Recidivism following interlock: Any evidence of change?

Robert B. Voas,¹ A. Scott Tippetts,¹ and Milton Grosz²

¹Pacific Institute for Research and Evaluation
²Florida Department of Highway Safety and Motor Vehicles

Abstract

Background
There is extensive evidence that vehicle alcohol interlocks reduce impaired-driving recidivism by approximately two-thirds while on the offender’s vehicle. However, the effectiveness of the interlock is substantially limited as most studies indicate that the benefit achieved while on the offender’s car is not carried over to driving following interlock removal. The state of Florida’s interlock program, which requires a period of license revocation before installing the interlock, offered an opportunity to study recidivism under three conditions: (a) during the license revocation period before entering the interlock program; (b) while on the interlock; and (c) during the post-interlock period when the offender’s license was restored.

Aims
This study had two aims: (a) To determine factors associated with the reduction in recidivism for offenders moving from a revoked-license condition to driving an interlock-equipped vehicle, and (b) To determine the factors associated with the rise in recidivism for offenders after the removal of the interlock and the restoration of their license status.

Methods
Using Cox regression, interlock program records of 33,446 first-time, impaired-driving offenders in Florida were analyzed as they moved from license revocation to driving on an interlock to postinterlock status.

Results
While their licenses were revoked, the first offenders exhibited a 2.3% annual recidivism rate. Once they moved on to the interlock program, the annual recidivism rate dropped to 0.4%. In the 4 years following interlock removal, the recidivism rate returned to the 2% level. Offenders on interlocks whose time on the device was extended based on poor interlock performance had 4% annual recidivism rates.

Discussion and conclusions
The data suggest that the extent to which offenders’ recidivism rates increase following interlock removal can be identified by variables available to program managers.

Background
Vehicle alcohol ignition interlocks provide convicted drinking drivers with an alternative to having their licenses suspended and being unable to drive legally. It would be expected that this alternative would be attractive to individuals convicted of driving while impaired (DWI). However, experience has shown that when provided with the opportunity by a state motor vehicle department to substitute time on the interlock for a full license suspension, only 10 to 20% of DWI offenders accept that opportunity. The reason for this resistance to the interlock is unclear, but apparently results from...
several factors: the relatively low risk of apprehension if driving illicitly without a license, the nuisance and annoyance of having to take a breath test every time the vehicle is started and every 15 minutes while it is moving, and the potential embarrassment of having to make such breath tests. Whatever the reason for offenders’ reticence to install an interlock, it has resulted in stimulating government efforts to coerce offenders to install interlocks. One program that is being widely implemented in an effort to force offenders to install interlocks is to require it as a condition for reinstating the driver’s license. In states like Florida, reinstatement is contingent upon serving a minimum of 6 months on the interlock.

Aims

This study focuses on the proportion of the first DWI offenders in Florida who install interlocks and their recidivism rate compared to those who do not attempt to qualify for reinstatement.

Methods

The Florida Department of Highway Safety and Motor Vehicles (DHSMV) has established an interlock data tracking program that captures the full driving record and interlock record of every individual required by state law to install an interlock as a prerequisite to restoring the driver’s license. From that file covering the period from 2002 to present, we obtained 33,446 records of first DWI offenders entering the Florida interlock record system. Inclusion criteria included having no prior DWI offense and meeting the state requirements as an aggravated first offender; that is, having an arrest BAC≥.15 or having a child passenger younger than age 14. Other first offenders are not subject to the interlock requirement in Florida.

From the driver record portion of the interlock record system, we obtained the date of arrest, date of conviction, the length of the license revocation period, prior DWI arrests, and any subsequent DWI convictions (recidivism), license status, and eligibility for reinstatement. From the interlock portion of the record, we obtained the length of the required period on the interlock, which for first offenders is a minimum of 6 months but additional time can be required by the court based on the seriousness of the offense (i.e., being involved in a crash). From that portion of the record, we also obtained the date of interlock installation, removal of the interlock, reason for removal, and the imposition of time extensions on the interlock based on interlock performance (three or more lockouts).

Based on their performance in the interlock program, we divided the 33,446 cases into the six categories shown in Table 1 for our recidivism analysis. The first two categories were offenders who recidivated while their licenses were revoked before becoming eligible to reinstate. Recidivism during that period terminated their first-offender status and extended their license revocations pending a new trial as second offenders. Category 1 included those who recidivated but eventually did installed interlocks. At the point where the file was frozen for this analysis, however, only 73% had achieved reinstatement because the remainder had either recidivated once more or dropped out, failed to complete the interlock program, or were still on the interlock. Category 2 included those who never installed an interlock or qualified for reinstatement.

