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

NHTSA

DOT HS 813 494

September 2023

Evaluation of North Dakota's 24/7 Sobriety Program

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Suggested APA Format Citation:

McCartt, A. T., Solomon, M. G., Nichols, J. L., Tison, J., Chaudhary, N. K., & Wochinger, K. (2023, September). *Evaluation of North Dakota's 24/7 sobriety program* (Report No. DOT HS 813 494). National Highway Traffic Safety Administration.

Technical Report Documentation Page

1. Report No. DOT HS 813 494	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Evaluation of North Dakota's 24/7 Sobriety Program		5. Report Date September 2023
		6. Performing Organization Code
7. Authors Anne T. McCartt, Mark G. Solomon, James L. Nichols, Julie Tison, Neil K. Chaudhary, and Kathryn Wochinger		8. Performing Organization Report No.
9. Performing Organization Name and Address Preusser Research Group, Inc. 7100 Main Street Trumbull, CT 06611		10. Work Unit No. (TRAIS)
		11. Contract No. DTNH22-16-D-00019
12. Sponsoring Agency Name and Address National Highway Traffic Safety Administration Office of Behavioral Safety Research 1200 New Jersey Avenue SE Washington, DC 20590		13. Type of Report and Period Covered Final Report
		14. Sponsoring Agency Code

15. Supplementary Notes
Kathryn Wochinger was the contracting officer's representative for this project.

16. Abstract

Alcohol-involved motor vehicle crashes are a long-standing traffic safety problem, and efforts to reduce driving under the influence (DUI) have spanned decades and include a range of countermeasures, to varying effect. Sobriety monitoring programs such as "24/7 sobriety programs" focus on the substance use of repeat offenders. These programs require participants for a prescribed period to provide proof of sobriety with daily or twice daily substance use tests or with an alcohol monitoring device. An important component to 24/7 sobriety programs is penalizing violators with "swift, certain, and modest" sanctions such as 1 or 2 days in jail. Prior studies found reductions in DUI offenses, including repeat DUI offenses, associated with 24/7 sobriety programs.

The current study conducted a process and outcome evaluation of the North Dakota 24/7 sobriety program, with a focus on the effects of a State law that requires program participation for repeat offenders. The law, H.B. 1302, enacted in 2013, was associated with an increase in program enrollments, the mean time spent in the program per participant, and a statistically significant reduction in the number of arrests of DUI offenders. The study adds to the evidence that the 24/7 sobriety program is an effective strategy for reducing repeat DUI offenses.

17. Key Words	18. Distribution Statement
24/7 sobriety program, alcohol-impaired driving, driving under the influence, DUI countermeasure, DUI recidivism	Document is available to the public from the DOT, BTS, National Transportation Library, Repository & Open Science Access Portal, https://rosap.ntl.bts.gov.

19. Security Classif.(of this report)	20. Security Classif.(of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	46	

Form DOT F 1700.7 (8-72) Reproduction of completed pages authorized

Author Acknowledgements

The authors wish to acknowledge assistance from people and agencies in North Dakota. Without their support, the report would not have been possible.

The authors appreciate the support of Special Agent Duane Stanley, 24/7 sobriety program coordinator, North Dakota Bureau of Criminal Investigations, who provided extensive documentation on the program, described its history and operations, offered his insights, assisted the research team in obtaining data on driving under the influence (DUI) arrests and program participants, and helped identify local officials to interview.

The authors also thank the following for their assistance: Mandy Nagel, former programmer analyst, North Dakota Office of the Attorney General, who provided data from the Statewide participant tracking system and guidance in interpreting and programming the data; Gordon Christensen, deputy director and business architect, Information Technology/CJIS Division, North Dakota Office of the Attorney General, who provided guidance in interpreting and programming data from the participant tracking system; Larry Zubke, director of technology, North Dakota court system, who assisted researchers in obtaining a dataset of DUI arrests; and Jeffrey Stillwell, programmer/analyst, North Dakota Supreme Court, who provided the dataset of DUI arrests and guidance in interpreting and programming the data.

We also are grateful to the 24/7 sobriety program administrators and other officials in the counties of Burleigh, Cass, and Stutsman, who provided information on their programs' operations and provided insight on the efficiency and effectiveness of these programs.

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Executive Summary

North Dakota's 24/7 sobriety program aims to reduce recidivism among people charged or convicted of alcohol-involved offenses including driving under the influence (DUI) by requiring them to avoid alcohol and/or other drugs for a prescribed period. People in the program avoid incarceration on the condition that they maintain sobriety and agree to be closely monitored for the presence of alcohol or other drugs. Program participants are required to provide twice daily breath alcohol tests, wear continuous alcohol monitoring (CAM) devices, use drug detection patches, or provide urine samples. When test results reveal substance use, the individual faces "swift and certain" penalties, including incarceration as well as the revocation of rights established in the program, such as a driving permit.

The goal of the current study was to conduct a process and outcome evaluation of an established 24/7 sobriety program and examine the impact of the program on recidivism among DUI offenders.

Background

The first 24/7 sobriety program started in 2005 in South Dakota as a five-county, pre-adjudication pilot program for DUI offenders with multiple DUI offenses. Conceived as an alternative to jail, the program sought to address underlying alcohol use problems associated with repeat DUI offenses by requiring participants to abstain from alcohol. Due to the program's effectiveness in reducing recidivism, South Dakota authorized a Statewide program in 2007, and allowed remote alcohol monitoring with an alcohol sensing bracelet and the participation of drugged driving offenders. The courts were empowered with the ability to assign offenders to the program as a condition of bond, pre-trial release, or after conviction as part of a suspended sentence or probation. The program was described as using a "swift-certain-fair approach" because of its priority for the swiftness and certainty of punishment over the severity of punishment (Kilmer & Midgette, 2020).

Method

This study was a process and outcome evaluation of an established 24/7 sobriety program. The process evaluation would focus on how the program was implemented, how the legislation was implemented, and the context of statistics on program participants and testing.

The current study examined North Dakota's Statewide 24/7 sobriety program. The program was uniquely suited for an evaluation as it had enough DUI offenders and program participants for statistical analyses, as well as data on retrospective and current arrests and program participation, and the willingness of State and local officials to cooperate in an evaluation.

The process evaluation reviewed documentation on the history and operations of the program from State and program documents and from discussions (in 2018) with State and local officials. The outcome evaluation examined trends in DUI arrests and DUI recidivism from 2008 to 2018. The evaluation focused specifically on the impact of a State law enacted in 2013 that required all repeat DUI offenders to enroll in a 24/7 sobriety program. Binary logistic regression analyses and survival analyses found significant reductions in rearrests of repeat DUI offenders after the law was enacted.

Findings

Program Description. The North Dakota program is one of the oldest and largest 24/7 sobriety programs in the country. It began in 2008 as a 14-county pilot under the purview of the Office of the Attorney General. It expanded Statewide in 2010 to all 53 counties. Sobriety monitoring includes twice-a-day breath testing, body-worn CAM devices, drug test patches, and urinalyses (for drug testing). People who violated a court order to participate can be immediately taken into custody without a warrant and released only after a court appearance. A restricted driver's license is made available to multiple DUI offense participants, and first time DUI offenders who enroll can obtain a restricted license after a brief suspension period.

In 2013 North Dakota revised its DUI legislation with House Bill 1302, requiring repeat DUI offenders to participate in the 24/7 sobriety program, increasing fines for DUI convictions, and increasing jail time for second and subsequent DUI offenses. The bill set a minimum time in the program of 1 year for second and third DUI offenses, and 2 years for fourth or subsequent DUI offenses.

Process Evaluation. State and local officials said the program is a welcome alternative to jail and beneficial to offenders and society; that the combination of close monitoring of offenders' sobriety with swift, certain consequences for violations is effective for holding offenders accountable. The current evaluation found the program was operating efficiently and effectively. The 2013 law, H.B. 1302, resulted in greater consistency across the county programs in the process for assigning offenders to the program.

Outcome Evaluation. After the enactment of the 2013 law, there was a marked increase in the number of people in the 24/7 sobriety program and an increase in the average number of days in the program, especially among second DUI offenders (from 58 days before the law to 246 days after the law). The current project also found a significant decrease in the number of rearrests of second DUI offenders in the study period after the 2013 law (January 2014 to June 2017) compared to the period before (January 2010 to June 2013). The study data showed that the likelihood a second offender would not recidivate within 2 years after arrest was 23% higher in the period after the 2013 law than before.

Introduction

The objective of the current study was to conduct a process and outcome evaluation of a 24/7 sobriety program for its effectiveness on lowering recidivism among people charged or convicted of a repeat DUI offense. The intention was to examine a long-standing program that was stable and had a sizable population of program participants. The goal was to identify the factors that were associated with changes in recidivism rates.

North Dakota's 24/7 sobriety program is a sobriety testing, monitoring, and sanctioning program for people arrested for or convicted of criminal offenses in which alcohol, or a controlled substance was a factor. The program addresses the recidivism of crimes associated with the use of alcohol and other drugs, including DUI, by requiring offenders to maintain sobriety and administering swift and certain sanctions for program violations. The proportion of arrests for repeat DUI in the United States is significant, comprising as much as 25% of total DUI arrests (Warren-Kigenyi & Coleman, 2014).

The first 24/7 sobriety program began in 2005 as a five-county pilot pre-adjudication program for multiple DUI offenders in South Dakota (Kilmer & Midgette, 2020; National 24/7 Sobriety Advisory Council, 2017). The program was conceived in the 1980s by Larry Long, who served as a prosecutor in Bennett County (Fisher et al., 2013). Observing that DUI offenders in jail were frequently diagnosed as alcohol dependent, Long believed it would be more effective and efficient if offenders were to maintain sobriety than if they served time in jail. The concept was to present an alternative to jail in which repeat offenders had the option to submit to frequent alcohol breath testing (morning and evening each day). If the test was positive for alcohol, the offenders would be jailed immediately for a brief period (Bainbridge, 2019; Fisher et al., 2013; Kilmer et al., 2013; Kilmer & Midgette, 2020; Loudenburg et al., 2012; National 24/7 Sobriety Advisory Council, 2017; and Wiliszowski et al., 2011).

After becoming the State's attorney general, Long implemented a five-county pilot program based on these concepts in 2005. Early evaluations of the program found high levels of compliance with the sobriety requirement (Loudenberg et al., 2012, 2013) and suggested that significant reductions in repeat DUI arrests occurred in counties that adopted the program (Kilmer et al., 2013). Based on these promising results, the program was adopted by other counties. In 2007 the legislature authorized a Statewide program for offenses involving alcohol, marijuana, or other controlled substances. Judges could assign offenders as a condition of bond or pre-trial release or after conviction as a condition of a suspended sentence or probation. Repeat DUI offenders and first DUI offenders with blood alcohol concentrations (BACs) of .17 grams per deciliter (g/dL) or higher were eligible for work permits to drive only if enrolled.

The National 24/7 Sobriety Advisory Council (2017) stresses the importance of swift, certain, reasonable, and consistent penalties, including short-term incarceration, for testing violations. The council notes that twice-a-day in-person alcohol breath testing remains the primary method for monitoring sobriety, but remote electronic alcohol monitoring is included in many programs. This trend likely reflects the fact that many programs are in rural areas, where twice-a-day, in-person breath testing may not be practical. However, the timely imposition of penalties is more challenging with remote monitoring.

Previous Research

Much of the research on 24/7 sobriety programs examined the Statewide programs in Montana, North Dakota, and South Dakota. The studies found high rates of compliance among program participants, as summarized below.

South Dakota. Kilmer et al. (2013) used difference-in-differences analyses to compare changes in DUI arrests, arrests for domestic violence, and traffic crashes in counties with and without operational 24/7 sobriety programs. From 2005 to 2010 DUI offenders represented 63% of new entrants. Using 2001 to 2010 data, the models controlled for several time-varying county characteristics (e.g., unemployment rate and vehicle miles traveled), and found reductions in county-level repeat DUI arrests of 12% and county-level domestic violence arrests of 9% after the program was implemented. There was no evidence of a reduction in overall crashes or first DUI offenses, but the authors point to suggestive evidence of a modest reduction in crashes of male drivers aged 18 to 40 years. Using a similar method and county mortality counts between June 2000 and June 2011, Nicosia et al. (2016) found the program was associated with a 4.2% reduction in adult mortality.

Kilmer & Midgette (2020) estimated the effect of participation in South Dakota's program on the probability of rearrest or probation revocation for 36 months among drivers arrested for second or third DUI offenses between 2004 and April 2012. The probability of rearrest or probation revocation was 13.7 percentage points lower for 24/7 participants than non-participants 12 months after their DUI.

North Dakota. Midgette et al. (2020) examined the compliance of participants with sobriety testing and the impact of North Dakota's program on DUI arrests. The percentage of enrollees without a positive test was 54% for breath testing, 67% for the alcohol monitoring device, and more than 90% for drug patches or urinalysis. The program was associated with a 9% decline in DUI arrests after accounting for other covariates (e.g., indicator of Bakkan region oil field employment expansion, and law enforcement intensity).

