	12.4	36.0
Two	41	14.6	71.5	46	11.4	47.4
Three	19	6.8	78.3	36	8.9	56.3
Four	17	6.0	84.3	17	4.2	60.5
Five	7	2.5	86.8	26	6.5	67.0
Six	7	2.5	89.3	19	4.7	71.7
Seven	7	2.5	91.8	13	3.2	74.9
Eight	4	1.4	93.2	15	3.7	78.7
Nine	4	1.4	94.7	9	2.2	80.9
Ten or More	15	5.3	100.0	79	19.1	100.0
Total Cases	281	100.0	---	403	100.0	---

⁵ Due to limitations with the DCCMIS dataset, the researchers were unable to separate alcohol and drug incidents. Therefore, the information in this table provides aggregate statistics only regarding combined positive drug/alcohol incidents.

⁶ The differences between the pilot program participants and the non-interlock comparison group are statistically significant via ANOVA (p<.05).

RELEVANT TREATMENT INFORMATION

Table 2 provides treatment-related data for the Interlock Program Participant population and the Non-Interlock Group. At the end of calendar year 2013, 284 (or 63.1%) Interlock Program Participants were no longer enrolled in DWI/Sobriety Court (281 of these had completed the program, while the precise status of the last 3 could not be determined).

Among the 281 who had completed the pilot program, the average time spent in DWI / Sobriety court was approximately 411 days. They attended an average of approximately 175 alcohol program meetings, received an average of 2.3 court-ordered sanctions, and earned 12.3 court ordered incentives (rewards for program compliance). They also spent just over 5 days in jail, and had very few warrants issued against them (approximately 2 per 100 clients). These participants also completed an average of 48 treatment oriented contact hours; and, the DWI/Sobriety Courts averaged approximately 273 drug tests per client. The typical completed Interlock Program Participant also spent approximately 264 consecutive days sober. Table 2 also shows that there was substantial variation in each of these parameters (as evidenced by the fact that the standard deviations for these variables usually exceed their respective means).

In comparison to the Interlock Pilot Program Participants, 414 (or 99.8%) of the offenders in the Non-Interlock Group were no longer enrolled in DWI/Sobriety Court (403 had completed the program, while the precise status of the last 11 could not be determined). Based on the data from the 403 subjects who completed the program, the number of days spent in drug court are similar ($\bar{x} = 413$ for comparison group subjects vs. $\bar{x} = 410.7$ for pilot program subjects). This is to be expected, since the data represents approximately the same time period for both groups. The Pilot Program and Non-Interlock subjects also had a similar number of drug tests ($\bar{x} = 218.1$ for Non-Interlock subjects vs. 273.4 for Pilot Program Participants) and sobriety days ($\bar{x} = 211.8$ for Non-Interlock subjects vs. $\bar{x} = 263.9$ for Pilot Program Participants). On the other parameters, however, the two groups varied substantially. Non-Interlock Group subjects substantially exceeded the Interlock Program Participants in terms of days spent in jail ($\bar{x} = 9.2$ vs. 5.1), treatment contact hours ($\bar{x} = 166.6$ vs. 47.9), and the mean number of bench warrants issued against them ($\bar{x} = 0.12$ vs. 0.02). Additionally, while Non-Interlock subjects were sanctioned exactly as often ($\bar{x} = 2.3$ for both groups), the Non-Interlock Group members received fewer incentives from the courts ($\bar{x} = 3.0$ vs. 12.3) and attended substantially fewer 12-step program meetings ($\bar{x} = 92.6$ vs. 174.7)⁷.

Table 2 also provides information on the same parameters, expressed as a calculation per month (i.e. 30 days) spent in DWI/Sobriety Court. It also contains a calculation of the percentage of overall positive drug tests (on a per month basis). This section of the table includes subjects still in the court program, and thus allows for more data to be analyzed. The conclusions that can be drawn from these analyses is that: Interlock Pilot Program Participants have significantly fewer positive drug tests (approximately 1.0% vs. 6.5%); they spent less time in jail (0.39 days vs. 1.87 days / month); and, received a higher proportion of incentives (over 0.9 incentives / month vs. less than 0.2 incentives / month) than the Non-Interlock Group.

⁷ ANOVA analysis revealed that the differences between the pilot program subjects and the comparison group subjects were significantly different ($p < .05$) for all parameters except number of days in drug court, and the number of sanctions.

Table 2. Treatment / Intervention Information: Pilot Program Participants, Year Ending 2013

Sobriety Court Phase At End of Calendar Year 2013

	<u>Pilot Program Participants</u>		<u>Non-Interlock Group</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Sobriety Court Phase				
I	19	4.2	0	0.0
II	60	13.3	0	0.0
III	57	12.7	0	0.0
IV	29	6.4	0	0.0
Closed Case	284	63.1	414	99.8
Missing Data	1	0.2	1	0.2

Treatment/Intervention Data: Completed Interlock Pilot (n=281) and Non-Interlock Groups (n=403)

	<u>Pilot Program Participants</u>		<u>Non-Interlock Group</u>	
	<u>mean</u>	<u>sd</u>	<u>mean</u>	<u>sd</u>
Number of Days of Court	410.7	126.0	413.0	212.1
Days in Jail	5.1	18.8	9.2	21.7
Number of Bench Warrants	0.02	0.17	0.12	0.36
12-Step Program Meetings	174.7	124.3	92.6	145.4
Court Ordered Sanctions	2.3	2.6	2.3	2.6
Court Ordered Incentives	12.3	7.4	3.0	3.7
Treatment Contact Hours	47.9	74.6	166.6	1001.0
Total Number of Drug Tests	273.4	124.9	218.1	137.6
Sobriety Days	263.8	145.6	221.9	217.0

Treatment/Intervention Data: All Cases, Including Those Still In Progress (n=450 Pilot Subjects, n=415 Non-Interlock Subjects)

	<u>Pilot Program Participants</u>		<u>Non-Interlock Group</u>	
	<u>mean</u>	<u>sd</u>	<u>mean</u>	<u>sd</u>
Days in Jail / Month	0.39	1.59	1.87	11.18
Bench Warrants / Month	0.0032	0.038	0.047	0.39
12-Step Meetings / Month	10.24	9.17	5.61	8.56
Sanctions / Month	.17	.21	.23	.33
Incentives / Month	.91	.70	.18	.24
Treatment Hours / Month	4.74	11.03	25.92	235.58
Number of Drug Tests / Month	20.43	9.51	16.17	8.74
Sobriety Days / Month	19.14	11.64	19.38	34.31
Percent of Positive Drug Tests	1.00	3.26	6.51	15.97

NEW OFFENSES

Tables 3a to 3d provide an analysis and comparison of recidivism rates for Interlock Pilot Participants, the Non-Interlock Group, and Standard Probationers for drunk driving and any criminal offenses within the one- and two-year anniversaries of the offender's initial conviction for drunk driving. Data for these analyses were obtained from the Michigan Judicial Data Warehouse (JDW).

The percentage of Interlock Program Participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code within two years of their initial conviction for DWI are reported in Table 3a. Only 2 out of the 116 Interlock Pilot Program Participants (1.7% of the sample) were re-convicted of operating a vehicle while intoxicated within two years of their initial conviction (anyone who has not yet been followed for at least that long was excluded from the analysis). By way of comparison, 17 out of 378 subjects from the Non-Interlock Comparison Group (4.5% of that sample) and 21 out of the 407 Standard Probationers (5.2% of that sample) were reconvicted of drunk driving offenses over the same time period⁸.

Table 3b reports recidivism rates at one-year (anyone who has not yet been followed for at least that long is excluded from the analysis). The data show that Interlock Pilot Program Participants are reconvicted at a lower rate (1.0%) than either Non-Interlock (DWI/Sobriety Court comparison) subjects (2.9%) or Standard Probationers (3.7%)⁹.