<table>
<thead>
<tr>
<th>Group Definition</th>
<th>Number</th>
<th>Installed</th>
<th>Reinstated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recidivated during hard suspension</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Group Definition

<table>
<thead>
<tr>
<th>Group Definition</th>
<th>Number</th>
<th>Installed</th>
<th>Reinstated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eventually installed</td>
<td>463</td>
<td>100%</td>
<td>78%</td>
</tr>
<tr>
<td>2. Never installed</td>
<td>245</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Completed hard suspension</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Installed/extended</td>
<td>1,858</td>
<td>100%</td>
<td>77%</td>
</tr>
<tr>
<td>4. Installed/dropouts</td>
<td>515</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>5. Installed/completed on time</td>
<td>11,964</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>6. Never installed</td>
<td>18,401</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>33,446</td>
<td>14,800</td>
<td>12,467</td>
</tr>
</tbody>
</table>

1. 22% recidivated again, failed to complete time on interlock or still on interlock as of December 31, 2013
2. 23% still on interlock as of December 31, 2013

In the last four categories were the first offenders who completed their mandated period of revocation (75% complete in 6 months) without incurring another DWI offense. At this point offenders have the option, if they have obtain a clean record (paid fines, attended education program), to install the interlock as a prerequisite to reinstating their licenses. Three of the four groups did so: category 3 offenders installed the interlock, but because they had three or more lockouts, their time on the interlock was extended beyond the required period (normally 6 months); category 4 offenders installed interlocks but dropped out before completing the mandated installation time; and category 5 offenders installed an interlock, served the required time in the interlock program, and deinstalled normally. Finally, category 6 offenders could not or chose not to try to qualify for reinstatement and did not install interlocks. Overall, only 44% (14,800) of the 33,446 first offenders in our study installed interlocks, and to the date of the closing of our analysis file, only 37% (12,467) had been fully reinstated.

### Analysis

This categorization process provided six nonequivalent groups for comparing recidivism following completion of the revocation period. To compare these groups, we used Cox regression, which makes the best use of the time-based event data (recidivism) available for this study. Because the groups are nonequivalent, Cox regression was particularly appropriate for handling the demographic variations (age, sex, and ethnicity) between groups. Recidivism was computed beginning on the date that the offender completed the mandated period of license revocation and continuing up to 5 years, depending on when the case entered our data set. Cases were censored only at the end of the 5-year period or on the date our file was frozen for analysis (February 1, 2011); therefore, more than one recidivism event was included for some offenders.

### Results

As noted, first DWI offenders are required to serve a minimum of 6 months of license revocation before becoming eligible for reinstatement and installation of an interlock; however, they must also have clean records (paid their fines, completed treatment) to obtain eligibility. We found that some required as long as 3 years to install interlocks; those delaying installation demonstrated higher recidivism rates. As shown in Table 1, 708 of the 33,446 first offenders in this study recidivated during the revocation period. The annual recidivism rate for those with 1 year or less on revocation
was 2.3%, the rate for those with 2 years on revocation was 2.5%, and the rate for those with 3 years was 4.0%.

Figure 1 provides the results of the survival analyses for the six different outcome groups shown in Table 1. The figure provides cumulative (one minus survival) rates for up to 6 years following completion of license revocation. The cumulative recidivism curves fall into three groups, with categories 2 and 6 in which offenders never installed having significantly lower recidivism rates. Category 6 was significantly lower (Wald 431.53, \( p < .0001 \)) than category 5, the offenders who installed and completed on time, who in turn, had significantly lower recidivism rates than the category 3 offenders who dropped out (Wald 12.23, \( p = .0005 \)) or the offenders in categories 1 and 4.

The offenders in category 5 who installed and completed their interlock sentence normally and on time exhibited a 0.4% recidivism rate for the 6 months (0.0 to 0.5 years) they were on the interlock. After the unit was removed, their full license privileges were restored, following which they experienced a 2% recidivism rate for the following 4½ years.

Categories 2 and 6 offenders who never installed interlocks exhibited the lowest recidivism rates. Category 6 offenders who remained revoked during the 5-year study period had about a 0.4% annual recidivism rate throughout that time period. The category 2 offenders, who recidivated during their period of license revocation were ineligible to install interlocks and remained revoked, had an annual 1% recidivism rate.
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**Figure 1. Recidivism from the end of the revocation period for six categories of offenders**

As shown in Figure 1, offenders in category 3 whose time on the interlock was extended, but who, on completion of that additional obligation, had their full license privileges restored, exhibited approximately a 1% recidivism rate while on the interlock which when their interlock was removed and their full driving privileges were restored, rose to 4% per year, double that of the offenders who completed on time. Those offenders in category 4 who dropped out had a 6% annual recidivism rate over the first year and a half (partly because that was the basis for their inclusion in the dropout category). The later lower recidivism rate for that category reflects the relatively small numbers in the group. Finally, the offenders in category 1, who recidivated during their revocation period and, therefore, were barred from immediate installation of an interlock but did eventually install a unit exhibited approximately a 5% recidivism annual recidivism rate.