A series of studies of the North Dakota program matched participant records to driver's license records on DUI convictions, traffic citations, and crashes (Kubas et al., 2015, 2016, 2017, 2018; Kubas & Vachal, 2019). The studies found that about 60% of enrollees were DUI offenders, with repeat DUIs representing 64% of the offenses triggering enrollment; 17% were first-time offenses, 16% were physical control offenses, 1% were driving with suspended license offenses, and 2% involved minors in possession and/or control of the vehicle. The most recent study found the distribution of testing methods was 46% twice-daily breath testing, 33% breath-testing and CAM (not simultaneously), 18% SCRAM, and about 2% drug monitoring with or without alcohol monitoring. Offenders monitored only by drug patches were excluded. ANOVA analyses indicate that participants had fewer DUI citations, non-DUI citations, and crashes within 60 days, 1 and 2 years after program entry than before program entry. DUI arrests after enrollment were lower among DUI offenders who enrolled after the 2013 law change that required convicted repeat DUI offenders to enroll as a condition of probation and sentence, compared with offenders who enrolled before the law change.

Montana. Midgette et al. (2015) studied Montana's program when 21 of the 56 counties, representing 80% of the population, participated. Based on data through mid-October 2014, over 75% of participants enrolled after a DUI offense and were monitored on average for 160 days. Only 0.4% of breath tests were positive and 96% of scheduled tests were taken, but most

participants failed or skipped a test at least once. An analysis of county data on second DUI offenders convicted from January 2008 to August 2014 suggests that program participation among second offenders reduced the probability of a DUI rearrest by 45 to 70%, depending on the data analytic model.

Summary

The studies discussed above focused on the State programs in South Dakota, North Dakota, and Montana, which are the oldest and largest. Program data show that most participants were DUI offenders, and most of these were repeat offenders. Where reports of testing results were available, they showed that a very small percent of scheduled tests were positive or skipped. There was a slight but steady increase in the percentage of participants assigned to CAM rather than twice-a-day breath testing. The studies varied in their length of study, outcome measures, and methodologies, but they all found an association between the programs and reductions in overall DUI offenses and repeat DUI offenses.

Study Method

This study was a process and outcome evaluation of an established 24/7 sobriety program. The evaluation focused on how the program was implemented, how it was operating, and the impact on DUI arrests. Data on the program were obtained from a Statewide participant tracking system maintained by the Bureau of Criminal Investigation (BCI) within the Office of the Attorney General.

The outcome evaluation examined the effects of the program on recidivism, based on DUI arrest data obtained from the North Dakota court system, and evaluated trends in DUI arrests and program enrollments from January 2008 to September 2018. The 2013 law presented an opportunity to study the effects of requiring courts to assign repeat offenders to the program. Thus, data were examined to determine the effects of the law on drivers arrested for a second DUI offense.

The evaluation required the cooperation of an established 24/7 sobriety program. The criteria for a site to study were: 1) enough program participants and DUI offenders eligible for the program to yield large enough samples to support a rigorous evaluation of recidivism; 2) availability of retrospective and current data on program participants and DUI arrests; and 3) willingness of officials to cooperate in an evaluation.

Selecting a site involved a review process from the fall of 2016 to the spring of 2017 to identify operational 24/7 sobriety programs. The process consisted of a review of published reports on programs and an internet search for information about each program's history, characteristics, operations, and enabling legislation, regulations, and policies. As a parallel and coordinated effort, researchers contacted the National Highway Traffic and Safety Administration regional offices, the National 24/7 Sobriety Advisory Council, and private sector companies providing alcohol testing technologies to 24/7 sobriety programs. For States that were identified as potentially having a 24/7 sobriety program, researchers briefed the State highway safety office about the project and sought help in identifying people who were knowledgeable about the programs. Researchers then spoke with people involved with each program.

Site Selection

The selected site was the North Dakota 24/7 Sobriety Program, a mature program with all 53 counties participating since 2010. It is also one of the largest programs, with about 13,500 offenders enrolled through 2015, the majority of whom were DUI offenders. The eligible DUI offender population was sizeable, with about 2,100 repeat DUI arrests annually. The elements of the program were clearly defined in the enabling legislation and administrative rules. Further, as of 2013 North Dakota's program is unique in requiring all convicted repeat DUI offenders to enroll as a condition of probation, sentence, or parole. Finally, and of utmost importance, program officials welcomed an evaluation.

On a site visit in September 2018 the members of the research team gathered information about the State tracking system, the driver's license system, probation policies, police agency processes, prosecutorial processes, and information about the judicial system overall. In addition, the research team held discussions with a judge, a probation officer, and others involved in the 24/7 sobriety program. People working in key positions in the 24/7 sobriety program supplied information about the program process and the outcomes. Researchers discussed the

implementation of the program with officials in the State and in three counties (Burleigh, Cass, and Stutsman counties).

Program Overview

North Dakota's 24/7 sobriety program began in 2007 as a 14-county pilot and expanded Statewide in 2010. The program impacts offenders (people charged with, or convicted of, a second or subsequent DUI) who can be ordered by the court to participate in the program. The program provides the offender with an alternative to incarceration in exchange for refraining from the use of alcohol for a set period. While in the program, the offender must provide a breath alcohol test twice a day, or, in some cases, wear a transdermal alcohol monitoring device also referred to as body-worn CAM device. If the offender's test result indicates alcohol use, the offender will be taken into custody within 24 hours.

The pilot and the early years of the Statewide program were primarily a pre-trial/condition of bond or release program for repeat offenders, contingent upon judicial discretion; some offenders were assigned after conviction as a condition of probation or parole. As the program expanded Statewide, counties used various criteria for assigning offenders to CAM, twice-a-day breath testing, and drug testing (Midgette et al., 2020).

The program underwent significant changes after the enactment of a 2013 law, which mandates that repeat DUI offenders enroll in the program; it also allows first offenders to enroll pre-trial to avoid incarceration and obtain a temporary restricted driver's license (TRDL); courts have the option to assign first DUI offenders to the program depending on factors such as the offender's BAC level at the time of arrest, criminal history, the presence of young passengers, or in the event of a crash.

Program Management

The BCI in the Office of the Attorney General manages the program and issues guidelines on offender assignment to the program, protocols on substance use testing, identifying violations and participant fees. BCI works with local law enforcement agencies; the Department of Corrections and Rehabilitation, which administers probation and parole programs; the State DOT, which oversees driver's license suspension and revocation programs; and the DOT's Traffic Safety Division, which manages traffic safety grants and programs. County sheriffs operate local programs and enter data into the BCI's web-based Statewide case management system. The system includes information on the characteristics of participants (e.g., age, sex, and offense that led to assignment), testing results, and payment of fees.

Legal Framework and Context

The sobriety program in North Dakota is authorized in North Dakota Century Code 54-12-27 through 54-12-31. The enabling legislation for the pilot program, enacted in 2007, authorized the attorney general, in cooperation with the law enforcement community, judiciary, Department of Corrections and Rehabilitation, and Traffic Safety Division of the State's DOT, to develop program guidelines, policies, procedures, and establish user fees. A program fund was created to receive money from Federal grants, State agencies, gifts, donations, and user fees, with funds being allocated to the attorney general to support the administration and operation of the program. The attorney general selected 14 counties to participate in the pilot program, including 12 counties in the then-South Central Judicial District (Burleigh, Emmons, Grant, Kidder,

Logan, McIntosh, McLean, Mercer, Morton, Oliver, Sheridan, and Sioux) and 2 counties in the then-Northeast Judicial District (Grand Forks and Nelson). The program was implemented in January 2008.

In 2009 the legislature (H.B. 1306) authorized the attorney general to expand the program to all judicial districts, and the program was expanded to all 53 counties by August 2010 (Fisher et al., 2013). The courts were empowered to order people charged with or convicted of DUI of alcohol or controlled substances, domestic violence, neglect or abuse of a child, or other offenses involving alcohol or controlled substances to participate. Assignment could occur pre-trial as a condition of bond or release or after conviction as a condition of sentence or probation. The program was added to the intermediate measures available to the Department of Corrections and Rehabilitation. Unless waived on record, courts must provide intermediate measures (e.g., community service and house arrest) as a condition of probation to avoid revocation. The parole board was authorized to order parolees to enroll as an intermediate sanction on condition of parole. H.B. 1306 expanded sobriety testing to include urinalysis and drug patches. County law enforcement agencies conducted testing and collected testing fees. Daily fees for electronic monitoring were to go into the State program fund; localities were to use all other fees to support the programs. The law provided that the State DOT Director "shall issue" a temporary restricted driver's license (TRDL) to repeat DUI offenders for participating in the program only if they were not subject to unrelated suspensions or revocations. However, Birst (2013) explains that the effect was meant that repeat DUI offenders had to wait 2 years before applying for a TRDL.

Enactment of H.B. 1302 in 2013

Legislation (H.B. 1302) signed by the governor on April 29, 2013, and in effect on July 1, 2013, changed the DUI laws and established the elements of the current 24/7 sobriety program. The law lengthened the look-back periods for repeat DUI offenses; enhanced minimum penalties for DUI, essentially doubling the mandatory jail time and fines; criminalized test refusals; and created a vehicular homicide offense. For convicted repeat DUI offenders, assignment to the 24/7 sobriety program was mandated as a condition of sentence, probation, or parole. The minimum time in the program was 1 year for second and third DUI offenses and 2 years for fourth or subsequent DUI offenses. People who violated a court order to participate could be immediately taken into custody without a warrant and released only after a court appearance. TRDLs could be issued to multiple DUI offenders in the program following approval by the State DOT director, who determined eligibility for TRDLs and could impose other requirements. First-time DUI offenders could obtain a TRDL after 14 days of their suspension if they enrolled, potentially changing the hard suspension period from 30 to 14 days.

A law in 2015 (S.B. 2052) changed the mandatory minimum probation period for second or third offenses from 1 year to 360 days. Courts were authorized to credit successful pre-sentence time in the program toward a post-conviction requirement. A later law enacted in 2019 (H.B. 1179) mandated that the State DOT director issue TRDLs for certain offenders, as defined in law, who were compliant with the program.

DUI Penalties

Like most States, North Dakota has a dual system for DUI offenses. There is an administrative license suspension or revocation process through the State DOT's Division of Motor Vehicle Services, based on refusing or failing the alcohol or drug test, and a criminal process through the

courts. Major changes to DUI criminal penalties occurred in July 2013 with H.B. 1302; the administrative process was largely unchanged. Table 3 summarizes minimum DUI penalties before and after the 2013 law change.

Table 1. Minimum Penalties for DUI Offenses Before and After H.B.1302, Effective July 1, 2013

First DUI	**Before H.B.1302**	**After H.B.1302**
Offense level	Class B Misdemeanor	Class B Misdemeanor
Jail	None	2 days or 20 hours community service if BAC ≥ .16
Fine	$250	$500, or $750 if BAC ≥ .16
License suspension	91 days, or 180 days if BAC ≥ .18	91 days, or 180 days if BAC ≥ .18
Addiction evaluation	Yes	Yes
Sobriety monitoring	No	No
Second DUI	**Before H.B.1302**	**After H.B.1302**
Offense level	Class B Misdemeanor	Class B Misdemeanor
Look-back period	5 years	7 years
Jail	5 days or 30 days community service	10 days or 100 days community service
Fine	$500	$1,500
License suspension	1 year, or 2 years if BAC ≥ .18	1 year, or 2 years if BAC ≥ .18
Addiction evaluation	Yes	Yes
Sobriety monitoring	No	1 year (later 360 days) probation with 24/7 Sobriety Program as condition
Third DUI	**Before H.B.1302**	**After H.B.1302**
Offense	Class A Misdemeanor	Class A Misdemeanor
Look-back period	5 years	7 years
Jail	60 days or 30 days community service	120 days; court may suspend 60 days if complete 24/7 Sobriety Program and have addiction evaluation
Fine	$1000	$2,000
License suspension	2 years, or 3 years if BAC ≥ .18	2 years, or 3 years if BAC ≥ .18
Addiction evaluation	Yes	Yes
Sobriety monitoring	No	1 year (later 360 days) supervised probation with 24/7 Sobriety Program as condition

4th+ DUI	Before H.B.1302	After H.B.1302
Offense	Class A Misdemeanor	Class C Felony
Look-back period	7 years	15 years
Jail	180 days or 30 days community service	1 year and 1 day; if sent to Department of Corrections and Rehabilitation, can be released on supervised probation if complete treatment
Fine	$1,000	$2,000
License suspension	2 years, or 3 years if BAC ≥ .18	2 years, or 3 years if BAC ≥ .18
Addiction evaluation	Yes	Yes
Sobriety monitoring	No	2 years supervised probation with 24/7 as condition

Sources: Birst (2013); North Dakota Century Code 54-12-27 through 54-12-31; North Dakota Office of the Attorney General (2023)

Temporary Restricted Driver's License

The current law requires the State DOT director to issue TRDLs to offenders enrolled in the program if they are charged with or convicted of a repeat DUI or subject to license suspension under the implied consent laws, and not subject to an unrelated suspension or revocation. Offenders must apply to DOT with proof of financial responsibility and participation in the program. As noted above, H.B. 1302 made the TRDL available after a 14-day suspension for first DUI offenders who participate in the program, but it did not address a waiting period for TRDLs for repeat offenders. If a participant with a TRDL violates the program restrictions, the TRDL will be revoked, and the participant is ineligible for an additional TRDL. Offenders on supervised probation (third and subsequent DUI offenders) report to probation officers whereas offenders on unsupervised probation (second DUI offenders) report to courts.