Table 3c reports all criminal recidivism (not just drunk driving reconvictions) as the outcome variable. Interlock participants continue to reoffend at lower rates (6.0%) after two years (for those who have accumulated sufficient follow-up time) than the Non-Interlock comparison group (7.1%), or Standard Probationers (9.1%);¹⁰ although it should be noted that the differences in this analysis are not as large as noted in Table 3c.

Finally, Table 3d shows all criminal recidivism when the follow up period is one year in length (among those with at least 1 year of at risk time). Here, the data show that Interlock Program Participants continue to reoffend at lower rates (1.7%) than the Non-Interlock comparison group (4.5%) and Standard Probationers (6.1%)¹¹.

Generally, the results are consistent regardless of the time period, or type of re-offending under analysis: the Interlock Program Participant group exhibits lower rates of recidivism than either of the two comparison groups. Or in plain language: the data provide preliminary indication that the presence of a BAIDD device, in conjunction with a DWI court program, may reduce drunk driving as well as general criminal re-offending (although the small number of cases in the recidivist groups prevent one from reaching a definitive conclusion since many of the differences do not yet reach the conventional .05 level of statistical significance).

⁸ These differences are not sufficiently large to be considered statistically significant at the conventional .05 level of probability.

⁹ These differences are not sufficiently large to be considered statistically significant at the conventional .05 level of probability.

¹⁰ These differences are not sufficiently large to be considered statistically significant at the conventional .05 level of probability.

¹¹ The composite differences within the entire table are significant via χ^2 test ($p = .02$), and the specific differences between the experimental group, the non-interlock comparison group ($p = .02$), and the standard probationer group ($p = .001$), are large enough to be considered statistically significant using a standard z-test for proportion.

Table 3a: Re-Conviction for Operating Under the Influence Within Two Years of Initial Conviction, among those with at Least Two Years of Follow Up

Re-Conviction for Operating Under the Influence Within Two Years of Initial Conviction

	<u>Interlock Participants</u>		<u>Non-Interlock Group</u>		<u>Standard Probationers</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Re-Conviction						
Yes	2	1.7	17	4.5	21	5.2
No	114	98.3	361	95.5	386	94.8

Table 3b: Re-Conviction for Operating Under the Influence Within One Year of Initial Conviction among those with At Least One Year of Follow Up

Re-Conviction for Operating Under the Influence Within One Year of Initial Conviction

	<u>Interlock Participants</u>		<u>Non-Interlock Group</u>		<u>Standard Probationers</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Re-Conviction						
Yes	3	1.0	11	2.9	15	3.7
No	294	99.0	367	97.1	392	96.3

Table 3c: Re-Conviction for Any Criminal Offense Within 2 Years of Initial DWI Offense among those with At Least Two Year of Follow Up

Re-Conviction for Any Criminal Offense Within Two Years of Initial Conviction

	<u>Interlock Participants</u>		<u>Non-Interlock Group</u>		<u>Standard Probationers</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Re-Conviction						
Yes	7	6.0	27	7.1	37	9.1
No	109	94.0	351	92.9	370	90.9

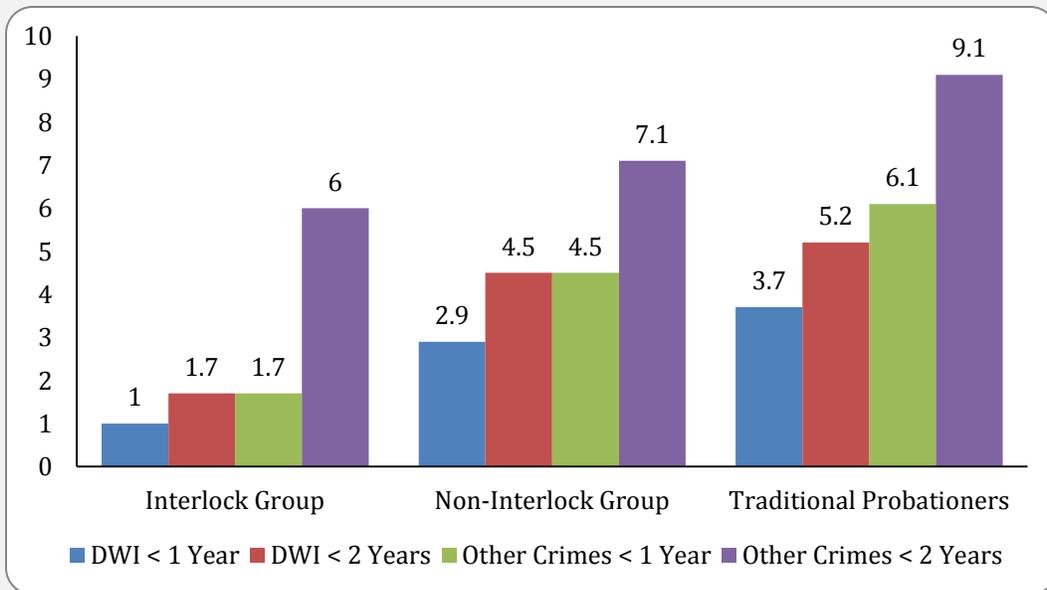
Table 3d: Re-Conviction for Any Criminal Offense Within 1 Year of Initial DWI Offense among those with At Least One Year of Follow Up

Re-Conviction for Any Criminal Offense Within One Year of Initial Conviction						
Re-Conviction	<u>Interlock Participants</u>		<u>Non-Interlock Group</u>		<u>Standard Probationers</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Yes	5	1.7	17	4.5	25	6.1
No	292	98.3	361	95.5	382	93.9

Figure 7 graphically presents the same information as Tables 3a – d.

Figure 7: Recidivism Rates: DWI & Other Offenses (In Percentages) for the Pilot Program (Experimental) Group and Both Comparison Groups

Interlock Participant Recidivism Rates (%)



While the number of re-convictions in all three groups is low (particularly in the Interlock Pilot Program group), Interlock Program Participants appear to be doing somewhat better than both comparison groups with respect to several different measures of recidivism.

BACKGROUND AND OTHER DEMOGRAPHIC INFORMATION

Key demographic variables related to the Interlock Pilot Program Participants and the Non-Interlock Groups are reported in this section.

Participating Court Data

Table 4 reports the key demographic information from the five partner courts used in this study and changes in the number of Interlock Program Participants between 2011 and 2013. The review of the data shows that 450 individuals have been admitted into the Pilot Interlock Program since its inception in 2011. When examined in the context of specific courts, four of the five courts reported an increase in the number of participants in their interlock programs from the previous year of the study. In fact, the 8th and 96th District Courts reported substantial increases in excess of 100%.

Table 4. Participating Courts 2011 - 2013 (Interlock Pilot Program Subjects)

Participating Courts – Interlock Pilot Program Participants						
Court	Location	Offenders Enrolled (2011)	Offenders Enrolled (2012)	Offenders Enrolled (2013)	Percent Change 2012- 2013	Total Number of Program Participants
61 st District	Grand Rapids	22	82	89	8.5%	193
8 th District	Kalamazoo	21	24	62	158%	107
51 st District	Waterford	21	18	12	-33.3%	51
86 th District	Traverse City	10	20	22	10%	52
96 th District	Marquette	10	11	26	136%	47
Total		84	155	211	36%	450

Offender Demographic Information

Table 5 shows the demographic characteristics of offenders admitted to the interlock program (Pilot Program Participants and the Non-Interlock Groups). The “typical” Interlock Program Participant is Caucasian (90.0%), male (71.1%), single (64.4%) and is approximately 35 years old. The demographic characteristics of the Non-Interlock Group are statistically similar to that of the pilot program subjects¹² even though it is slightly more diverse in terms of ethnicity (for instance, just under 84% Caucasian vs. 90% for the Pilot Interlock Program Participants). The Non-Interlock Group is also skewed toward males, and it contains a higher proportion of single and relatively young subjects in comparison to individuals in the Pilot Program.