**Discussion**

These results provide new information on the application of the interlock programs to the license reinstatement process. The category 5 offenders who installed an interlock and completed the program on time received the intended interlock experience. For that category, Figure 1 shows the program had the typical result: minimal (0.4% annual recidivism while the unit was in place and a substantial rise (to 2% annual rate) following interlock deinstallation. New in this study is the following of the group for 4 years after interlock removal, which dramatizes the relatively short benefit period provided by the interlock and the failure of that experience to change long-term behavior. This suggests the need to supplement the interlock with education/treatment interventions.

The recidivism experience of category 3 offenders who had their time on the interlock extended because they failed to adequately control their interlock performance provides new information on the effectiveness of this policy. In this study, they exhibited twice (4%) the annual recidivism rate of those who completed on time. This clearly demonstrates that the criterions used to impose interlock extensions identify high-risk drivers and is consistent the results of the Marques, Tippetts, Voas, and Beirness (2001). It also suggests that extending the period on the interlock is appropriate, as it maintains low recidivism while in place. It also indicates, however, that the current additional monitoring and treatment programs imposed by the Florida DHSMV on those who have their time extended have an unfulfilled opportunity to further reduce the recidivism of those offenders.

The recidivism data on the offenders in category 4 provide unique information on users who drop out of interlock programs, as these offenders have not been previously studied. They clearly have higher recidivism rates than those who complete normally. Currently, the only action available to the Florida DHSMV is to cancel the interlock license and return them to the revocation status. Given the high rate of recidivism of dropouts, there is a need for a better understanding of the motivation of this group with an eye to developing an intervention program.

A significant barrier to the installation of an interlock is the occurrence of a recidivism event before qualifying for reinstatement. A unique feature of this study is the analysis of the driving records of such offenders (category 1) over a 5-year period. As shown in Table 1, two-thirds (463 of the 708 or 64%) of the first offenders who recidivated during their revocation period later returned as second offenders and installed interlocks, and 78% of those offenders qualified for reinstatement. During that transition, however, these second offenders exhibited the highest recidivism rates of any of those in this study.
From Table 1, we calculated that 32,738 of the 33,446 or 98% of the offenders in this study completed their mandated revocation period without recidivating. Of the 32,738 offenders, 18,401 (56%) did not install interlocks. The failure of convicted DWI offenders to reinstate their licenses is the norm. Voas, Tippetts, and McKnight (2010), in a study of six large states with small or no interlock programs, found that a third of multiple offenders and a quarter of first offenders did not reinstate their licenses within a 5-year period. The reasons for this have not been adequately studied, partly because it is difficult to determine from the driving record whether an individual is driving unless they receive traffic citations.

The surprising feature of the category 6 offenders who did not reinstate is the low (0.4%) recidivism rate that they maintained over the 5-year period of our study. Lacking adequate information on these offenders’ motives and statuses, we are limited to speculation on the reasons for this low recidivism rate. There are undoubtedly those offenders who control their illicit driving so as to avoid repeat offenses. There are probably also those who simply cannot pay the fines, treatment fees, interlock costs, and increased insurance costs required to reinstate. Florida may be especially conducive to drivers with a low motivation to reinstate. Its substantial number of part-year resident “snowbirds” who opt to maintain vehicles registered in their home states and use public transport during their limited stays in Florida may be less motivated than are residents of other states to seek relicensing in Florida. Further, given the relatively warm weather conducive to bicycles and walking, more Florida offenders may simply give up driving.

This study has several limitations. It examines nonequivalent groups assembled based on post hoc information on outcomes including reinstatement decisions, interlock performance, and subsequent driving. We lacked information on the reasons for reinstating or the failure to reinstate and the extent to which the latter is coerced by circumstances or based on personal choice. We also lack information on the extent to which operators with revoked licenses are driving. Despite these limitations, this study sheds considerable light on the effectiveness of the administrative interlock programs tied to reinstatement. In the process, it identifies three important offender groups: (a) offenders who are either unable or unwilling to go to the trouble of reinstating, (b) offenders motivated to reinstate who install interlocks and perform within the program rules, and (c) offenders who are unable to adapt adequately to the interlock and despite the extension of their time on the interlock experience high recidivism rates following interlock removal.

Acknowledgment

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References