Enrollments

Program data as of February 2020 (provided by the program coordinator) showed that there were 1,399 offenders enrolled in the program with 38% using a CAM device, 30% assigned to twice-a-day breath testing, 29% using drug patches, and 3% subject to urinalysis testing for the presence of drugs. As of April 2020 there were 98% of scheduled breath tests since the start of the program were negative; the number of skipped tests was about seven times the number of failed tests. Among the 8,352 participants monitored with CAM from 2009 to 2019, the rate of compliance was about 99%. Among participants on CAM who had completed the program, 61% were fully compliant; 15% had at least one drinking violation, 33% had at least one tamper violation, and 9% had both drinking and tamper violations. There was an increase in the use of drug patches from 2010 to 2019 from 173 drug patches to 7,091 patches.

Funding and Fees

The State program fund and participant testing fees also support the administration of the program, including staff support, training, and travel; computer software and hardware; and testing equipment and supplies. Local programs deposit $5 of the daily CAM monitoring $6 fee into the fund; most of this money is used to pay the daily CAM costs. Local programs use the

remaining $1 of the daily CAM fee for other testing fees and the cost of CAM activation and deactivation. According to the State coordinator, the legislature provided a one-time appropriation of $1.2 million to purchase CAM bracelets and other equipment. The State does not have an indigent fund to assist participants with testing fees.

When a court assigns an offender to the program as a condition of bond or pre-trial release, it must order the offender to pay all program fees unless it has found that payment constitutes a hardship. In cases of hardship, the offender will typically be reassigned to the twice-a-day breath testing protocol to avoid the fees of using a CAM, a drug patch, or urine test. Testing sites report fee non-payments to courts for participants assigned as a condition of bond or pre-trial release, to prosecuting attorneys for participants on unsupervised probation, and to probation or parole officers for offenders on supervised probation or parole.

Sobriety Testing Modalities

County sheriffs designate testing sites to conduct breath and drug testing, install remote electronic monitoring equipment, and collect participant fees. Testing is conducted at a sheriff's department, jail, or county courthouse, in case participants must be detained for violations (alternate sites are approved by the Office of the Attorney General). According to the State coordinator, sparsely populated counties may use locations in adjacent, more populous counties.

Upon assignment, offenders must report to the program and sign a participation statement by the next business day. The guidelines recommend that the courts or the parole board assign the testing mode; the State coordinator indicated that probation officers often are consulted in post-conviction cases. The guidelines state that assignment to remote monitoring is based on court-ordered participation, the availability of monitoring device, the offender's ability to wear it and pay for it, the distance an offender must travel for in-person testing; and whether an offender is at high risk for alcohol use, does not have a license, or lacks transportation to the testing site. Offenders who participate voluntarily may be issued a CAM device at the discretion of the testing site. Participants assigned to on-site breath testing must report twice daily about 12 hours apart. If a test is positive, a second test is administered after 15 minutes.

The program introduced remote alcohol monitoring in 2009. The devices are installed by the testing site officers. The CAM bracelet samples perspiration every 30 minutes and stores the results. Participants on CAM may be assigned at a base station or "direct connect" at a testing site. Offenders required to direct connect must come to the testing site and download data from the bracelet according to a schedule set by the testing site administrator; typically downloads occur every 7 days. The data are then uploaded to the vendor's data system for data interpretation including the identification of alcohol-positive results, tamper events, etc. After data analysts review the CAM output, a report is sent to the testing site, typically within 24 hours. Participants with a base station in their home come to the testing site only for maintenance (e.g., battery change). They must be within the range of the base station for a scheduled daily or nightly download of bracelet data. Typically, the download is scheduled in the early morning and data upload occurs nightly. The testing site gets daily reports and a report of a violation within 24 hours after the violation occurs. All reports of testing violations come from the CAM vendor.

Monitoring drug use is accomplished with urinalysis or a drug-test patch, with patches being the typical method. Each method detects cocaine, opiates, amphetamines, marijuana, oxycodone, PCP, antidepressants, and ecstasy (MDMA). With urinalysis, samples are screened onsite. Positive samples are submitted to a toxicology laboratory for confirmation. The drug patches are

worn for 1.5 weeks or about 3 per month. Testing site officers are responsible for maintaining a chain of custody from the removal of the patches from enrollees to submitting them to the toxicology laboratory. The lab sends test results to the testing agency. Participants are responsible for paying the cost of a drug patch, the urinalysis, and fee for laboratory confirmation of a positive urinalysis; at the time of the current project, the costs were $55, $5, and $25, respectively.

Violations and Sanctions

The guidelines define violations for each testing modality. For breath tests, violations include not reporting for a test or testing positive (defined as a BAC of .02 or higher) on a second test or admitting to drinking. CAM violations include a positive test (BAC of .02 or higher); obstructing, tampering with, damaging, or removing the bracelet or supporting equipment; or failing to be within range of the base station at reporting times. For urine tests, a violation is not reporting for a test or testing positive; if the urinalysis is positive, the offender either admits to using alcohol or controlled substances or the positive sample is sent to a laboratory for confirmation. Defrauding the test also is a violation. For drug patches, a positive test or tampering or removing the patch is a violation.

The process for imposing sanctions varies by testing mode, the type of enrollment (e.g., court assigned and voluntary participation), and the presence of standing orders that pertain. According to an excerpt from the guidelines,

> "North Dakota Century Code 29-06-15(3) authorizes but does not require a law enforcement officer who has reasonable cause to believe an offender has violated a lawful order of the court that requires participation in the 24/7 sobriety program to immediately take the individual into custody without a warrant for a violation of the program. The individual may not be released from custody on bail or on the individual's recognizance until the individual has seen a magistrate."

The guidelines do not provide a schedule of specific penalties (e.g., hours of incarceration) but they describe the process under various scenarios. For example, offenders who voluntarily participate in the program as a condition of a TRDL cannot be taken into custody and instead, the testing site notifies the State DOT. Participants whose testing results are positive for alcohol and/or drugs may be detained at the testing site and taken into custody pending further court proceedings. If participants fail to appear for a breath test, leave the testing site before being detained, or have a late arrival violation, the court may issue a bench warrant to take them into custody. For violations involving CAM or drug patches, the court can revoke or modify the conditions of bond, pre-trial release, and post-conviction release, and can order the offender to be taken into custody. Importantly, courts can issue standing orders that establish the procedures for taking offenders into custody.

Program Completion, Termination, and Re-Entry

For offenders assigned to the program as a condition of bond or pre-trial release, the program is completed upon the final decision of the charge; for offenders released pending sentencing, the program is completed when the sentence is imposed. For offenders assigned as a condition of sentence, probation, or parole, completion means the offender has met the terms of the sentence, probation, or parole, respectively. Courts can terminate participation if an offender violates the requirements of the program (including compliance with test, payment of fees, and not being

rearrested), or if the court determines that he/she is no longer required to participate. Offenders who voluntarily participate to obtain a TRDL are terminated if they violate the terms of the TRDL, or if the State DOT determines that they are not required to participate as a condition of the TRDL. Courts or the parole board may authorize offenders to re-enter the program after they have violated the program.

Assessment of Program

State and local officials viewed the 24/7 sobriety program as a beneficial alternative to jail and valuable for holding offenders accountable while also reducing their risk of rearrest. Benefits were that offenders would regain stability in their lives; twice-a-day testing in particular treats offenders "like people rather than criminals." The study contacts said the program is cost-effective, considering the cost of incarceration (about $38,000 a year for each offender). They also said probation officers support the program, as it reduces caseload.

The officials said program effectiveness increased considerably after the enactment of H.B. 1302 in 2013 (which required convicted repeat DUI offenders to complete the program as a condition of probation, sentence, or parole). An effect of the law was an increase in enrollments due mainly from repeat DUI offenders, but also from offenders assigned after conviction and from first-time DUI offenders who were incentivized to enroll to obtain a TRDL.

Officials said that the courts assigned convicted repeat DUI offenders to the program as required by law, "virtually 100% of the time." They described three options in some courts following arrest for a repeat DUI offense: pay the $4,000 bond and be released, pay 10% of the bond (i.e., $400) and enter the program, or stay in jail. Judges could lower the bond amount or the amount to enroll in the program or could rule that the case qualified as a hardship case; hardship cases will instead require the person to submit to twice-a-day testing (without paying for the testing). Officials said that some judicial district courts were "very aggressive" in assigning offenders to the 24/7 sobriety program and others less so. Judges sometimes used the program to alleviate jail overcrowding.

Alcohol Monitoring

The officials discussed the advantages and disadvantages of remote alcohol monitoring versus twice-a-day breath testing. All said that a major advantage of breath testing was the immediate test result and the ability to detain violators on-the-spot. With CAM, there is a delay in the reporting of positive tests, and a positive test means that officers must locate violators and obtain a warrant to apply penalties. Officials pointed to the "personal touch" of in-person testing; for example, offenders did not want to disappoint testing staff by testing positive. One person noted that it is critical to have program managers who are caring, invested in offenders' success, and firm.

For participants who live long distances from the testing site(s), traveling to a site for twice-daily breath testing is a hardship. CAM represented the best means to monitor these participants. The officials believed that CAM provides more flexibility to offenders than twice-a-day breath testing, serving as a constant reminder of the need to remain sober, and making it more difficult to drink a little without testing positive. On the other hand, wearing the CAM bracelet could be embarrassing, and positive test results can lead to a delay in administering penalties, as noted above.

Drug Monitoring

One official explained that not knowing the test results from drug patches for several days after removal of the patch is not ideal for a program based on close monitoring and certain, swift punishment for violations. A county official noted that the failure rate for drug patches was higher than for alcohol testing, and another said that offenders on drug patches often did not receive an evaluation for drug dependency or treatment, if indicated. The judge noted that some courts may view evidence from drug patches with skepticism.

Penalties for Testing Violations

Violations were not uncommon; the percentage of participants who completed the program without any violations was estimated as 50% in one county and 70% in another. Officials said that courts and State's attorneys did not always impose penalties, and there were variations in penalties. The process for dealing with violations (usually from positive or skipped tests) could be complex and time-consuming, and outcomes depended not only on the type of court, specific judge, or probation officer, but also on whether enrollment occurred before or after conviction, whether convicted offenders were on unsupervised or supervised probation, the testing modality, and jail capacity. County officials noted that working with courts could be their biggest challenge. There were not many references to violations other than testing violations, but a couple of interviewees noted that some offenders who "get behind on their fees" continue to be tested but some do not.

In all three counties that had a recent implementation of the 24/7 sobriety program, dealing with violations was more straightforward if the participant enrolled as a condition of bond and/or release following arrest; in these cases, the courts revoked the bond, and the offender went to jail until a court appearance. Offenders who failed a breath test were taken into custody on the spot, whereas a warrant was often needed for offenders who skipped a breath test or had a positive CAM or a drug patch test. Officials described a variety of scenarios for dealing with violations by offenders assigned to the program after conviction. Some counties arrested all violators post-conviction and some counties arrested only some, depending on the court, the State's attorney, and jail capacity. Probation might or might not be revoked. The officials explained that district court practices were standardized in some respects in 2013, with a three-strike rule for violations and standing orders for taking violators into custody and issuing warrants. There was more variation in responses to violations in cases from municipal courts. Some courts involved probation officers, especially for offenders on supervised probation; some did not. One limitation was that people convicted of a misdemeanor offense could serve no more than 30 days after conviction; after this limit was reached, there might be no consequences for violations.

Temporary Restricted Driver's License

County officials stressed the importance of a TRDL to DUI offenders, as many lived in areas without public transportation or other transportation alternatives. They said that the State DOT was always notified when participants with TRDLs violated the program, in which case the TRDL was withdrawn.

Challenges and Possible Program Enhancements

Officials in three counties (Burleigh, Cass, and Stutsman counties) and the senior probation officer said that the program would benefit from a more consistent application of penalties for

testing violations. They suggested simplifying the definitions of violations and instituting uniform escalating penalties that include short periods in jail. They argued that uniformity would promote a more consistent and equitable treatment of offenders across courts and counties; reduce court backlogs; increase the program's effectiveness; and reduce the time spent by program staff, State's attorneys, courts, and probation officers determining and implementing penalties. Although the officials said that violators should go to jail for a brief period, they acknowledged that crowded jails in some counties make this difficult. Similarly, they said that immediate penalties work best, but they recognized that this was not possible with remote monitoring. They emphasized that practices such as court standing orders help ensure timely and consistent penalties.