Table 5. Offender Demographic Characteristics: Pilot Program & Non-Interlock Groups

Offender Profile: Demographic Variables				
	Pilot Program Participants		Non-Interlock Group	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Ethnicity				
Caucasian	404	89.8	349	84.1
Hispanic/Latino	20	4.4	30	7.2
African American	18	4.0	25	6.0
Native American	2	0.4	4	1.0
Asian/Pacific Islander	2	0.4	2	0.5
Other	4	0.9	5	1.2
Gender				
Male	335	74.4	307	74.0
Female	115	25.6	108	26.0
Marital Status				
Single	280	62.2	272	65.5
Divorced	73	16.2	65	15.7
Married	83	18.4	62	14.9
Widowed	6	1.3	4	1.0
Separated	8	1.8	12	2.9
Age				
	<u>mean</u>	<u>Stand. Dev</u>	<u>Mean</u>	<u>Stand. Dev</u>
Years (at screening)	34.5	11.2	33.3	11.3

¹² The differences between the comparison and the experimental groups variables regarding age (via ANOVA analysis), as well as gender, marital status, and ethnicity (via χ^2 test) did not reach statistical significance at the traditional $p < .05$ level.

Education & Employment Status: Interlock Program Participants & Non-Interlock Groups

Table 6 presents data related to the educational levels and employment status of the Interlock Program Participants and Non-Interlock Groups (both the Non-Interlock and Standard Probationers) at intake. The data show that just under 65% of the Interlock Program Participants have least some college education. Meanwhile, less than 50% of the Non-Interlock subjects possess a college education. Conversely, almost 50% of Non-Interlock subjects reported a high school education or less; while 30.4% of the Pilot Program clients could be classified in this category.

In the context of employment status, Interlock Pilot Program Participants have higher rates of full time employment. Well over 70% of the interlock group reported full time employment at intake, while subjects in the Non-Interlock Groups reported working full time just over half the time (56.1%). Conversely, almost one-quarter (24.6%) of the Non-Interlock Group subjects reported being unemployed, while just less than 14% of the Pilot Program Participants were unemployed.

Table 6. Offender Profiles: Education & Employment, Interlock Program Participants and Non-Interlock Groups

Educational Levels at Intake				
	<u>Program Participants</u>		<u>Non-Interlock Groups</u>	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
College				
Post Baccalaureate	15	3.4	3	0.7
4 Year (Bachelors)	76	16.9	26	6.3
2 year (Associates)	30	6.7	22	5.3
Some College (no degree)	157	34.9	126	30.4
Trade School				
Trade School Graduate	20	4.4	18	4.3
Some Trade School	8	1.8	7	1.7
High School Graduate	101	22.3	119	28.7
GED	21	4.7	39	9.4
No High School Degree	22	4.9	55	13.3
Employment Status at Intake				
Full Time Employment	326	72.4	233	56.1
Part Time Employment	52	11.6	65	15.7
Unemployed	62	13.8	102	24.6
Not in Labor Force	10	2.2	15	3.7

Substance Abuse Histories

Table 7 presents information related to the substance abuse history of Interlock Program Participants and the Non-Interlock Group at intake. The majority of both groups (over 94% of the Interlock Pilot Program Participants and 93.5% of the Non-Interlock Comparison Group) reported past substance abuse issues at intake. Most of these issues pertained to the use and abuse of alcohol (as opposed to other kinds of drugs). As such, the majority of Interlock Program Participants (over 95%) were assigned alcohol dependence, abuse or intoxication as their primary DSM-IV (Diagnostic and Statistical Manual of the American Psychiatric Association, Fourth Edition) diagnoses. Similar issues also existed with the Non-Interlock group; although the number reporting alcohol related Primary DSM-IV diagnoses was somewhat lower (92.0%). The most important difference observed between the Interlock Program Participant group, and the Non-Interlock comparison group, with respect to these issues, is that more than three-quarters of the Interlock Pilot Program Participants reported prior substance abuse treatment (77.1%), compared to less than two-thirds (61.9%) of the Non-Interlock group¹³.

¹³ This difference is statistically significant via χ^2 test ($p < .05$).

Table 7. Offender Substance Abuse and Substance Abuse Treatment Histories

Substance Abuse History at Intake				
	Interlock Program Participants		Non-Interlock Group	
	n	%	n	%
Prior Substance Abuse				
Yes	423	94.3	388	93.5
No	27	6.0	27	6.5
Prior Substance Abuse Treatment				
Yes	347	77.1	257	61.9
No	103	22.9	158	38.1
DSM-IV Diagnosis at Intake				
Primary DSM-IV				
Alcohol Dependence	363	80.7	256	61.7
Alcohol Abuse	63	14.0	106	25.5
Alcohol Intoxication	3	0.7	20	4.8
Cannabis Dependence	3	0.7	15	3.6
Poly. Dependence	8	1.8	5	1.2
Opioid Dependence	2	0.4	4	1.0
Other	8	1.8	9	2.2
Secondary DSM-IV				
None	374	83.1	329	79.3
Alcohol Dependence	10	2.2	16	3.9
Cannabis Dependence	10	2.2	16	3.9
Cannabis Abuse	15	3.3	18	4.3
Alcohol Abuse	3	0.7	6	1.4
Other	38	8.5	29	7.0

EDUCATION, EMPLOYMENT OUTCOMES AND PROGRAM FAILURES

Table 8 provides an analysis of educational and employment improvements among Interlock Program Participants and the Non-Interlock Group. It also reports the failure rates in both groups. The data in Table 8 show that 20.6% of Interlock Program Participants improved their educational levels between the start and the completion of their court programs, compared to 15.2% in the Non-Interlock group. When comparing improvements in employment, meanwhile, 33.5% of the interlock group reported employment improvements, compared to 37.7% of the non-interlock group. These findings, however, should be interpreted with caution as the interlock program participants started with substantially higher “baselines” in terms of both education and employment.

Table 8. Educational and Employment Improvement: Interlock Program Participants Who Completed the Program

Education and Employment Data				
	<u>Pilot Program Participants</u> (n=281)		<u>Non-Interlock Group</u> (n=403)	
	n	%	n	%
Educational Improvement at Completion of Program				
Yes	58	20.6	61	15.1
No	222	79.0	334	82.9
Missing	1	0.4	8	2.0
Employment Improvement at Completion of Program				
Yes	94	33.5	152	37.7
No	186	66.2	243	60.3
Missing	1	0.4	10	2.0

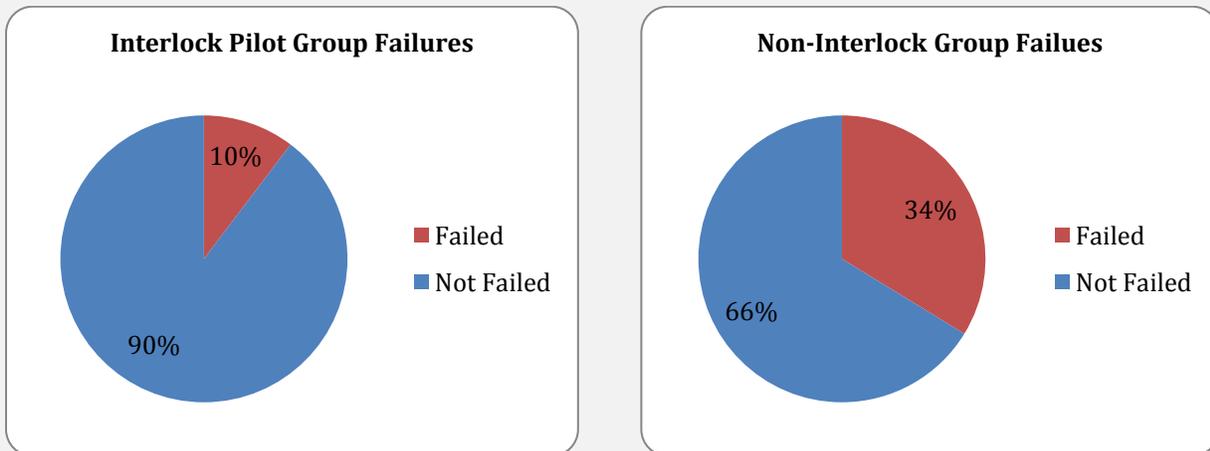
Program Success & Failures

Table 9 and Figure 8 show DWI/Sobriety Court success and failures for the Interlock Pilot Program Participants and the Non-Interlock Comparison Group. Chi-square analysis shows that the Pilot Program Participants have a significantly better¹⁴ success rate as compared to the Non-Interlock Group. In the Interlock Pilot Program group, for instance, almost 90% successfully graduated as compared to approximately 66% of the Non-Interlock Group.

