The Effects of Alcohol Ignition Interlock License Restrictions on Multiple Alcohol Offenders: A Randomized Trial in Maryland


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ABSTRACT

An investigation of the effects of an alcohol ignition interlock program was performed in Maryland. More than 1,380 multiple alcohol offenders whose driver's license was either suspended or revoked for multiple alcohol offenses and who were eligible for license reinstatement after undergoing a variety of treatment programs were randomly assigned to participate in the usual post licensure treatment program (control group) or to an experimental ignition interlock program. Participants in the interlock program were given an alcohol restriction on their driver's licenses indicating they could only drive a vehicle equipped with an ignition interlock. If they owned a car, they were required to have the device installed within 45 days for a period of one year, or if they did not own one they had to sign a waiver that they would not drive a car unless it was so equipped. The alcohol-related traffic arrest rate of these two groups was compared for one year following program assignment. The alcohol traffic violation arrest rate was significantly lower for participants in the interlock program compared to participants in the control program. The implications of these findings are discussed in terms of their significance for operating an effective administrative ignition interlock program.

INTRODUCTION

More than 41,000 people in the United States were killed and over 3 million people were injured in motor vehicle traffic crashes in 1995. Alcohol is estimated to be a factor in approximately 41 percent of these fatalities (over 17,000) and 7 percent of all traffic crashes (National Highway Traffic Safety Administration [NHTSA], 1996). Despite evidence of a recent fatality rate increase among certain age groups (e.g., 25-44), there has been a ten year decline in overall fatality rates for alcohol-intoxicated drivers (NHTSA, 1996). Reasons cited for this ten year drop include the enactment of state laws raising the legal drinking age to 21;
zero tolerance laws for blood alcohol concentration (BAC) in youthful drivers; lowering the permissible BAC limit for defining a driving while intoxicated (DWI) offense to .08 percent, and administrative license revocation laws (Hingson, 1996; Hingson, Heeren, & Winter, 1996).

While such laws may be effective in preventing most of the population from drinking and driving, there has been relatively little success in preventing alcohol impaired driving among a more recalcitrant population (i.e., the repeat drinking driver). Programs that require mandatory incarceration, vehicle impoundment, and license revocation for these repeat offenders hold some promise. However, incarceration and impoundment programs are costly and are often difficult to impose because of under-enforcement and judicial prerogative. For example, some judges may be lenient and/or unwilling to order incarceration for the defendant and/or order vehicle impoundment in a drunk driving offense. Vehicle impoundment programs may affect people other than the alcohol offender (e.g., a spouse or other family members who need access to that car). Of the current approaches, license revocation appears to hold the greatest potential for reducing recidivism. However, such an approach may be of limited effectiveness with multiple alcohol offenders, many of whom continue to drive with a suspended or revoked license (Ross & Gonzales, 1988; Wiliszowski, Murphy, Jones & Lacey, 1996). In addition, those programs do not address the needs of those who have gained control over their drinking and would like to apply for a license after suspension or revocation.

Alcohol breath-analyzed ignition interlocks represent a countermeasure that has not been systematically investigated for its potential impact on preventing drunk driving recidivism. In contrast to other countermeasures, which have focused more on traditional deterrence-based strategies (e.g., police crackdowns, sobriety checkpoints, fines, incarceration), ignition interlocks bypass disincentives that are presumed to motivate the alcohol-intoxicated driver. In theory, interlock devices prevent an intoxicated individual from starting a motor vehicle. They are an automated system, designed to control the intersecting risk behaviors in question (drinking and driving) rather than either behavior separately.