The judge and other officials noted that money could be a problem for some offenders, leading to issues of equity. For example, offenders living 50 miles from the testing site must pay $6 daily for CAM, which can be problematic. As described above, some interviewees were concerned that drivers arrested for a repeat DUI could "buy their way out of the program" by paying the bond. Some interviewees said program fees are rarely waived by courts based on hardship because of the perception that the public expects and prefers offenders and programs to be self-sufficient.

Several officials noted a need for improving the identification of at-risk offenders and increasing alcohol or drug treatment. Some suggested that the 24/7 sobriety program should be integrated with treatment but acknowledged that this would be expensive. The judge suggested that drug and alcohol courts could deal more effectively with offenders who are dependent on alcohol or drugs than the 24/7 sobriety program.

It was suggested that programs conduct exit interviews and keep track of success stories, such as those cases in which offenders do not want to leave the program because of their belief that the program helps them maintain their sobriety. It was suggested that judges should hear about successes as well as violations. The judge and other officials mentioned challenges with out-of-State offenders. In discussing DUI offenders who live in Minnesota, officials in Cass County noted that CAM devices cannot be sent out-of-State and private CAM can be much more expensive. They suggested that the program may need an "opt-out" clause when it is unfeasible, very difficult, or very costly for offenders. The senior probation officer said that it might be beneficial to extend probation past the program to "ease off monitoring." As noted above, offenders convicted of a misdemeanor offense can serve no more than 30 days in jail after conviction. This can be problematic when participants assigned to the program post-conviction have multiple violations. Several officials supported changes to sentencing laws to provide for consequences after the 30-day limit on incarceration is reached.

Program Enrollments

The current study examined data from the data management system maintained by the North Dakota BCI on the violations and testing results of offenders enrolled in the program from 2008 to 2018. The data included participant characteristics (sex, age group, and judicial district of offense) and other variables.

There were 25,482 records in the database, with 12,122 records for a DUI as the triggering offense. Excluded cases were those with offense codes for assault, disorderly conduct, probation violation, and child neglect. The code for DUI offenses indicated the number of the triggering

DUI arrest (e.g., first or second DUI). Fourth and subsequent DUI offenses were combined with third offenses in the analyses because third offenses were coded together with fourth and subsequent offenses in the early years of the program. The code for in-control DUI offenses did not indicate the number of the offense. An "in-control" DUI is when the impaired driver is in "physical control" of a vehicle but not actively driving e.g., seated in the driver's seat in a parked car in a restaurant parking lot with ignition keys in hand).

Four Study Periods

To examine trends in enrollments, enrollment data were organized by the date of initial enrollment. Quarterly trends were generated for four study periods that corresponded to distinct periods of the program, defined as follows.

1) 2008 to 2009, the years of the 14-county pilot
2) January 2010 to August 2010, when the program was spreading Statewide
3) September 2010 to June 2013, when all counties participated in the program and prior to the enactment of H.B. 1302 in 2013 that required convicted DUI offenders to enroll in the program as a condition of sentence, probation, or parole
4) July 2013 to December 2018, when convicted repeat DUI offenders were required to enroll in the program

Figure 1 displays the quarterly counts of enrollments from January 1, 2008, to December 31, 2018, for all DUI offenses; first, second, and third and subsequent DUI offenses; and "in-control" offenses. The number of DUI enrollees increased over the course of the pilot program from 2008 to 2009 and as the program expanded; all counties participated in the program by the fourth quarter of 2010. Enrollments were stable until an increase from 242 to 371 in the third quarter of 2013, which was the period after the implementation of the 2013 law requiring all repeat DUI offenders to enroll. Another increase from 383 to 477 enrollments occurred in the second quarter of 2014. In mid-2016, enrollments declined and then stabilized to about 350 to 380 annually.

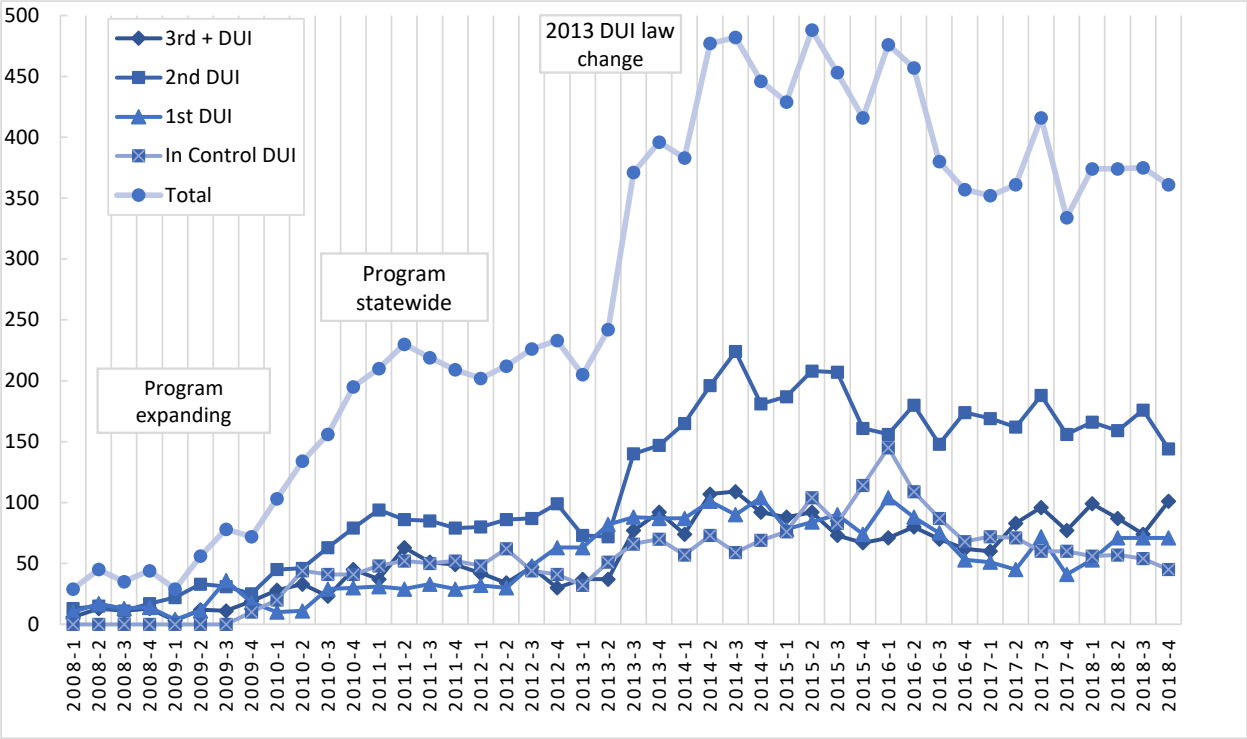

Figure 1. North Dakota's 24/7 Sobriety Program Quarterly Enrollments for Total DUI Offenses and DUI Offense Types, 2008 to 2018

Table 2 summarizes the distribution of new enrollees by the type of offense that triggered enrollment, sex, age category, and judicial district by study period. Most of the DUI enrollees were repeat offenders, with enrollment trends among second and third and subsequent offenders roughly following the trend for all DUI offenders. There did not appear to be a notable effect of the 2013 law on first offender enrollments. Repeat offenders comprised 63% of DUI enrollees from 2008 to 2018, and first offenders and in-control offenders each represented 19%. First offenses represented a larger percentage (31%) of enrollees during the pilot than in subsequent study periods and a smaller percentage (12%) in the period when the program spread Statewide.

Male DUI offenders comprised 78% to 79% of enrollees in all study periods. The age distribution was similar across study periods, with about half (52%) aged 21 to 34 years, and 29% aged 35 to 49 years. Few were 65 years or older (1%) or younger than 21 years (4%). The percentage of 50 to 64-year-olds increased from 9% in the pilot to 14% in the final study period.

The distribution of enrollments across the eight judicial districts varied by study period. The percentage of enrollments from the South Central District declined steadily from 82% in the pilot to 25% in the fourth study period, from July 2013 to December 2018. However, enrollments increased in several districts. The percentage of enrollees from the East Central District, which was not part of the pilot, doubled from 10% during January 2010 to August 2010 to 21% in the period from July 2013 to December 2018.

Table 2. Percentage Distribution of Characteristics of North Dakota 24/7 Sobriety Program Enrollees and Program Status by Study Period

	14-county pilot 2008-2009	Spreading Statewide January to August 2010	Statewide pre-2013 law September 2010 to June 2013	Statewide post-2013 law July 2013 to December 2018	Total 2008 to 2018
Type of Offense	**N=388**	**N=351**	**N=2,425**	**N=8,958**	**N=12,122**
First DUI	31.7	12.3	19.7	18.7	19.1
Second DUI	43.0	39.3	38.6	42.4	41.5
Third+ DUI	22.7	21.4	19.8	20.4	20.4
In Control	2.6	27.1	21.9	18.5	18.9
	100.0	100.0	100.0	100.0	100.0
Sex					
Male	78.4	77.8	79.3	79.0	79.0
Female	21.6	22.2	20.7	21.0	21.0
	100.0	100.0	100.0	100.0	100.0
Age Group (years)					
<21	3.6	4.3	4.2	3.7	3.8
21-34	55.4	52.1	54.9	51.0	51.9
35-49	30.7	29.6	28.3	29.5	29.3
50-64	8.8	12.5	10.5	14.2	13.2
65+	0.5	0.9	0.7	1.1	1.0
Unknown	1.0	0.6	1.4	0.6	0.7
	100.0	100.0	100.0	100.0	100.0
Judicial District					
East Central	0	9.7	9.9	21.3	18.0
North Central	0	8.3	12.8	10.6	10.7
Northeast	0	3.4	2.9	8.1	6.7
Northeast Central	9.0	8.5	7.2	8.7	8.4
Northwest	0	0.6	6.9	8.2	7.5
South Central	82.2	65.8	47.7	25.4	32.8
Southeast	5.2	1.1	5.0	8.5	7.4
Southwest	2.3	2.0	5.6	8.9	7.8
Unknown	1.3	0.6	1.9	0.3	0.7
	100.0	100.0	100.0	100.0	100.0

Graduation Rates, Failure Rates, and Days in Program

To compare rates of "graduation" from the program to "failures" (meaning the participant had to stay the program), we examined participant records whose last program status was coded as complete as of May 23, 2019, resulting in a sample size of 10,693. Of the 10,693 enrollees who completed the program, 79% graduated in the first study period and 21% failed, whereas 82% graduated and 18% failed in the following three study periods. Based on program completions combined across study periods, the graduation rate was slightly higher among first offenders (83%) and second offenders (83%) than among offenders with three or more offenses (80%) or offenders with "in-control" violations (79%).

Figure 2 plots the mean days spent in the program by the quarter of initial enrollment from 2008 to 2018. The sample of 11,761 excludes cases with incorrect dates. There was an increase in the average time enrolled among participants who entered the program after enactment of the 2013 law. The 2013 law required second and third offenders to participate for at least 1 year and those with four or more offenses to participate for at least 2 years. Time spent in the program increased from a mean of 75.4 days for people having enrolled in the second quarter of 2013 to a mean of 196.3 days for those having enrolled in the third quarter of 2013, and a mean of 244.8 days for people having enrolled in the last quarter of 2013.

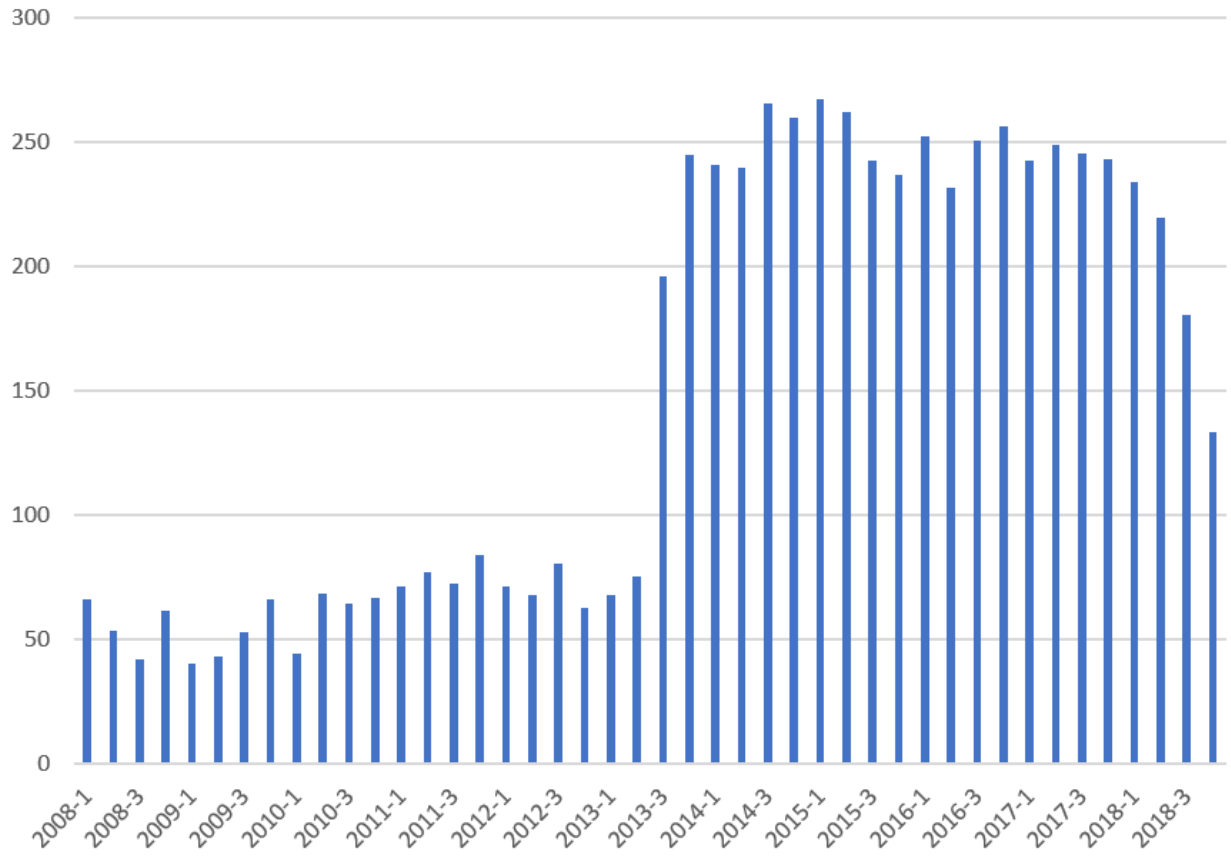

Figure 2. Mean Number of Days in the North Dakota 24/7 Sobriety Program by Quarter of Enrollment, 2008 to 2018