Table 9. Program Failure Data: Interlock Program Participants & Non-Interlock Group

Program Failure Data				
Program Failures	<u>Pilot Program Participants</u> (N=281)		<u>Non-Interlock Group</u> (N=403)	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Yes (Failed in Program)	29	10.3	136	33.7
No	252	89.7	267	66.3

Figure 8: Success/Failure Rates: Interlock Pilot & Non-Interlock Group Failures



¹⁴ χ^2 tests indicate that the difference between the Pilot Program Participants and Non-Interlock subjects on this variable is statistically significant ($p < .05$).

MULTIVARIATE ANALYSIS

Multivariate analysis was performed to examine the impact of interlock program participation on success versus failure in the DWI/Sobriety Court program while controlling for key demographic characteristics (age, gender, ethnicity, education level at intake, and employment status at intake). These results are presented in Table 9.

The analysis reveals that, after statistically controlling for age, gender, ethnicity, initial employment status, and educational attainment, subjects in the Non-Interlock Group have over 3 times greater odds of failing out of DWI / Sobriety Court than Interlock Pilot Program Participants. Thus, the “benefit” from being under ignition interlock, in terms of program success, appears similar when subjected to more advanced statistical methods (as opposed to the bivariate comparisons presented earlier). It is also interesting to note that older subjects are slightly less likely to fail out of the court program, as are those who are employed (either full or part time) and/or have a trade school educational background. Moreover, women are somewhat more likely to fail in drug court relative to men. The other variables in the analysis did not have sufficiently large effects to rise to the level of statistical significance

Table 9. Multivariate Logistic Regression Analysis: The Effect of Pilot Program Participation on DWI/Sobriety Court Failure, Controlling for Selected Demographic Characteristics

Odds Ratios of Failing Out of Drug Court		
Variable	Odds Ratio	Statistical Significance
Comparison Group Subject	3.36	<.0001
Age	.969	.001
Gender (Female)	1.57	.04
Ethnicity (Black)	1.66	Ns
Ethnicity (Hispanic)	1.35	Ns
Ethnicity (Other)	1.27	Ns
Employment (Full Time)	0.30	<.0001
Employment (Part Time)	0.54	.04
Education (Trade School)	0.39	<.0001
Education (College)	0.74	Ns
Regression $\chi^2 = 120.76$ (df = 10)		p < .0001
n = 684		

Notes: ns = not significant

PROCESS-RELATED INFORMATION

The research team also initiated a series of telephone conversations with each of the partner courts during October and November of 2013. During these conversations, additional insight into implementation and operational issues associated with the interlock pilot program were gained. Generally, court personnel report very positive impressions of the program. Some of the major findings are highlighted below:

Personnel Issues

- *Training*

No issues pertaining to interlock-related staff training were noted. However, it was reported that it is initially time consuming to train staff, but because there were virtually no recent changes in key court personnel, this was not an issue in 2013.

- *Adequate Personnel*

Some court personnel did state that the added administrative work related to the interlock program (reviewing client interlock activities, additional forms and paperwork, working with the Secretary of State), did require additional time. As such, some courts did indicate an interest in receiving more financial assistance from the state to hire support personnel.

New or Ongoing Implementation Issues

- *Standardized Forms:*

Some courts still express frustration with the standardized forms used to report on the progress of interlock clients. For instance, there is no easy way to distinguish whether someone has left the program “for cause” (e.g. re-arrest, failing to abide by program conditions) as opposed to voluntarily withdrawing for legitimate reasons (e.g. they no longer own a car; hence no need to be on an ignition interlock). It was also reported that there is also no way to report if a client has withdrawn from the interlock program, but he or she is nevertheless in good standing in the DWI/Sobriety Court.

- *Secretary of State Issues:*

Other courts report that certain components of the administrative process with Secretary of State (SOS) are cumbersome (e.g. paperwork delays in getting licenses for clients, uncertainty over criteria that SOS referees use to make decisions about licensing). In general, certain partner courts expressed a desire to build more flexibility and transparency into the process of communicating with the SOS so that successful, compliant, clients can regain driving privileges as soon as possible.

Issues with Interlocks

- *Reliability Issues*

Some courts did report technology failures (e.g. cameras stopped working, drywall dust clogged one device, some devices registered “false positives” at low levels) but vendors were generally

found to be responsive to problems as they occurred (except in one case where a Court Administrator had to intervene on behalf of a client who was having technology issues).

- *User Issues*

Some clients (particularly smokers with diminished lung capacity and smaller sized persons) still expressed frustration with the “blow and hum” procedure; however, most respondents reported that interlock users can overcome these difficulties with sufficient training and practice. Over time, most interlock clients learn to overcome and compensate for these issues.

Interlock Devices & Vendors

- *New Technologies*

One court is now pilot testing a cell phone linked interlock device (that will also offer GPS tracking capabilities in the future). No other technological advancements were noted.

- *Vendors*

Smart Start and American Interlock are the dominant vendors used by partner courts. Court personnel stated that vendors who were not responsive to court / client needs have been eliminated from the choice of vendors available to clients. The general consensus is that the existing interlock companies are responsive to the needs of the court in the context of requests for data, how the data is sent to the courts, and meeting specific court deadlines.

- *Rolling Re-Tests*

No issues or problems were reported with rolling re-tests. With proper training, court staff reported that interlock users have a safe and adequate amount of time to perform mandatory re-tests. Furthermore, no traffic or pedestrian-related accidents have been reported as a result of the rolling retest requirement.

- *Data Entry Issues:*

Partner courts generally did not report data entry problems; however, some did express the opinion that a great deal of staff time could be saved if the interlock device data could be directly downloaded into DCCMIS by court staff, or even the interlock providers. It was also stated that the accuracy of data entered into DCCMIS would be improved as a result of this direct data entry process.

Changes to DWI/Sobriety Court Programs that could impact the Pilot Project

- *Program Expansion*

With this program becoming permanent in the state, some courts did express concerns that there would be an increased demand among defense attorneys and offenders for admission into a DWI/Sobriety Court. Generally, these reservations were related to all members of the criminal justice system being adequately educated on the components and admission requirements for these courts, as well as resource-related uncertainties including adequate funding and staffing levels to ensure that the court could operate at its full potential.

- *Access Concerns*

The existing popularity of the interlock program (and the potential for increased demand) has resulted in some courts accepting transfers from outside their jurisdictions (i.e. people from jurisdictions that do not have an interlock program, and hence no opportunity for offenders to legally regain a restricted license). With increased knowledge and demand for this program, some concerns were raised that the demand for (and political pressure) could lead to future conflict related to program accessibility.

- *Equality Issues*

It was reported that some clients still struggle with financial costs related to the DWI/Sobriety Court and the interlock. In this context, comments were raised that these courts may become a court for upper and middle class offenders, disproportionately disadvantaging lower socioeconomic status offenders who may not be able to pay for private counsel (who may be more motivated to advocate for placing their clients in the program), and may not have the financial means to pay for the daily and monthly interlock fees. Already, one court reported having secured a grant to help make the interlock program more accessible to a wider range of clients by offsetting some of the costs.