To date, ignition interlocks have not been adequately evaluated in scientific studies. Support for interlocks has come largely from exaggerated claims from interlock providers, from attitude surveys and from reviews of methodologically limited studies (e.g., Linnell & Mook, 1991). Prior evaluation studies of interlocks (e.g., EMT Group, 1990; Jones & Wood, 1989; Morse & Elliot, 1990, 1992; and Popkin, Stewart, Martin & Birckmayer, 1992) report positive effects. However, the lack of random assignment in these investigations makes the evidence inconclusive. Until now, there has been no firm scientific evidence to conclude that ignition interlock programs are effective in preventing alcohol recidivism.
The purpose of this investigation was to test the effectiveness of an ignition interlock program at preventing DWI recidivism in a group of multiple alcohol offenders. In contrast to previous studies, this investigation included five features that set it apart from previous investigations. First, the study was limited to multiple alcohol offenders, defined as those drivers who had been convicted of two or more prior alcohol related traffic offenses in the past five years, or three or more such offenses in the past ten years. Second, a random assignment procedure was used to determine entry of offenders into the experimental (interlock) program or control (customary treatment) program. Third, these programs were administered by the state licensing agency (Motor Vehicle Administration) rather than the courts. This ensured greater consistency of case handling for licensing restriction, and allowed monitoring and enforcement of compliance with these licensing restrictions. Fourth, members of the experimental treatment group had a restriction placed on their driver's licenses indicating they could only drive a vehicle equipped with an ignition interlock. Fifth, the experimental group members had 45 days in which to have an interlock installed on their vehicles or face suspension for failure to comply. The Motor Vehicle Administration closely monitored compliance with this requirement. The interlock assignment was for a period of one year from date of notification. Ultimately, offenders will be monitored for two years, permitting treatment effects to be assessed while interlock devices are installed (first year), and after they are removed (second year). The purpose of this paper is to report the first year findings. This investigation evaluated the effectiveness of an administratively operated interlock program and not the efficacy of ignition interlocks per se.

METHOD

Multiple alcohol traffic offenders who lost their driving privileges through revocation or suspension and were subsequently approved and recommended for relicensure by the state's Medical Advisory Board (MAB) comprised the sample of eligible participants for this investigation. The MAB is a group of physicians who evaluate motorists requesting license reinstatement with regard to certain physical or mental disabilities. Its function is advisory and the final decision to license a suspended or revoked driver rests with the Motor Vehicle Administration which can also impose additional licensing restrictions. Only those alcohol offenders who petitioned and were recommended for relicensure by the MAB and approved by the MVA were tracked for this study. As a condition for recommending relicensure, all offenders had to demonstrate to the MAB's satisfaction that they were complying with prescribed treatments and judged to be recovered sufficiently for reinstatement of their driving privileges.
After receiving the recommendations from the MAB, each offender was randomly assigned to the interlock program or control program. Those offenders assigned to the interlock program were notified by letter that they were approved for license reinstatement on condition that they agree to a license restriction prohibiting them from operating a vehicle without an interlock device. They had 45 days to have an interlock installed. Those individuals who did not own a car but still requested a license were asked to sign a waiver stipulating that they would not own or operate a car unless it was equipped with an interlock. A special driving restriction was noted on each driver's license, allowing a police officer to recognize the nature of their driving restriction. Offenders in the interlock program were also informed of additional or ongoing treatment/support programs (e.g., AA) in which they were required to participate. Initially, only one type of ignition interlock was certified in Maryland and available for installation - the Guardian Model #2.2a. During the study period, a second type became certified - the Lifesaver Model SC 100. Ultimately, offenders chose the type of unit to install, and could change types after initial installation.

Offenders assigned to the control program were notified by letter that they must comply with the terms and restrictions customarily offered to multiple alcohol offenders, including an alcohol restricted license. Most often, these restrictions required mandatory participation in Maryland's Drinking Driving Monitoring Program (DDMP). Participants in this program report regularly to a court approved probation monitor who determines if the person is complying with treatment programs (i.e., AA or other self-help groups) and if the person is still drinking and/or taking drugs. Failure to report to the monitor or failure to comply with any of the terms of a treatment program resulted in an emergency suspension of driving privileges.

After initial notification, offenders in both programs could document compliance by signing and returning a letter confirming acceptance of assigned restrictions. Those who did not comply with an assigned restriction were classified as failing to comply (FTC). Some offenders initially accepted the terms of their driving license reinstatement, some initially failed to comply but eventually complied, some never complied and remain classified as FTC, and some elected not to become licensed and declined to follow through with the procedures necessary to become relicensed. In effect, these people withdrew their request to be relicensed.