Figure 3 shows the mean days spent in the program by offense type and study period. During the first three study periods, time in the program generally increased for all DUI offense types. Then

a dramatic increase for all DUI offenses occurred after the 2013 law was enacted, but the increase was much larger for repeat offenders than for first or in-control offenders. The 2013 law did not appear to set a minimum time in the program for first offenders. However, the data indicates that first offenders who obtain a TRDL because of the 2013 law would need to remain in the program until their license suspension period ends, which would be 91 days or 180 days for offenders with BACs of 0.18% or higher. Prior to the 2013 law change, first and second offenders spent comparable time in the program, on average, which was less than the time spent by offenders with three or more DUI offenses or in-control offenses. However, during the period following the law change, the mean number of days in the program was lowest for first offenders and in-control offenders, followed by second offenders, and then offenders with at least three offenses. These data suggest that on average, offenders did not spend the minimum required period in the program.

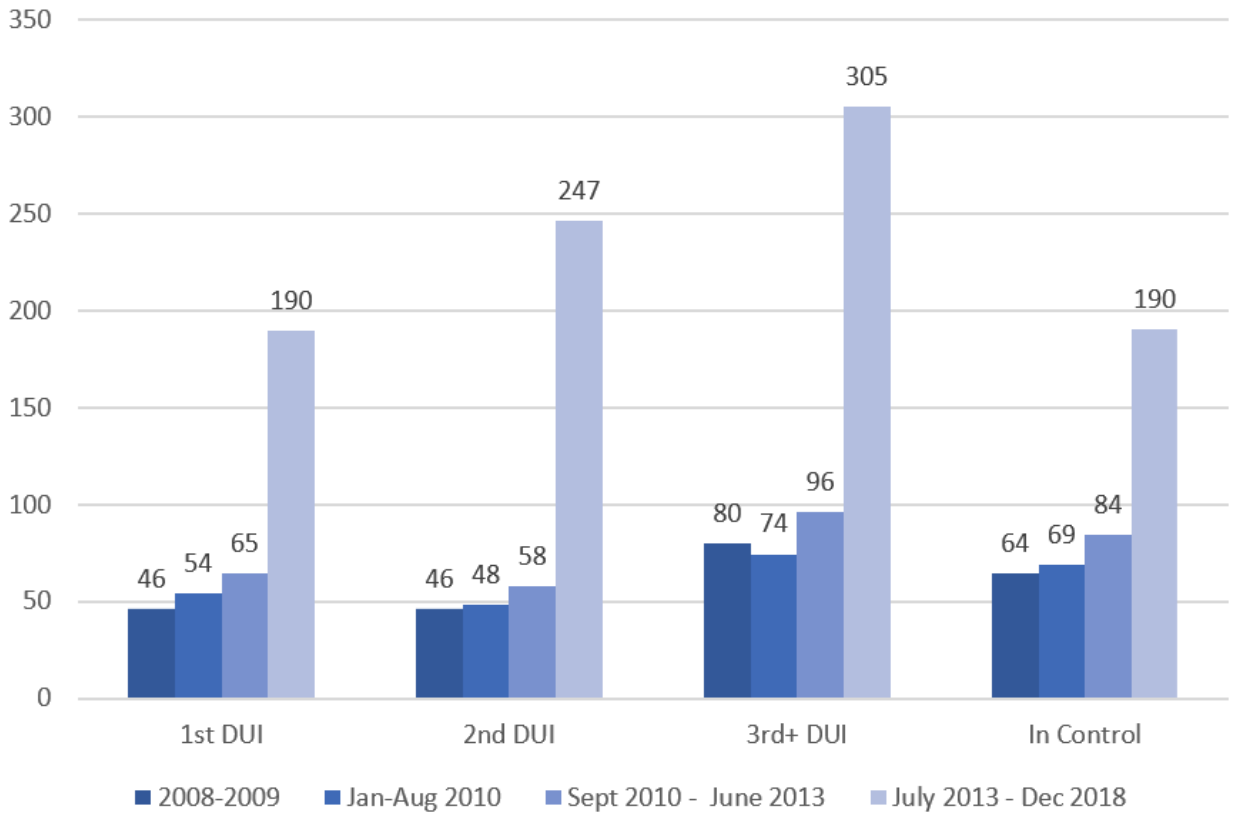

Figure 3. Mean Number of Days in the North Dakota 24/7 Sobriety Program for Each DUI Type and Study Period

Sobriety Testing

An analysis of 11,848 program records (the sample size after excluding cases with obviously incorrect testing dates, such as a date before program entry) showed changes in testing modality over time (see Figure 4). The percentage of enrollees assigned to twice-a-day testing alone declined from 86% during the pilot to 35% in the study period following the 2013 law. The percentage assigned to twice-a-day breath testing and CAM (sequentially in either order) increased from 7 to 38%, and the percentage assigned to CAM alone increased from 7 to 21%.

The percentage of participants monitored for drug use increased but remained relatively small at about 5%.

In the study period following the 2013 law, 35% of DUI offenders were assigned to twice-a-day testing, 38% were assigned to twice-a-day testing and CAM, and 21% were assigned to CAM. The reasons for the increased use of CAM are unclear. About 5% of enrollees were assigned to drug testing, mostly drug patches, either alone or in combination with alcohol testing. Most of the twice-a-day tests and CAM tests were taken and passed across study periods.

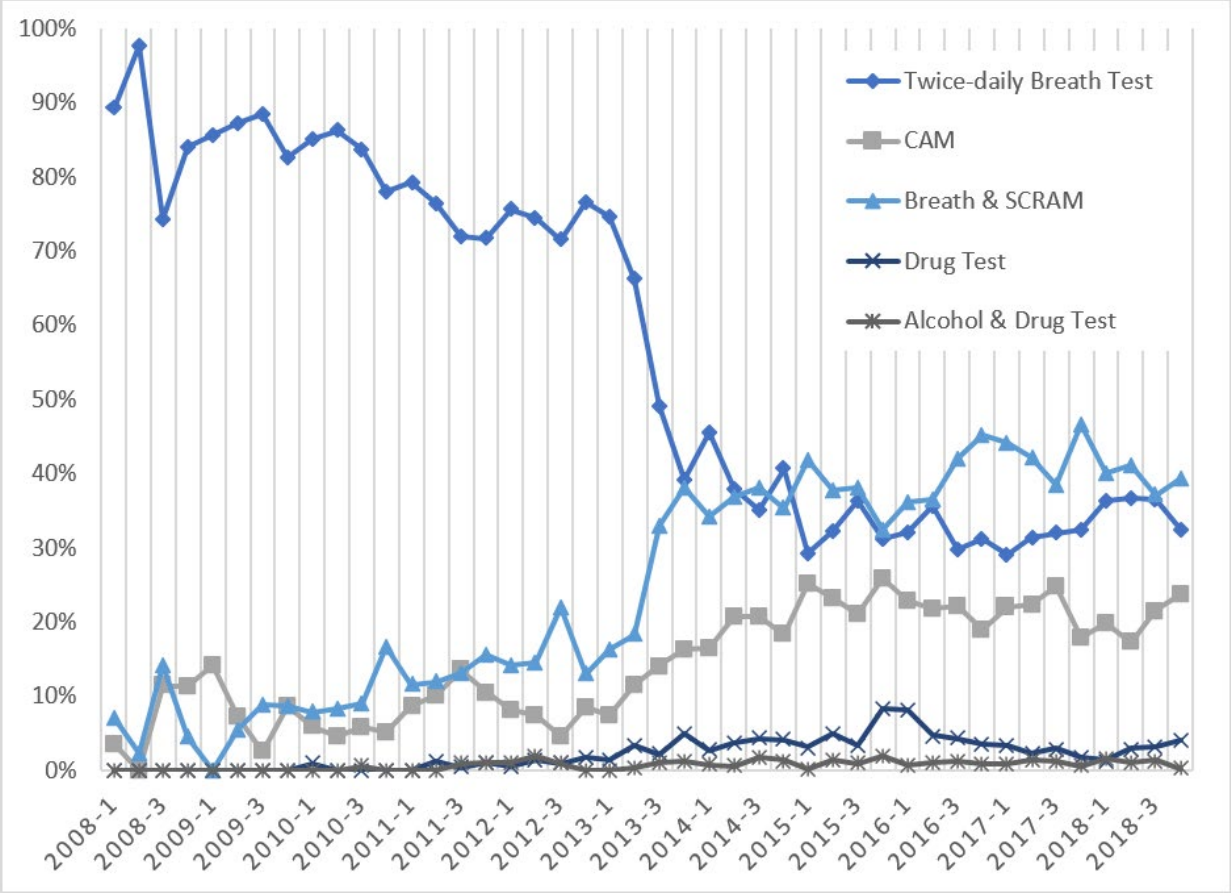

Figure 4. Quarterly Percentage Distribution of Sobriety Testing Modalities Among North Dakota 24/7 Sobriety Program Enrollees for Each DUI Offense Type During 2008 to 2018

In the entire study period from 2008 to 2018, the program administered 1,211,042 breath alcohol tests. Of these, 94.3% passed, 0.5% failed, 2.7% were skipped, and 2.6% were excused. This pattern varied little across the study periods; for example, the percentage of tests taken and passed ranged from 93.8% from July 2013 to December 2018, to 97% from January to August 2010. Test results varied little across DUI offense types; from 2008 to 2018, the percentage of tests taken and passed ranged from 93.6% for first DUI offenders to 94.7% for participants with three or more DUI offenses. The study data did not include details on CAM test results, but information was provided by the State 24/7 sobriety program coordinator for all participants (i.e., those assigned because of DUI or non-DUI offenses), showing that 99.5% of 82,259,156 readings administered by CAM through 2019 were passed.

Summary of Trends in Enrollments

The trend data indicate that H.B. 1302, implemented in 2013, had a substantial and immediate impact which resulted in an increase in enrollments and days spent in the program by repeat offenders. Trends in enrollments in the 24/7 sobriety program reflect the evolution of the program from a 14-county pilot to a Statewide program in which convicted repeat DUI offenders must attend. A total of 12,122 DUI offenders participated in the program from its inception as a pilot on January 1, 2008, to the end of 2018. Repeat offenders constituted most of the enrolled DUI offenders. About one-fifth of enrollments overall were coded as in-control offenses; the number of offenses could not be determined for in-control cases.

DUI Arrest Data

The current study examined trends in DUI arrests to determine the association between the 24/7 sobriety program and rearrests of repeat DUI offenders, using the enactment of H.B. 1302 in 2013 as a focal point. The study data were records of DUI arrests adjudicated by all court types in the North Dakota court system from 2003 to part of October 2018. The DUI arrests included driving while impaired from alcohol and/or other drugs and being impaired while "in control" of a vehicle (i.e., arrested for DUI even when not driving such as when the person is sitting in the vehicle driver seat, while the car is in park in a parking lot).

The study data included information for each charge including date of arrest, county of arrest, case number, name (redacted), offender's sex and year of birth, filing statute, filing degree (e.g., misdemeanor and felony), filing offense description, and other data related to the case. Unique case identification numbers were used to track cases.

There was one record in the dataset for each DUI arrest, but the records for each DUI arrest rarely indicated whether it was a first, second, third or subsequent DUI offense. Thus, it was necessary to match arrest records by each record's unique personal identifier, sort the arrest records in chronological order, and assign the ordinal number for each arrest. This process was used within the lookback window for repeat offenses: 7 years for second and third offenses and 15 years for fourth and subsequent offenses. If a given unique personal identifier appeared only once in the dataset, it was assumed that the DUI charge was a first offense. The data (from 2003 to September 2018) allowed a 15-year lookback period only for arrests in 2018; arrests in later years had a longer lookback period available than did arrests in earlier years (e.g., 2017 allowed for a 14-year lookback period whereas 2010 allowed for a 7-year lookback). This means that some offenses may have been misclassified with a lower ordinal number than would have been the case had a longer lookback period been available, which was more likely in the early years of the study period; fourth and subsequent offenses would have been most affected as these offenses have a 15-year lookback period.