SECTION 4: SUMMARY AND CONCLUSION

UNDERSTANDING DRUNK DRIVING AND ITS PREVENTION

The review of the literature in Section 1 of this report shows that drinking and driving is a serious public health concern in the United States. As such, a great deal of academic research has been dedicated to this issue. It can safely be concluded that an integrated and targeted approach is one of the most effective ways to control and prevent repeat drunk driving. One very promising intervention is the use of DWI/Sobriety courts that use a problem-solving/therapeutic approach to address the core issues related to drinking and driving among chronic offenders. As part of the treatment and supervision plan, the use of ignition interlocks have been found to be very effective as a monitoring and enforcement tool to ensure program compliance, and public safety, while also serving as a behavioral reinforcement tool to ensure long-term change.

SUMMARY OF KEY FINDINGS FROM THE PRESENT STUDY

Generally, most indicators continue to suggest that the pilot interlock program is running smoothly and is yielding many encouraging process and outcome related results. For instance:

- A total of 252 clients have successfully graduated from the pilot program: only 29 have failed; this continues to represent a significantly better success rate than the five partner courts were experiencing prior to the implementation of the interlock program.
- More than 98% of Interlock Program Participants ordered by the court to install interlock devices on their vehicles have complied with those orders;
- Less than 0.5% of Interlock Program Participants pilot removed the interlock devices without court authorization;
- Alcohol and drug use among Interlock Program Participants is lower in comparison to similar offenders not under interlock supervision;
- Just over 1% of the Interlock Program Participants tampered with a court ordered interlock;
- Less than 1% of the Interlock Program Participants have operated a motor vehicle not equipped with an interlock device; and,
- To date, less than 2% of pilot program offenders have been reconvicted under section 625(1) or (3) of the Michigan Vehicle Code (i.e. for drunk driving).

In addition, the 2014 edition of this study found that:

- In comparison to non-interlock offenders in DWI/Sobriety Court, and to standard probationers, Interlock Program Participants have the lowest recidivism rates, one and two years after the initial conviction for DWI. This is true for both drunk driving related re-offending and for general criminal re-offending.
- Interlock Program Participants have substantially higher rates of educational improvement in comparison to DWI offenders who did not participate in the pilot interlock program.
- Multivariate analysis, which controls for standard demographic characteristics, suggests that offenders in DWI/Sobriety Court, who are not under interlock supervision, have over 3 times the odds of failing out of their therapeutic court program relative to those participants in a DWI/Sobriety Court that is using ignition interlocks.

FUTURE DIRECTIONS AND LIMITATIONS

Because the present study continues to enroll subjects, and because of low numbers of offenders in the recidivist groups (in all three study groups) a number of the key findings pertaining to recidivism did not reach statistical significance at the traditional .05 level typically used in the social sciences. As such, the findings presented in this 2014 report should still be considered “suggestive” as opposed to “definitive.” While “all of the numbers point in the correct direction,” and suggest that the Interlock Pilot Program is successful, it will nevertheless be useful to continue following study participants to gather additional longitudinal data regarding recidivism (at present, plans are in place to do so for an addition two years). If the trends observed in the first three years of this study extend into the future, the study authors expect that it will should soon be possible to state, with the appropriate degree of statistical certainty, that ignition interlocks (particularly when utilized in combination with the therapeutic effects of DWI/Sobriety Court) are reducing DWI related re-offending in the state of Michigan.

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APPENDIX A

National Center of DWI Courts 10 Guiding Principles

GUIDING PRINCIPLE #1: Determine the Population

Targeting is the process of identifying a subset of the DWI offender population for inclusion in the DWI Court program. This is a complex task given that DWI Courts, in comparison to traditional Drug Court programs, accept only one type of offender: the hardcore impaired driver. The DWI court target population, therefore, must be clearly defined, with eligibility criteria clearly documented.

GUIDING PRINCIPLE #2: Perform a Clinical Assessment

A clinically competent and objective assessment of the impaired-driving offender must address a number of bio-psychosocial domains including alcohol use severity and drug involvement, the level of needed care, medical and mental health status, extent of social support systems, and individual motivation to change. Without clearly identifying a client's needs, strengths, and resources along each of these important bio-psychosocial domains, the clinician will have considerable difficulty in developing a clinically sound treatment plan.

GUIDING PRINCIPLE #3: Develop the Treatment Plan

Substance dependence is a chronic, relapsing condition that can be effectively treated with the right type and length of treatment regimen. In addition to having a substance abuse problem, a significant proportion of the DWI population also suffers from a variety of co-occurring mental health disorders. Therefore, DWI Courts must carefully select and implement treatment strategies demonstrated through research to be effective with the hardcore impaired driver to ensure long-term success.

GUIDING PRINCIPLE #4: Supervise the Offender

Driving while impaired presents a significant danger to the public. Increased supervision and monitoring by the court, probation department, and treatment provider must occur as part of a coordinated strategy to intervene with hardcore DWI offenders and to protect against future impaired driving.

GUIDING PRINCIPLE #5: Forge Agency, Organization, and Community Partnerships

Partnerships are an essential component of the DWI Court model as they enhance credibility, bolster support, and broaden available resources. Because the DWI Court model is built on and dependent upon a strong team approach, both within the court and beyond, the court should solicit the cooperation of other agencies, as well as community organizations to form a partnership in support of the goals of the DWI Court program.

GUIDING PRINCIPLE #6: Take a Judicial Leadership Role

Judges are a vital part of the DWI Court team. As leader of this team, the judge's role is paramount to the success of the DWI Court program. The judge must be committed to the sobriety of program participants, possess exceptional knowledge and skill in behavioral science, own recognizable leadership skills as well as the capability to motivate team members and elicit buy-in from various stakeholders. The selection of the judge to lead the DWI Court team, therefore, is of utmost importance.

GUIDING PRINCIPLE #7: Develop Case Management Strategies

Case management, the series of inter-related functions that provides for a coordinated team strategy and seamless collaboration across the treatment and justice systems, is essential for an integrated and effective DWI Court program.

GUIDING PRINCIPLE #8: Address Transportation Issues

Though nearly every state revokes or suspends a person's driving license upon conviction for an impaired driving offense, the loss of driving privileges poses a significant issue for those individuals involved in a DWI Court program. In many cases, the participant solves the transportation problem created by the loss of their driver's license by driving anyway and taking a chance that he or she will not be caught. With this knowledge, the court must caution the participant against taking such chances in the future and to alter their attitude about driving without a license.

GUIDING PRINCIPLE #9: Evaluate the Program

To convince stakeholders about the power and efficacy of DWI Court, program planners must design a DWI Court evaluation model capable of documenting behavioral change and linking that change to the program's existence. A credible evaluation is the only mechanism for mapping the road to program success or failure. To prove whether a program is efficient and effective requires the assistance of a competent evaluator, an understanding of and control over all relevant variables that can systematically contribute to behavioral change, and a commitment from the DWI Court team to rigorously abide by the rules of the evaluation design.

GUIDING PRINCIPLE #10: Ensure a Sustainable Program

The foundation for sustainability is laid, to a considerable degree, by careful and strategic planning. Such planning includes considerations of structure and scale, organization and participation and, of course, funding. Becoming an integral and proven approach to the DWI problem in the community however is the ultimate key to sustainability.