Each case was tracked by the Motor Vehicle Administration. Researchers were permitted access to driver records after all personal identifying information had been deleted by MVA staff. A total of 1,387 offenders were assigned to this study. Of this total, 698 were randomly
assigned to the interlock program and 689 to the control program. Twelve people (7 interlocks and 5 controls) moved out of state during this investigation. Their out of state driving records were obtained and examined for subsequent alcohol violations. The principal dependent measure was whether the offender was arrested for an alcohol-related traffic offense during the first year after entering the study (defined as 365 days after notification), the period during which an interlock was to be on their vehicle.

RESULTS

Demographic Characteristics
The driving records and case files were examined and relevant demographic and driving history information was abstracted. The sample was predominantly white (84.2%), male (89.9%), in their mid 30's (median age = 33), who possessed a high school level of education or less (80.5%), were single, separated or divorced (71.4%), and earned less than $25,000 per year (74.7%). No statistically significant differences were found between the interlock and control group on any of these measures. The interlock (mean = 3.57, SD = 1.43) and the control group (mean = 3.61, SD = 1.33) also did not differ on the number of prior alcohol traffic violations. In both groups, the number of alcohol violations ranged from 2 - 11.

Program Acceptance
There was no significant difference in the percentage of interlock (81.3%) and control cases (87.2%) who became licensed within one year, or who accepted treatment (interlocks, 85.6%; controls, 88.9%). Within the interlock group, 396 (56.7%) had the device installed, 158 (22.6%) signed a waiver and never had an interlock installed, and an additional 46 (6.6%) signed a waiver for part of their restriction period but had an interlock installed for the remainder. The remaining 98 cases (14.0%) were in the failure to comply group.

Alcohol Traffic Violations
One year after assignment, 17 of the 698 multiple alcohol offenders in the interlock group (2.4%), and 46 of the 689 multiple alcohol offenders in the control group (6.7%) had committed an alcohol traffic violation. This was a statistically significant difference, OR = .35, 95% CI (0.192, 0.63), and indicated that being in an interlock program reduced the risk of an alcohol traffic violation within the first year by about 65%. Of the 17 interlock recidivists, 10 had an interlock installed, 2 signed a waiver and 5 were in the failure to comply group. Of the 46 control recidivists, 39 accepted the conditions of their program (signed a compliance form) and 7 were in the failure to comply group. Eleven of the interlock recidivists and 33 of the control recidivists were licensed at the time of the alcohol traffic violation.
DISCUSSION

The results of this evaluation show that an administrative interlock program can significantly reduce alcohol traffic recidivism - at least during the first year when the restriction is in effect. The relatively high program acceptance rates for both interlock and control groups (85-89%) indicate that the administrative elements for monitoring and enforcing were operational in both groups. Further, there was no evidence that the interlock group had a significantly lower rate of relicensure. Thus the reduction in recidivism cannot be said to be due to a differential degree of relicensure or administrative monitoring.

Ignition interlocks are not a foolproof system for preventing drunk driving. They do not prevent a driver from operating a non-interlocked vehicle, and there is some evidence that they can be circumvented. We found little evidence of successful circumvention in our investigation. Newer models with technological improvements may reduce this possibility even further.

This program dealt with multiple offenders who had received treatment and successfully passed a medical evaluation concerning their license eligibility. Different effects may be expected when this program is applied to different populations in different settings. An interlock program may work best when it is incorporated into an existing treatment process, incorporating careful case selection and subsequent monitoring. There is no evidence from the present study to suggest that interlocks or interlock programs could or should operate as a stand alone treatment approach for multiple alcohol traffic violators.

Finally, these results should be seen as preliminary because we do not yet have sufficient data concerning the second year experience. After one year, interlocks could be removed, and many of the participants had them removed. Popkin et al. (1992) suggest that interlock programs may work to suppress recidivism only while the restriction is in effect. Thus, for certain chronic populations (i.e., multiple alcohol offenders) interlock restrictions may have to be maintained indefinitely. Further study is needed to address this issue.

REFERENCES


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