The data file had 134,780 arrest records, with one record representing a single charge. Due to the unreliability of the older data, the current analysis used data from 2003 to the last quarter of 2018, resulting in 101,621 charges (records). Records were removed if the charge did not pertain to motor vehicles legally driven on public roadways (e.g., DUI charges for boating), leaving 101,173 records. If a person had an additional record for a charge associated with one DUI arrest (such as carrying a concealed weapon), the records were combined into one to represent the single DUI arrest. The final record count was 96,697 DUI charges involving 74,085 individual offenders.

Trends in DUI Arrests, 2006 to 2018

The analyses of total DUI offenses focused on arrests from January 2006 to September 2018 and the analyses of different types of DUI (i.e., offense ordinal numbers) focused on arrests from January 2010 to September 2018, to ensure that all arrests had a 7-year lookback period, thereby minimizing the misclassification of second and third arrests.

Figure 5 shows the quarterly counts of DUI arrests from January 2006 to September 2018 and the deseasonalized[1] quarterly counts for 2006 to 2017. The deseasonalized counts end in 2017 due to the incomplete data for the fourth quarter of 2018. Total DUI arrests had a strong upward trend from 2010 to the second quarter of 2012, followed by a strong trend downward through the third quarter of 2016 and then a slight increase.

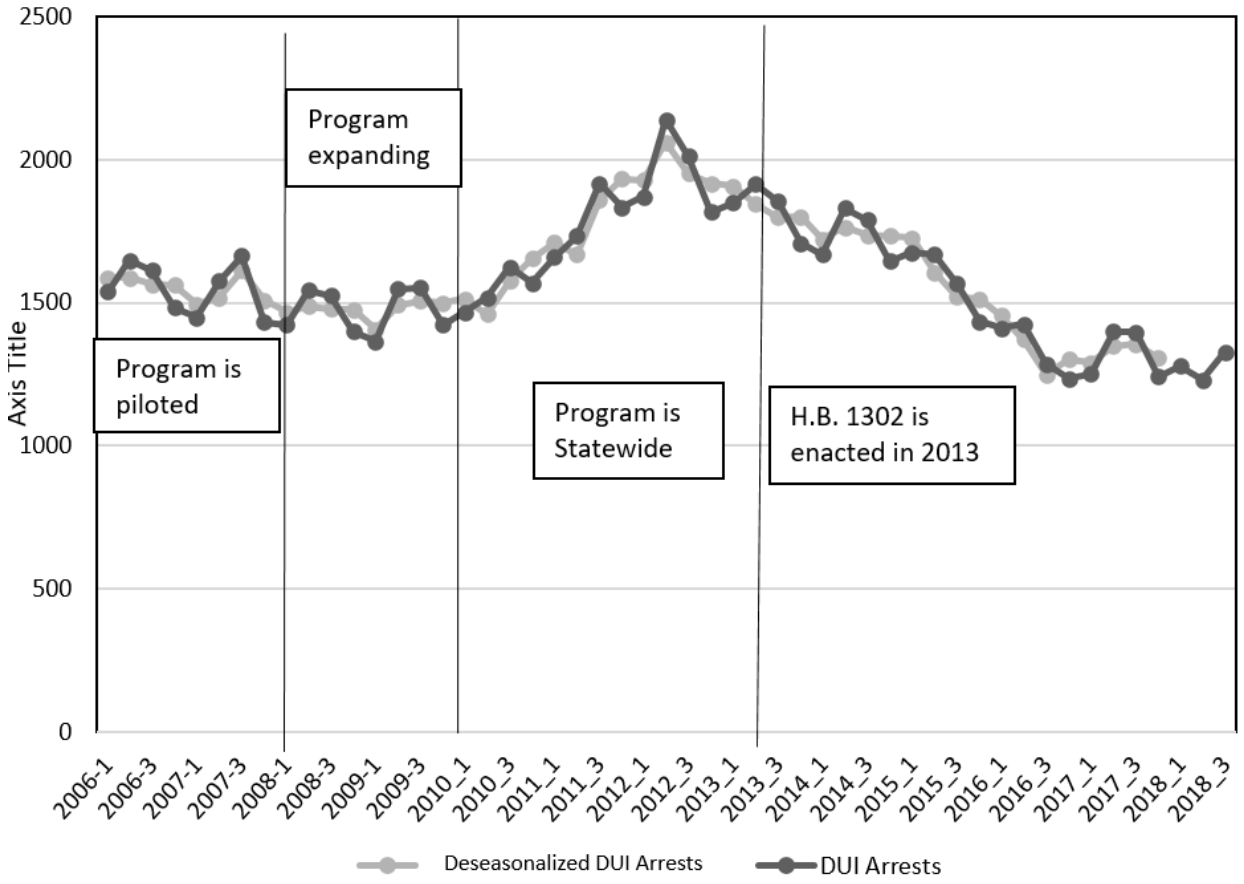

Figure 5. Quarterly Number of DUI Arrests, January 2006 to September 2018, and Deseasonalized Number of DUI Arrests, January 2006 to 2017

Figure 6 plots the counts of first, second, third, and fourth and subsequent DUI arrests in each quarter from January 2010 to the third quarter of 2018, and Figure 7 plots the deseasonalized counts from 2010 to 2017 per quarter. The pattern for first DUI arrests is like the pattern for total DUI arrests. Second and third DUI offenses trended downward in the period after H.B. 1302 in

[1] Deseasonalized (i.e., mathematically adjusted) data can help reveal trends that would otherwise be obscured by seasonal variations due to weather patterns, holidays, and other regularly occurring events.

2013. Fourth and subsequent DUI arrests did not show a distinct trend. As noted above, the number of fourth and subsequent DUI arrests may be unreliable, given the 15-year lookback period for these offenses.

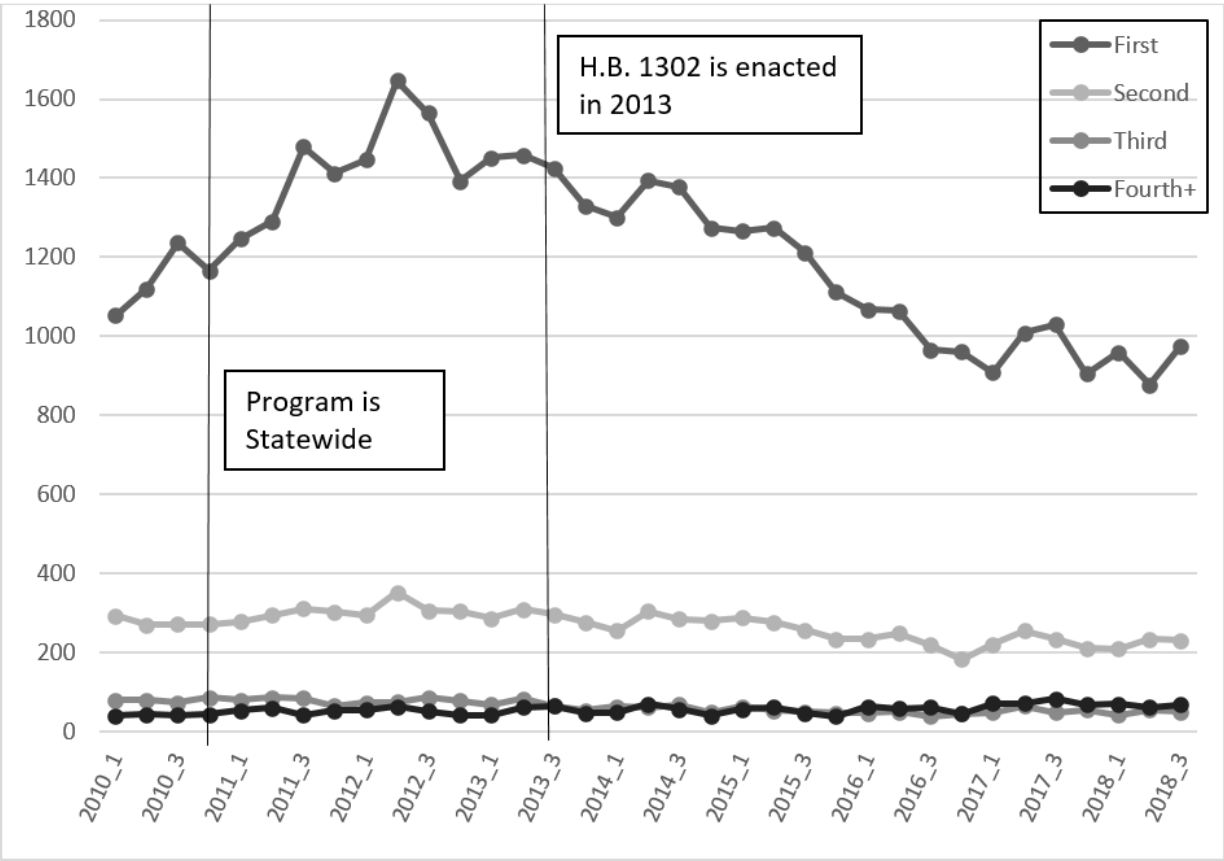

Figure 6. Quarterly Number of DUI Arrests by Number of Offense, January 2010 to September 2018

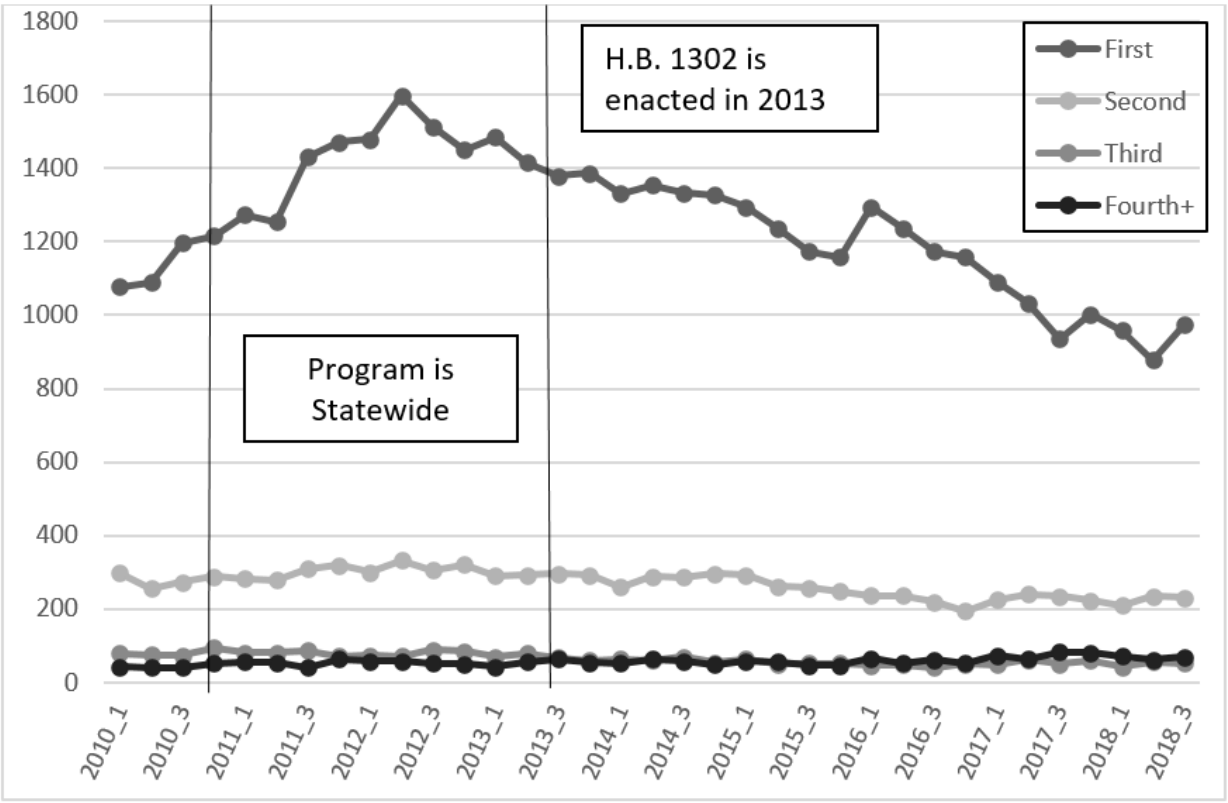

Figure 7. Deseasonalized Quarterly Number of DUI Arrests by Number of Offense, January 2010 to December 2017

Table 3 summarizes the characteristics of DUI first, second, third, and fourth and subsequent arrests in the four study periods (defined above). The table does not show the offense number for the first study period because the 7-year lookback period for second and third DUI offenses was not available for arrests from 2008 to 2009. About three-quarters of DUI arrests were first offenses in the other study periods. From January 2010 to August 2010 to July 2013 to September 2018, there were small declines in arrests that were second offenses (19% to 17%) and third offenses (5% to 4%).