APPENDIX B

Act No. 226
Public Acts of 2013
Approved by the Governor
December 21, 2013
Filed with the Secretary of State
December 26, 2013
EFFECTIVE DATE: December 26, 2013
STATE OF MICHIGAN
97TH LEGISLATURE
REGULAR SESSION OF 2013

Introduced by Rep. Jenkins

ENROLLED HOUSE BILL No. 5020

AN ACT to amend 1949 PA 300, entitled “An act to provide for the registration, titling, sale, transfer, and regulation of certain vehicles operated upon the public highways of this state or any other place open to the general public or generally accessible to motor vehicles and distressed vehicles; to provide for the licensing of dealers; to provide for the examination, licensing, and control of operators and chauffeurs; to provide for the giving of proof of financial responsibility and security by owners and operators of vehicles; to provide for the imposition, levy, and collection of specific taxes on vehicles, and the levy and collection of sales and use taxes, license fees, and permit fees; to provide for the regulation and use of streets and highways; to create certain funds; to provide penalties and sanctions for a violation of this act; to provide for civil liability of owners and operators of vehicles and service of process on residents and nonresidents; to regulate the introduction and use of certain evidence; to provide for the levy of certain assessments; to provide for the enforcement of this act; to provide for the creation of and to prescribe the powers and duties of certain state and local agencies; to impose liability upon the state or local agencies; to provide appropriations for certain purposes; to repeal all other acts or parts of acts inconsistent with this act or contrary to this act; and to repeal certain parts of this act on a specific date,” by amending section 304 (MCL 257.304), as amended by 2012 PA 498.

The People of the State of Michigan enact:

Sec. 304. (1) Except as provided in subsection (3), the secretary of state shall issue a restricted license to a person whose license was suspended or restricted under section 319 or revoked or denied under section 303 based on either of the following:

(a) Two or more convictions for violating section 625(1) or (3) or a local ordinance of this state substantially corresponding to section 625(1) or (3).

(b) One conviction for violating section 625(1) or (3) or a local ordinance of this state substantially corresponding to section 625(1) or (3), preceded by 1 or more convictions for violating a local ordinance or law of another state substantially corresponding to section 625(1), (3), or (6), or a law of the United States substantially corresponding to section 625(1), (3), or (6).

(2) A restricted license issued under subsection (1) shall not be issued until after the person’s operator’s or chauffeur’s license has been suspended or revoked for 45 days and the judge assigned to a DWI/Sobriety Court certifies to the secretary of state that both of the following conditions have been met:

(a) The person has been admitted into a DWI/Sobriety Court program.

(b) An ignition interlock device approved, certified, and installed as required under sections 625k and 625l has been installed on each motor vehicle owned or operated, or both, by the individual.

(3) A restricted license shall not be issued under subsection (1) if the person is otherwise ineligible for an operator's or chauffeur's license under this act, unless the person's ineligibility is based on 1 or more of the following:

(a) Section 303(1)(i) or (l).

(b) Section 303(2)(c)(i) or (iii).

(c) Section 303(2)(g)(i) or (iii).

(d) Section 319(4), (5), (6), (7), (8)(a) to (e), or (9).

(e) Section 319e(2)(a) or (b).

(f) Section 320(1)(d).

(g) Section 321a(1), (2), or (3).

(h) Section 323c.

(i) Section 625f.

(j) Section 732a(5).

(k) Section 904(10).

(l) Section 82105a(2) of the natural resources and environmental protection act, 1994 PA 451, MCL 324.82105a.

(m) Section 3177 of the insurance code of 1956, 1956 PA 218, MCL 500.3177.

(n) Section 10 of the motor vehicle claims act, 1965 PA 198, MCL 257.1110.

(4) A restricted license issued under subsection (1) permits the person to whom it is issued to operate only the vehicle equipped with an ignition interlock device described in subsection (2)(b), to take any driving skills test required by the secretary of state, and to drive to and from any combination of the following locations or events:

(a) In the course of the person's employment or occupation if the employment or occupation does not require a commercial driver license.

(b) To and from any combination of the following:

(i) The person's residence.

(ii) The person's work location.

(iii) An alcohol, drug, or mental health education and treatment as ordered by the court.

(iv) Alcoholics anonymous, narcotics anonymous, or other court-ordered self-help programs.

(v) Court hearings and probation appointments.

(vi) Court-ordered community service.

(vii) An educational institution at which the person is enrolled as a student.

(viii) A place of regularly occurring medical treatment for a serious condition or medical emergency for the person or a member of the person's household or immediate family.

(ix) Alcohol or drug testing as ordered by the court.

(x) Ignition interlock service provider as required.

(5) While driving with a restricted license, the person shall carry proof of his or her destination and the hours of any employment, class, or other reason for traveling and shall display that proof upon a peace officer's request.

(6) Except as otherwise provided in this section, a restricted license issued under subsection (1) is effective until a hearing officer orders an unrestricted license under section 322. The hearing officer shall not order an unrestricted license until the later of the following events occurs:

(a) The court notifies the secretary of state that the person has successfully completed the DWI/Sobriety Court program.

(b) The minimum period of license sanction that would have been imposed under section 303 or 319 but for this section has been completed.

(c) The person demonstrates that he or she has operated with an ignition interlock device for not less than 1 year.

(d) The person satisfies the requirements of section 303 and R 257.313 of the Michigan administrative code.

(7) In determining whether to order an unrestricted license under subsection (6), the successful completion of the DWI/Sobriety Court program and a certificate from the DWI/Sobriety Court judge shall be considered positive evidence of the petitioner's abstinence while the petitioner participated in the DWI/Sobriety Court program. As used in this subsection, "certificate" includes, but is not limited to, a statement that the participant has maintained a period of abstinence from alcohol for not less than 6 months at the time the participant completed the DWI/Sobriety Court program. 3

(8) If the secretary of state receives a notification from the DWI/Sobriety Court under section 1084(6) of the revised judicature act of 1961, 1961 PA 236, MCL 600.1084, the secretary of state shall summarily impose 1 of the following license sanctions, as applicable:

(a) Suspension for the full length of time provided under section 319(8). However, a restricted license shall not be issued as provided under section 319(8). This subdivision applies if the underlying conviction or convictions would have subjected the person to a license sanction under section 319(8) if this section did not apply.

(b) A license revocation and denial for the full length of time provided under section 303. The minimum period of license revocation and denial imposed shall be the same as if this section did not apply. This subdivision applies if the underlying conviction or convictions would have caused a license revocation and denial under section 303 if this section did not apply.

(9) After the person completes the DWI/Sobriety Court program, the following apply:

(a) The secretary of state shall postpone considering the issuance of an unrestricted license under section 322 for a period of 3 months for each act that would be a minor violation if the person's license had been issued under section 322(6). As used in this subdivision, "minor violation" means that term as defined in R 257.301a of the Michigan administrative code.

(b) The restricted license issued under this section shall be suspended or revoked or denied as provided in subsection (8), unless set aside under subsection (6), if any of the following events occur:

(i) The person operates a motor vehicle without an ignition interlock device that meets the criteria under subsection (2)(b).

(ii) The person removes, or causes to be removed, an ignition interlock device from a vehicle he or she owns or operates unless the secretary of state has authorized its removal under section 322a.

(iii) The person commits any other act that would be a major violation if the person's license had been issued under section 322(6). As used in this subparagraph, "major violation" means that term as defined in R 257.301a of the Michigan administrative code.

(iv) The person is arrested for a violation of any of the following:

(A) Section 625.

(B) A local ordinance of this state or another state substantially corresponding to section 625.

(C) A law of the United States substantially corresponding to section 625.

(c) If the person is convicted of or found responsible for any offense that requires the suspension, revocation, denial, or cancellation of the person's operator's or chauffeur's license, the restricted license issued under this section shall be suspended until the requisite period of license suspension, revocation, denial, or cancellation, as appropriate, has elapsed.

(d) If the person has failed to pay any court-ordered fines or costs that resulted from the operation of a vehicle, the restricted license issued under this section shall be suspended pending payment of those fines and costs.

(10) All driver responsibility fees required to be assessed by the secretary of state under section 732a for the conviction or convictions that led to the restricted license under this section shall be held in abeyance as follows:

(a) The fees shall be held in abeyance during the time the person has a restricted license under this section and is participating in the DWI/Sobriety Court program.

(b) At the end of the person's participation in the DWI/Sobriety Court program, the driver responsibility fees shall be assessed and paid under the payment schedule described in section 732a.

(11) The vehicle of an individual admitted to the DWI/Sobriety Court program whose vehicle would otherwise be subject to immobilization or forfeiture under this act is exempt from both immobilization and forfeiture under sections 625n and 904d if both of the following apply:

(a) The person is a DWI/Sobriety Court program participant in good standing or the person successfully satisfactorily completes the DWI/Sobriety Court program.

(b) The person does not subsequently violate a law of this state for which vehicle immobilization or forfeiture is a sanction.

(12) This section only applies to individuals arrested for a violation of section 625 on or after January 1, 2011.

(13) As used in this section:

(a) "DWI/Sobriety Court" means that term as defined in section 1084 of the revised judicature act of 1961, 1961 PA 236, MCL 600.1084.

(b) "DWI/Sobriety Court program" means "pilot project" or "program" as those terms are defined in section 1084 of the revised judicature act of 1961, 1961 PA 236, MCL 600.1084.

Enacting section 1. This amendatory act does not take effect unless House Bill No. 5021 of the 97th Legislature is enacted into law. 4

EHB 5020

This act is ordered to take immediate effect.

Clerk of the House of Representatives
Secretary of the Senate

Approved

APPENDIX C

Act No. 227
Public Acts of 2013
Approved by the Governor
December 21, 2013
Filed with the Secretary of State
December 26, 2013
EFFECTIVE DATE: December 26, 2013
STATE OF MICHIGAN
97TH LEGISLATURE
REGULAR SESSION OF 2013

Introduced by Rep. Lauwers

ENROLLED HOUSE BILL No. 5021

AN ACT to amend 1961 PA 236, entitled "An act to revise and consolidate the statutes relating to the organization and jurisdiction of the courts of this state; the powers and duties of the courts, and of the judges and other officers of the courts; the forms and attributes of civil claims and actions; the time within which civil actions and proceedings may be brought in the courts; pleading, evidence, practice, and procedure in civil and criminal actions and proceedings in the courts; to provide for the powers and duties of certain state governmental officers and entities; to provide remedies and penalties for the violation of certain provisions of this act; to repeal all acts and parts of acts inconsistent with or contravening any of the provisions of this act; and to repeal acts and parts of acts," by amending section 1084 (MCL 600.1084), as added by 2010 PA 154.

The People of the State of Michigan enact:

Sec. 1084. (1) A DWI/Sobriety Court interlock pilot project is created utilizing the DWI/Sobriety Courts in this state and in accordance with the provisions of this chapter. The DWI/Sobriety Court interlock pilot project shall begin on January 1, 2011 and shall continue for a period of 4 years after that date. Beginning January 1, 2015, the DWI/Sobriety Court interlock program shall be created and shall continue with the same requirements, eligibility criteria, authority, and limitations as those prescribed in this section for the DWI/Sobriety Court interlock pilot project. An individual who is a participant in a DWI/Sobriety Court interlock pilot project on December 31, 2014 shall become, automatically, a participant in a DWI/Sobriety Court interlock program on January 1, 2015, unless the individual's participation in the pilot project ceased by its own terms before January 1, 2015.

(2) All DWI/Sobriety Courts that participate in the pilot project or program shall comply with the 10 guiding principles of DWI courts as promulgated by the national center for DWI courts.

(3) In order to be considered for placement in the pilot project or program, an individual must have been convicted of either of the following:

(a) Two or more convictions for violating section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, or a local ordinance of this state substantially corresponding to section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625.

(b) One conviction for violating section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, or a local ordinance of this state substantially corresponding to section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, preceded by 1 or more convictions for violating a local ordinance or law of another state substantially corresponding to section 625(1), (3), or (6) of the Michigan vehicle code, 1949 PA 300, MCL 257.625, or a law of the United States substantially corresponding to section 625(1), (3), or (6) of the Michigan vehicle code, 1949 PA 300, MCL 257.625.

(4) Each year, all DWI/Sobriety Courts that participate in the pilot project or program, in cooperation with the state court administrative office, shall provide to the legislature, the secretary of state, and the supreme court documentation as to participants' compliance with court ordered conditions. Best practices available shall be used in the research in question, as resources allow, so as to provide statistically reliable data as to the impact of the pilot project or program on public safety and the improvement of life conditions for participants. The topics documented shall include, but not be limited to, all of the following:

(a) The percentage of those participants ordered to place interlock devices on their vehicles who actually comply with the order.

- (b) The percentage of participants who remove court-ordered interlocks from their vehicles without court approval.
 - (c) The percentage of participants who consume alcohol or controlled substances.
 - (d) The percentage of participants found to have tampered with court-ordered interlocks.
 - (e) The percentage of participants who operated a motor vehicle not equipped with an interlock.
 - (f) Relevant treatment information as to participants.
 - (g) The percentage of participants convicted of a new offense under section 625(1) or (3) of the Michigan vehicle code, 1949 PA 300, MCL 257.625.
 - (h) Any other information found to be relevant.
- (5) Before the secretary of state issues a restricted license to a pilot project or program participant under section 304 of the Michigan vehicle code, 1949 PA 300, MCL 257.304, the DWI/Sobriety Court judge shall certify to the secretary of state that the individual seeking the restricted license has been admitted into the pilot project or program and that an interlock device has been placed on each motor vehicle owned or operated, or both, by the individual.
- (6) If any of the following occur, the DWI/Sobriety Court judge shall immediately inform the secretary of state of that occurrence:
- (a) The court orders that a pilot project or program participant be removed from the DWI/Sobriety Court pilot project or program before he or she successfully completes it.
 - (b) The court becomes aware that a participant operates a motor vehicle that is not equipped with an interlock device or that a participant tampers with, circumvents, or removes a court-ordered interlock device without prior court approval.
 - (c) A participant is charged with a new violation of section 625 of the Michigan vehicle code, 1949 PA 300, MCL 257.625.
- (7) The receipt of notification by the secretary of state under subsection (6) shall result in summary revocation or suspension of the restricted license under section 304 of the Michigan vehicle code, 1949 PA 300, MCL 257.304.
- (8) As used in this section:
- (a) "DWI/Sobriety Courts" means the specialized court docket and programs established within judicial circuits and districts throughout this state that are designed to reduce recidivism among alcohol offenders and that comply with the 10 guiding principles of DWI courts as promulgated by the national center for DWI courts.
 - (b) "Ignition interlock device" means that term as defined in section 20d of the Michigan vehicle code, 1949 PA 300, MCL 257.20d.
 - (c) "Pilot project" means the DWI/Sobriety Court interlock pilot project created under subsection (1) on September 2, 2010 and authorized to operate for 4 years beginning January 1, 2011.
 - (d) "Program" means the DWI/Sobriety Court interlock program created on the effective date of the amendatory act that added this subdivision and authorized to operate beginning January 1, 2015.

Enacting section 1. This amendatory act does not take effect unless House Bill No. 5020 of the 97th Legislature is enacted into law.

This act is ordered to take immediate effect.

Clerk of the House of Representatives
Secretary of the Senate

Approved

APPENDIX D

Ignition Interlock Pilot Program (Experimental Group)

Descriptions of Samples

Sample	n	Description
Full Pilot Program Sample	450	All participants who met inclusion criteria and were enrolled by partner courts between January 1 st , 2011 and December 31 st , 2013.
Matched Cases From Pilot Program Sample (Recidivism Analysis Sample)	407	Participants from the full sample who could be matched to standard probationers from the state of Michigan with similar geographic, demographic and offender characteristics.
Matched Cases from Pilot Program Sample with at least One Year “At Risk”	297	Participants from the full sample who could be matched to standard probationers from the state of Michigan with similar geographic, demographic and offender characteristics and who had been followed for at least one year after the conviction that put them into DWI/Sobriety Court.
Matched Cases from Pilot Program Sample with at least Two Years “At Risk”	116	Participants from the full sample who could be matched to standard probationers from the state of Michigan with similar geographic, demographic and offender characteristics and who had been followed for at least two years after the conviction that put them into DWI/Sobriety Court.
Completed Cases from Pilot Program Sample	281	Subjects who had either successfully completed DWI/Sobriety Court by December 31 st , 2013, had voluntarily withdrawn from the program, or had been discharged from the program “for cause” (i.e. a new criminal offense, failure to abide by DWI/Sobriety Court restrictions, or absconding from court supervision.)