The sex of most people was unknown but of those known, the majority were male. The year but not the day of birth was available, so approximate age at the time of arrest was calculated by using birth year. The age distribution at the time of arrest varied by study periods, with slightly more than half of offenders being 21 to 34 years old (52.5%) and 28% were 35 to 49; 5% were younger than 21 and 2% were 65 or older.

Table 3. Percentage Distribution of Characteristics of DUI Arrests in North Dakota By the Four Study Periods

	14-County pilot: Jan 2008-Dec 2009		Spreading Statewide: Jan-Aug 2010		Statewide pre-2013 law change: Sept 2010-Jun 2013		Statewide post-2013 law change: Jul 2013-Sept 2018		Total	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Offense Number*									**Jan 2010-Sept 2018**	
First			3,023	73.7	15,942	76.5	23,692	75.6	42,657	75.8
Second			759	18.5	3,395	16.3	5,243	16.7	9,4397	16.7
Third			206	5.0	901	4.3	1,133	3.6	2,240	4.0
Fourth+			112	2.7	591	2.8	1,266	4.0	1,266	3.5
Total			4,100	100.0	20,829	100.0	31,334	100.0	56,263	100.0
Sex									**Jan 2008-Sept 2018**	
Female	800	6.8	330	8.0	2,547	12.2	4,559	14.5	8,236	12.1
Male	3,186	27.0	1,279	31.2	11,016	52.9	18,302	58.4	33,763	49.6
Unknown	7,794	66.2	2,491	60.8	7,266	34.9	8,473	27.0	26,024	38.2
Total	11,780	100.0	4,100	100.0	20,829	100.0	31,334	100.0	68,043	100.0
Age Group (years)									**Jan 2008-Sept 2018**	
<21	818	6.9	209	5.1	1,041	5.0	1,280	4.1	3,348	4.9
21-34	6,218	52.8	2,101	51.2	11,072	53.2	16,312	52.1	35,703	52.5
35-49	3,229	27.4	1,194	29.1	5,647	27.1	8,710	27.8	18,780	27.6
50-64	1,301	11.0	501	12.2	2,672	12.8	4,447	14.2	8,921	13.1
65+	161	1.4	95	2.3	389	1.9	5721	1.8	1,217	1.8
Unknown	53	0.4	0	----	8	<0.1	13	<0.1	74	0.1
Total	11,780	100.0	4,100	100.0	20,829	100.0	31,334	100.0	68,043	100.0
Judicial District									**Jan 2008-Sept 2018**	
East Central	3,033	25.7	937	22.9	4,169	20.0	6,237	19.7	14,279	21.0
North Central	1,625	13.8	623	15.2	3,040	14.6	3,868	12.2	9,120	13.4
Northeast	1,173	10.0	405	9.9	1,979	9.5	2,499	7.9	6,036	8.9
Northeast Central	760	6.5	235	5.7	1,124	5.4	1,858	5.9	3,955	5.8
Northwest	385	3.3	181	4.4	2,518	12.1	5,423	17.1	8,460	12.4
South Central	3,008	25.5	988	24.1	4,612	22.1	6,979	22.0	15,532	22.8
Southeast	1,019	8.7	431	10.5	1,645	7.9	2,372	7.5	5,442	8.0
Southwest	777	6.6	300	7.3	1,742	8.4	2,426	7.7	5,219	7.7
Total	11,780	100.0	4,100	100.0	20,829	100.0	31,662	100.0	68,043	100.0

Source: Analysis of data from North Dakota court system.

*DUI offense number could not be determined prior to 2010.

DUI Rearrests Before and After H.B. 1302

The enactment of H.B. 1302 in 2013 mandated all drivers convicted of repeat DUI offenses be assigned to the 24/7 sobriety program as a condition of probation, parole, or sentence. Prior to this date, assignment to the program was at the discretion of the court. This change provided an opportunity to employ a rigorous retrospective before/after methodological approach, which requires clearly defined, specific criteria for participation in the program in the after-study period. It was expected that a substantially higher proportion of people committing a repeat DUI offense on or after July 1, 2013, would be assigned to the program than the proportion before July 1, 2013, resulting in an immediate increase in repeat offender enrollments. Thus, assuming that the program is effective at establishing some level of sobriety, it is expected that there would be lower recidivism rates among repeat DUI offenders after the 2013 law, both during their participation in the program and for a period following participation.

The program may have affected first DUI offenses to some extent through a general deterrence effect, but it appears the program had a larger effect on repeat offenders, because the proportion of repeat offenders in the program far exceeded the proportion of first offenders, especially after the 2013 law changes. Therefore, reductions in rearrests among repeat offenders were expected to have been greater than reductions in rearrests among first offenders.

The data show a decline in DUI arrests including rearrests after 2013. To test the statistical significance of the changes in DUI arrests, the current evaluation used binary logistic regression and survival analyses. The following analyses focus on changes in rearrests among second DUI offenders after 2013. As described above, the arrest data obtained from the North Dakota court system did not allow researchers to identify fourth and subsequent offenses fully. Thus, the analyses focused specifically on rearrests among drivers arrested for second offenses (i.e., third DUI offenses). The rigor of our approach is enhanced by using comparison offender groups in some analyses, as described below.

Binary Logistic Regression

Logistic regressions predict the likelihood of membership in a group; the current analyses are predicting the likelihood of a third DUI arrest. If the program is effective at deterring recidivism, the probability of a third DUI arrest should be lower after the 2013 law than before the change. Analyses of arrest data were conducted using a backward stepwise binary logistic regression examining law change period as a dichotomous categorical variable (pre and post). The analysis consisted of a pre/post by arrest type (first, second, and third) factorial design.

Comparison of pre-law period to the post-law period (two models). The pre-law period was defined as January 2010 to June 2013. The start date of January 2010 ensured a 7-year lookback period for identifying second and third offenses and was the beginning of the transition to a Statewide program. Two models were developed, each having different post-law periods. The first model used a January 2014 to June 2017 post-law period, which provided for 41 months in both study periods and matched the months to account for changes in North Dakota weather between the summer and winter months. It also excluded a 6-month transition period (July to December 2013), when the law may have been phasing in. The second model used a July 2013 to December 2016 post-law period, which provides for 41 months in each period but does not provide for a 6-month transitional period nor match the months.

Table 4 shows the counts and percentage change in first, second, and third DUI arrests for each study period. All types of DUI offenses declined from the pre-law period to either model of the post-law period, with the decline for third offenses being larger than the declines for first or second offenses. Chi-square tests of independence revealed pre-post significant differences for all offense types for the first post-law model (first DUI, $\chi 2=219.70$, $p<0.0001$; second DUI, $\chi 2=47.52$, $p<0.0001$; third DUI, $\chi 2= 64.49$, $p<0.0001$) and the second post-law model (first DUI $\chi 2=104.46$, $p<0.0001$; second DUI $\chi 2=33.0$, $p<0.0001$; third DUI, $\chi 2=62.08$; $p<0.0001$).

Table 4. Counts and Percent Change in DUI Arrests in North Dakota Before and After the July 1, 2013 Law

	Pre-Law Period January 2010 to June 2013	**1st Model Using Post-Law Period of January 2014 to June 2017**		**2nd Model Using Post-Law Period of July 2013 to December 2016****	
	N	**N**	**Percentage Change After vs. Before**	**N**	**Percentage Change After vs. Before**
First DUI	18,965	16,186	-14.7*	17,026	-10.2*
Second DUI	4,154	3,549	-14.6*	3,646	-12.2*
Third DUI	1,107	760	-31.3*	766	-30.8*
First-Third DUI	24,226	20,495	-15.4*	21,438	-11.5*

*Significant decrease from pre- to post-law change period based on chi-square analyses, $p<.0001$

** As noted above, the post-law time periods overlap; they were used to present two perspectives of the effects of the law.

The plan was to include the sex and age of offenders as predictors in the models. However, as discussed above, a large proportion of records had unknown sex; therefore, only age (approximated based on years of birth and arrest) was included (as a numerical variable) and crossed (interacting) with arrest type. Table 5 shows offender age distributions by DUI offense type in the pre-law and post-law study periods.

Table 5. DUI Offender Age Distributions for Offense Types Before and After the 2013 Law

		Pre-Law period January 2010 to June 2013		1st Model of Post-Law Period January 2014 to June 2017		2nd Model of Post-Law Period July 2013 to December 2016*	
		N	**Percent**	**N**	**Percent**	**N**	**Percent**
	Age group (years)						
First DUI	<21	1,155	6.1	799	4.9	848	5.0
	21-34	9,949	52.5	8,580	53.0	8,917	52.4
	35-49	5,029	26.5	4,313	26.6	4,595	27.0
	50-64	2,400	12.7	2,193	13.5	2,359	13.9
	65+	424	2.2	292	1.8	296	1.7
	Unknown	8	< 0.1	9	0.1	11	0.1
	Total	**18,965**	**100.0**	**16,186**	**100.0**	**17,026**	**100.0**
Second DUI	<21	86	2.1	48	1.41	54	1.5
	21-34	2,271	54.7	1,918	54.0	1,951	53.5
	35-49	1,223	29.4	998	28.1	1,033	28.3
	50-64	531	12.8	530	14.9	550	15.1
	65+	43	1.0	55	1.5	58	1.6
	Total	**4,154**	**100.0**	**3,549**	**100.0**	**3,646**	**100.0**
Third DUI	<21	8	0.7	7	0.9	8	1.0
	21-34	596	53.8	417	54.9	420	54.8
	35-49	348	31.4	211	27.8	212	27.7
	50-64	145	13.1	116	15.3	118	15.4
	65+	10	0.9	9	1.2	8	1.0
	Total	**1,107**	**100.0**	**760**	**100.0**	**766**	**100.0**

*As noted above, the post-law time periods overlap; they were used to present two perspectives of the effects of the law.

The post-law period and third DUI arrest variables were used as the reference (baseline) categories in the analyses. The inclusion of these variables and interaction terms controlled for any potential independent effect that age may have had and was used to confirm that the arrest type was independently impacted by the changes from the 2013 law. That is, any main effect on arrest type was not caused by some interaction effect with another variable.

In both binary regression models, the effect of the offender's age was not significant, and subsequently, the variable age was dropped from the model. The results of the final binary regression models are provided in Table 6. In each model, the 2013 law was associated with a main effect of arrest type; that is, there was a significant decline in the number of arrests from the pre-law period to the post-law period. The pairwise comparisons show that the pre-law to post-law decline in third DUI arrests was significantly larger than the declines in first DUI

arrests and second DUI arrests. In other words, in addition to the overall decline in the number of DUI arrests, the 2013 law had a greater impact on third arrests than on first or second arrests.

Table 6. Results of Final Binary Logistic Regression Models of Likelihood of DUI Arrest in North Dakota in Post-Law Versus Pre-Law Period

	B	S.E.	Wald	Df	P Value	Exp(B)	95% CI for Exp(b)	
							Lower	Upper
Model of the Post-Law Period 1: January 2014 to June 2017								
Offense type			24.348	2	0.000			
First vs. third arrest	-0.234	0.048	23.402	1	0.000	0.791	0.720	0.870
Second vs. third arrest	-0.186	0.059	10.110	1	0.001	0.830	0.740	0.931
Age*offense type			25.111	2	0.000			
Age by first arrest	0.000	0.000	23.601	1	0.000	1.000	1.000	1.001
Age by second arrest	-0.001	0.001	1.510	1	0.219	0.999	0.998	1.001
Constant	0.376	0.047	63.738	1	0.000	1.457		
Model of the Post-Law Period 2: July 2013 to December 2016								
Offense type			33.810	2	0.000			
First vs. third arrest	-0.274	0.048	32.168	1	0.000	0.760	0.692	0.836
Second vs. third arrest	-0.210	0.060	12.348	1	0.000	0.810	0.721	0.911
Age*offense type			17.892	2	0.000			
Age by first arrest	0.000	0.000	17.003	1	0.000	1.000	1.000	1.000
Age by second arrest	-0.001	0.001	0.890	1	0.346	0.999	0.998	1.001
Constant	0.368	0.047	61.386	1	0.000	1.445		

For example, the model with the post-law change period of January 2014 to June 2017 is based on 24,226 arrests during the 3.5 years pre-law change period and 20,495 arrests during the post-law change period. The model indicates that the law change was statistically significantly associated with a decrease in DUI arrests (χ^2=24.35, p<0.0001). The likelihood that a DUI arrest took place in the post-law change period (versus the pre-law change period) was 21% lower for third DUI arrests than for first DUI arrests (χ^2=23.40, p<0.0001, OR=0.79, 95% CI [0.72, 0.87]), and the likelihood that a DUI arrest took place in the post-law change period (versus the pre-law change period) was 17% lower for third arrests than for second DUI arrests. (χ^2=10.11, p=0.001, OR=0.83, 95% CI [0.74, 0.93]). Although statistically significant, the interaction between age and arrest type was not practically important (χ^2=23.6, p<0.0001, OR=1.00, 95% CI [1.00, 1.00]). Since offenders are obviously younger at their first arrest than at their second or third arrests, the interaction is not meaningful.