APPENDIX E

DWI/Sobriety Court (Non-Interlock) First Comparison Group

Descriptions of Samples

Sample	n	Description
Full Non-Interlock Comparison Group	508	All participants enrolled by partner courts between January 1 st , 2010 and December 31 st , 2010.
Non-Interlock Comparison Subjects Similar to Pilot Program Subjects	415	Participants from the full DWI/Sobriety Court comparison sample with similar current offense and previous criminal history characteristics as pilot program participants.
Matched Cases From Non-Interlock Comparison Group who are Similar to Pilot Program Subjects (Recidivism Analysis Sample)	378	Participants from the full sample who could be matched to standard probationers from the state of Michigan with similar geographic, demographic and offender characteristics and who were initially convicted of drunk driving offenses ¹⁵ .
Completed Cases from Comparison Sample	403	Subjects who had either successfully completed DWI/Sobriety Court by December 31 st , 2013, had voluntarily withdrawn from the program, or had been discharged from the program “for cause” (i.e. a new criminal offense, failure to abide by DWI/Sobriety Court restrictions, or absconding from court supervision.)

¹⁵ All cases in this comparison group had at least 2 years of “at risk” time. Consequently, all 378 cases are included in each recidivism calculation.

APPENDIX F

Standard Probationer Second Comparison Group

Descriptions of Samples

Sample	n	Description
Standard Probationer Cases Matched to Pilot Program Sample	407	Subjects drawn from standard (i.e. non DWI/Sobriety) courts from across the state of Michigan who are similar to the Pilot Program participants in terms of geographic, demographic and offender characteristics.

APPENDIX G

Independent and Control Variables

Independent Variable

Variable	Source	Description
Pilot Program Member	DCCMIS	A binary variable, 0 if the subject is a member of the DWI/Sobriety Court comparison group, 1 if he or she is a member of the experimental group (i.e. was placed on interlock restriction).

Control Variables

Gender	DCCMIS	A binary variable, 0 if the subject is female, 1 if he is male.
Ethnicity	DCCMIS	A nominal level variable with 4 possible categories, White, Black, Hispanic and other.
Marital Status	DCCMIS	A nominal level variable with 5 possible categories, married, single, separated, divorced and widowed.
Age	DCCMIS	A continuous measure: chronological age in years at intake to DWI/Sobriety Court.
Educational Level at Intake	DCCMIS	An ordinal level variable with 10 possible categories ranging from post-baccalaureate college to no high school degree (and including a distinction between college education and trade school).
Employment Level at Intake	DCCMIS	An ordinal level variable with 4 possible categories, full time employment, part time employment, unemployed and not in the labor force.
Prior Substance Abuse	DCCMIS	A binary variable, indicating whether the subject had been diagnosed as a substance abuser prior to entering DWI/Sobriety Court: 0 if no, 1 if yes.
Prior Substance Abuse Treatment	DCCMIS	A binary variable, indicating whether the subject had been treated for substance abuse issues prior to entering DWI/Sobriety Court: 0 if no, 1 if yes.
Primary DSM-IV Diagnosis at Intake	DCCMIS	A multi-level nominal variable with various possible diagnoses from the DSM-IV.
Secondary DSM-IV Diagnosis at Intake	DCCMIS	A multi-level nominal variable with various possible diagnoses from the DSM-IV.
Court	DCCMIS	A nominal level variable describing the court the case was drawn from. It can take on the 5 values described earlier.

Process Variables

Variable	Source	Description
Number of Days in Drug Court	DCCMIS	A continuous variable representing the total number of days the subject had spent in DWI/Sobriety Court as of December 31, 2013.
Total Number of Drug / Alcohol Tests*	DCCMIS	A continuous variable representing the total number of drug and alcohol tests while in DWI / Sobriety court.
Failed Drug / Alcohol Tests*	DCCMIS	A continuous variable representing the total number of failed drug and alcohol tests while in DWI / Sobriety court.
Sobriety Court Phase*	DCCMIS	The phase of DWI / Sobriety court the subject was in as of December 31, 2013. A 5 category ordinal variable including the values I – IV and “Closed Case” (i.e. no longer in the program).
Number of Bench Warrants*	DCCMIS	A continuous variable representing the number of bench warrants issued against the subject by the DWI / Sobriety court judge.
12-Step Program Meetings*	DCCMIS	A continuous variable representing the total number of 12-step program meetings the subject attended while in DWI / Sobriety court.
Court Ordered Sanctions*	DCCMIS	A continuous variable representing the total number of sanctions received by the subject while in DWI / Sobriety Court.
Court Ordered Incentives*	DCCMIS	A continuous variable representing the total number of incentives received by the subject while in DWI/Sobriety Court.
Treatment Contact Hours*	DCCMIS	A continuous variable representing the total treatment contact hours (of any kind) while in DWI/Sobriety Court.
Sobriety Days*	DCCMIS	A continuous variable representing the total number days the subject was sober while under the supervision of the DWI/Sobriety Court.

* The reader should note that each of these process variables were also transformed into rate per month by taking the appropriate statistic, dividing by the total number of days in Drug Court and multiplying by thirty. This yield variables such as “The rate of failed drug / alcohol tests per month spent in DWI/Sobriety Court” etc.

Outcome Variables

Variable	Source	Description
Compliance With Interlock Order	DCCMIS	A binary variable, 1 if the subject failed to install an interlock device as ordered by the court, 0 the subject complied.
Removed Interlock	DCCMIS	A binary variable, 1 if the subject removed the interlock device without permission from the court, 0 if he or she did not.
Interlock Tampering	DCCMIS	A binary variable, 1 if the subject is tampered with the interlock device, 0 if the he or she did not.
Operating Vehicle without Interlock	DCCMIS	A binary variable, 1 if the subject is was caught operating a vehicle not equipped with an interlock device, 0 if he or she was not.
Improvement in Educational Attainment	DCCMIS	A binary variable, 1 if the subject improved his or her educational attainment between the time he/she entered DWI/Sobriety Court and his/her completion of the program (either successfully or not); 0 otherwise.
Improvement in Employment Status	DCCMIS	A binary variable, 1 if the subject improved his or her employment status between the time he/she entered DWI/Sobriety Court and completion of the program (either successfully or not); 0 otherwise.
Failure / Success in DWI/Sobriety Court	DCCMIS	A binary variable, 1 if the subject successfully completed DWI/Sobriety Court, a 0 if he or she “failed out” because of non-compliance, a new conviction, absconding or if he/she voluntarily withdrew from the program.
Reconviction for Operating While Impaired within 1 Year for Subjects with at Least 1 Year “at risk” **	JDW	A binary variable indicating if the subject had been reconvicted of a DWI within 1 year after being admitted to DWI/Sobriety Court (or the date that a court case file was opened for Standard Probationers). For this variable, if a year had not yet passed since these dates, he or she was excluded from the sample.
Reconviction for Operating While Impaired within 1 Year for Subjects with at Least 2 Years “at risk”	JDW	As above, except with a 2 year time frame.
Reconviction for any Criminal Offense within 1 Year for Subjects with at Least 1 Year “at risk”	JDW	A binary variable indicating if the subject had been reconvicted of any criminal offense within 1 year after being admitted to DWI/Sobriety Court (or the date that a court case file was opened for Standard Probationers). For this variable, if a year had not yet passed since these dates, he or she was excluded from the sample.
Reconviction for any Criminal Offense within 1 Year for Subjects with at Least 2 Years “at risk”	JDW	As above, except with a 2 year time frame.

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