Similarly, the second model using a post-law change period of July 2013 to December 2016 indicates that the likelihood that a DUI arrest took place in the post-law change period (versus the pre-law change period) was 24% lower for third offenses than for first offenses (χ^2=32.17, p<0.0001, OR=0.76, 95% CI [0.69, 0.84]). The likelihood that a DUI arrest took place in the post-law period (versus the pre-law period) was 19% lower for third offenses than for second offenses (χ =12.35, p<0.0001, OR=0.81, 95% CI [0.72, 0.91]).

Survival Analysis

Survival analysis was used to focus directly on whether the 2013 law was associated with a reduction in the rearrest rate among offenders arrested for a second DUI offense after that date. Recidivism was defined as a third arrest within 2 years following the focal second arrest, and the likelihood of rearrest was compared among offenders arrested for a second DUI offense prior to July 1, 2013, and offenders arrested on or after July 1, 2013. The selection of a 2-year window for recidivism meant that the window would be equivalent for both the pre- and post-law change periods. For instance, a second arrest taking place on July 1, 2015, would have a 2-year forward window available (i.e., through June 30, 2017). The analyses focused on rearrests within 2 years among drivers arrested for a second offense during the 3-year pre-law period of June 30, 2010, to June 30, 2013, and rearrests among drivers arrested for a second DUI offense during the 2-year post-law period of July 1, 2013, to July 1, 2015. That is, the models focused on second arrests occurring from June 30, 2010, to July 1, 2015; a second arrest taking place before July 2013 is classified into the pre-law category; a second arrest taking place in July 2013 or later is classified into the post-law category. This approach ensures that the comparison between the pre-law time and post-law time had matching months and seasons, especially given the possible impact of weather patterns in North Dakota. In addition, in selecting the post-law study period, the decision was made not to track repeat (i.e., third) DUI offenses past December 2017 to avoid any possibility that reporting offenses to the court systems may have lagged in 2018. The models tracked 5,758 drivers arrested for second DUI offenses from June 30, 2010, to July 1, 2015. Data from June 30, 2010, to July 1, 2017, was used to track repeat (i.e., third) DUI offenses.

For the pre-law and post-law samples combined, the second-to-third arrest recidivism rate was 15.1%. The recidivism rates did not vary significantly across age groups (χ^2=6.98, p>0.05) or by (known) sex (18% for men, 16% for women; χ^2=2.24; p>0.05).

A Cox regression survival analysis was performed to assess the impact of the 2013 law on the number of days to recidivate after adjusting for the effects of the offender's age at the time of second offense. Given the large proportion of offenders arrested for a second DUI offense with unknown sex, sex was excluded from the analysis. There was a statistically significant effect of the 2013 law (X^2(1)=8.15, p<0.01), suggesting there were higher survival rates (i.e., lower recidivism) among second offenders in the post-law period than in the pre-law period. There was no significant effect of offender age. As shown in Table 7, the odds that a second offender would not recidivate within 2 years after arrest was 49% higher after the 2013 law than before the law (p<0.004, OR=1.227, 95% CI [1.07, 1.41]).

Table 7. Results of Survival Analysis of Recidivism Among Second DUI Offenders Arrested Before and After the July 1, 2013 Law

Covariate	B	Df	Prob.	Odds Ratio	95% CI
Pre-law versus post-law	0.205	1	0.004	1.227	[1.07, 1.41]
Age	0.003	1	0.247	1.003	[1.00, 1.01]

Figure 8 plots the cumulative percentage of people arrested for second DUI offenses who survived over time (i.e., did not recidivate) according to whether their second DUI arrest occurred prior to or following the 2013 law. The plot shows that the offenders arrested after the law had higher survival rates (i.e., lower recidivism) than offenders arrested before the law. At the end of 2 years following an arrest for a second DUI offense, 16.1% of offenders arrested before the 2013 law had been rearrested, compared with 13.3% of offenders arrested after the law. The estimated rates of recidivism during the pre-law period were approximately 7% after 200 days, 11% after 400 days, and 14% after 600 days, compared with approximately 6% after 200 days, 8% after 400 days, and 12% after 600 days during the post-law period.

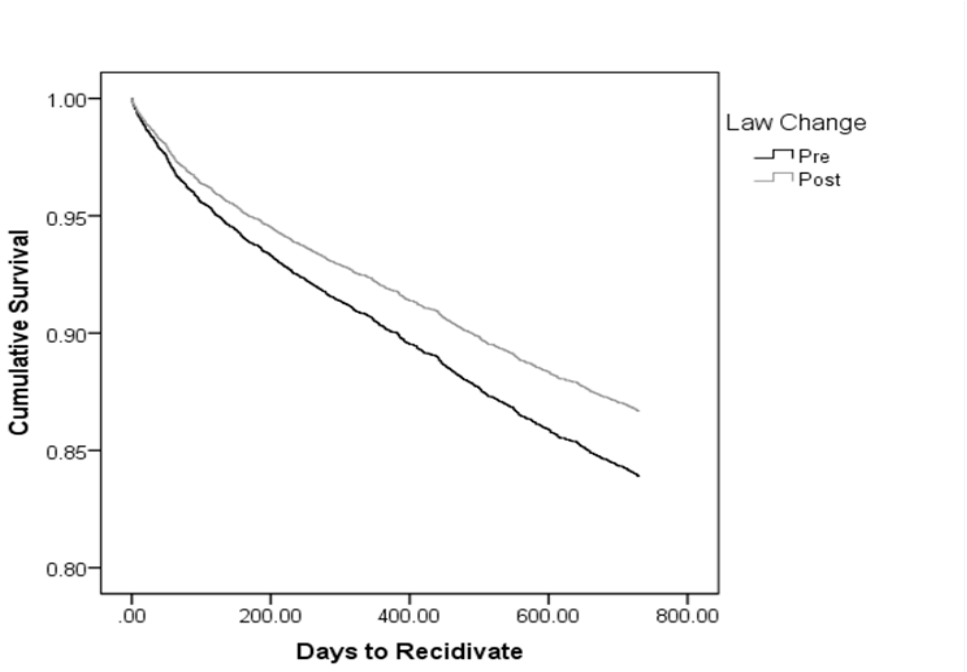

Figure 8. Survival Function: Adjusted Likelihood of Not Recidivating Among People Arrested in North Dakota for a Second DUI Offense Before and After the 2013 Law

A chi-square analysis comparing rates of recidivism between the pre-law and post-law periods confirmed the model results ($X^2(1)=8.24$, $p<0.01$). The decline in the recidivism rate after a second arrest for DUI from 16.1 to 13.3% was statistically significant.

Another analysis looked only at the offenders who recidivated after a second arrest for DUI to examine whether the "speed" of a rearrest (i.e., the average number of days between second and

third DUI arrests) differed between pre-law and post-law periods. Among the 867 offenders who recidivated, the average time between the second and third DUI arrests was 302.4 days in the pre-law period and 292.1 days in the post-law period, a non-significant difference ($F(1)<1$, $p>0.05$). Thus, although the 2013 law appears to reduce the likelihood of recidivism, it does not appear to affect the length of time before a rearrest occurred.

Reductions in Rearrests of Repeat DUI Offenders

Based on the theory of specific deterrence,[2] it would be expected that lower recidivism among repeat offenders would be associated with the implementation of the 2013 law. Analyses focused specifically on the effects of the law on rearrests among people arrested for a second DUI offense; a group targeted by the changes implemented by the 2013 law. Binary logistic regression analyses and survival analyses both found significant reductions in rearrests of second DUI offenders after implementation of the 2013 law. By including first DUI offenses and second DUI offenses as co-variates, the logistic regression analyses also accounted to some extent for changes in the 2013 law other than the changes pertaining to the program (e.g., strengthening DUI penalties), as well as other environmental factors influencing the number of DUI arrests. The likelihood of a third DUI arrest decreased significantly from the period before the law to the period after, suggesting that exposure to a requirement that repeat offenders must enroll acts as a deterrent for future recidivism. The survival analysis further shows a significant decrease in recidivism rates among second DUI offenders following the law.

[2] Specific deterrence approaches to preventing DUI seek to deter offenders from reoffending. General deterrence approaches seek to increase the perceived likelihood of apprehension for DUI among the general population.

Discussion

Local and State officials alike said the program was a welcome alternative to jail and a tool for holding offenders accountable and reducing their risk of arrest, thereby protecting public safety. They cited specific positive aspects of the program, for example, that the close monitoring and consequences for violations hold offenders accountable and that the program's structure help offenders regain stability in their lives. Officials noted that factors contributing to program success include an acceptance of the program's value by judges and law enforcement agencies, the involvement of a powerful advocate like the attorney general, a source of funding codified in the legislature, and centralized procedures (e.g., testing fees) that increase efficiency and consistency across jurisdictions. Officials said the program benefited considerably from the changes made to the law in 2013, under H.B. 1302, which led to more enrollments and increased the consistency of court's post-conviction assignments. Local officials also pointed to the importance of a restricted driver's license being made available to program participants. The program also benefited from a Statewide tracking system, which allows the program and researchers to evaluate the program's implementation. Finally, the structure of local programs operating under State guidelines seemed to work well.

Officials pointed to some variations across courts and counties, such as in court practices in assigning first DUI offenders and assigning repeat offenders prior to conviction to the program. Also noted were varying practices in the imposition of penalties for testing violations, as these are impacted by courts and State's attorneys, the method of sobriety testing, whether enrollment was required or voluntary, whether the offender was assigned prior to or following conviction, and jail capacity, among other factors. Local officials suggested that a more consistent application of penalties would be beneficial. They suggested simplifying the definitions of violations and instituting uniform escalating penalties that include brief incarceration. They noted that specific guidelines on penalties would promote consistent and equitable treatment of offenders and increase efficiency.

Trends in Enrollments

The changes in enrollments reflect the evolution of the program from the pilot in 14-counties to a Statewide program that requires the participation of repeat DUI offenders. Repeat DUI offender enrollments and the average time they spent in the program increased dramatically after the passage of H.B. 1302 in 2013. A later decline in enrollments beginning in the third quarter of 2016 likely reflects declines in the number of DUI arrests. It is not possible to derive a precise estimate of the percentage of repeat DUI offenders who were enrolled in the program prior to and following the law change, due to differences in the data on DUI arrests and DUI enrollments. Based on the ratio of enrollments to arrests summed over a pre-law period from January 2010 to June 30, 2013, and a post-law period from July 1, 2013, to December 2017, approximately one-quarter of offenders arrested for a second DUI offense were enrolled during the pre-law period, compared with about 70% during the post-law period. In contrast, the approximate enrollment rate for first DUI offenders was 3% prior to the law and 7% after. Note that the 2013 law mandate that repeat DUI offenders participate in the program applies to *convicted offenders*, whereas the current study used data on DUI arrests.

Consistent with other studies, compliance with testing was high, and most enrollees graduated successfully from the program. There was an increased use of CAM in addition to or in lieu of twice-a-day alcohol breath testing. Local officials said there were pros and cons to the two

testing methods but stated that CAM provided a more feasible method in many situations. Drug testing also increased but remained a small percentage of the overall type of testing.

Trends in DUI Rearrests

Analyses of the effects of North Dakota's program on DUI offenses examined changes associated with H.B. 1302 enacted July 1, 2013, requiring repeat offenders to participate in the program and found statistically significant reductions in rearrests of second DUI offenders. Descriptive analyses of trends in DUI arrests in North Dakota and comparisons across the study periods suggest that the law may also have had broader deterrence effects as counts of total DUI arrests and first and second DUI offenses were lower in the study period following the law.

Study Limitations and Challenges

It would have been useful to have data from the Statewide program tracking system on the penalties imposed for DUI violations and whether program assignment occurred prior to or following conviction. It was a limitation that the offense number of in-control offenses could not be determined. There were limitations in the arrest data as well, including the lack of complete historical data extending further back in time and the need for researchers to determine the number of each ordinal DUI offense. The lack of a longer set of historical arrest data meant that the ordinal number of some DUI offenses may have been misclassified; this pertained mostly to fourth and subsequent offenses.

A major challenge in the evaluation of 24/7 sobriety programs is that the decision to assign an offender to a program is typically at the court's discretion. In these situations, research designs that compare rearrests of enrolled offenders to those not enrolled must address the likely selection bias resulting from unknown differences in the offender groups that are related to the likelihood of recidivating (e.g., alcohol dependency). There are additional practical challenges such as obtaining and linking historical DUI arrest data and enrollment data.

Conclusion

The current evaluation determined the 24/7 sobriety program was stable, efficient, and effective, and that the program was associated with reductions in DUI offenses and recidivism. County protocols were in alignment with State guidelines. Contacts said that program effectiveness and consistency were enhanced after 2013, when the law required repeat DUI offenders to be assigned to the program. Court practices varied in how frequently first offenders were assigned to the program, and how frequently repeat offenders were assigned as a condition of bond and release after arrest. There was also variation in the application of program-imposed penalties.

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September 2023

U.S. Department
of Transportation

**National Highway
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16022-091223-v3