The Illinois ignition interlock law first went into effect in 1994 when the installation of ignition interlock devices was added to the package of sanctions for Driving Under the Influence (DUI) of Alcohol (625ILCS5/11-501(6)(i)). Previously, repeat offenders could petition the Secretary of State (SOS) for a restricted driving permit (RDP) after serving some period of license loss, and such permits generally were issued without other requirements. With the enacting of the ignition interlock legislation, those individuals would also need to install an interlock as an additional requirement for receiving the RDP. It was and still is an administrative program requiring the installation of an interlock as a condition of the RDP. Offenders had and have the option of not reinstating their licenses and not installing an interlock. Accordingly, the interlock users were and continue to be a group of people who are motivated to get their license back legitimately, and are, perhaps, more likely to succeed on the interlock than those who choose not to reinstate their license and install a device. The National Highway Traffic Safety Administration (NHTSA) agreed to provide some funding for an evaluation of the program in collaboration with the Illinois Secretary of State. This paper reports on the results of that evaluation.

Procedures: The Comparisons

The “treatment group” in this study consisted of all drivers who were eligible for and received an RDP, and accordingly also installed an interlock device on their car for one year during the period from July 1, 1994 through June 30, 1997. These were persons who met specific criteria set by state rules, but essentially were multiple offenders eligible for the RDP after a period of hard suspension. The comparison, or “control group”, consisted of a cohort of individuals who met the same criteria during the three-year period from July 1, 1991 through June 30, 1994, before the interlock law and program existed. It should be understood that during the 1994-1997 period, individual drivers could elect not to seek an RDP and not have an interlock installed. Hence, the interlock group is, to some extent, self-selected and biased in favor of those who may have been more motivated to make the interlock work.

Results

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1 National Highway Traffic Safety Administration, Washington, DC
2 Northwestern University Center for Public Safety, Evanston, IL
As shown in Table 1, through December 2000, 938 drivers in the control group (68\%) and 1,352 (87\%) in the treatment group had not been rearrested for an alcohol-related violation\(^3\). However, because those drivers in the control group had up to 9.5 years of driving (July 1991 through December 2000) compared to some in the treatment group having only 3.5 years (June 1997 through December 2000), including all arrests is useful only for showing possible trends in arrests. It does show that by the fourth year approximately the same percentage of persons in the treatment group as in the control group appear to be re-arrested for DUI.

**Table 1**

Number and Percentage of Drivers Rearrested for DUI After Different Time Periods (through December 2000).

<table>
<thead>
<tr>
<th>Group</th>
<th>1 Year and Less</th>
<th>1 to 2 Years</th>
<th>2 to 3 Years</th>
<th>3 to 4 Years</th>
<th>Total Arrests</th>
<th>Total in Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>94</td>
<td>107</td>
<td>71</td>
<td>47</td>
<td>319</td>
<td>1,384</td>
</tr>
<tr>
<td>Percent</td>
<td>6.8%</td>
<td>7.7%</td>
<td>5.1%</td>
<td>3.4%</td>
<td>23.0%</td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>20</td>
<td>48</td>
<td>57</td>
<td>45</td>
<td>170</td>
<td>1,560</td>
</tr>
<tr>
<td>Percent</td>
<td>1.3%</td>
<td>3.1%</td>
<td>3.7%</td>
<td>2.9%</td>
<td>10.9%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 displays the same data as Table 1, except that the period for comparison is limited to three years after the hearing. Within the first 3 years, 20\% of the control group has been rearrested for an alcohol violation. Only 8\% of the treatment group has had the same outcome. The differences are statistically significant at \(p < 0.001\) with a chi square of 110.2 and 5 degrees of freedom (df). However, as both tables suggest, the differences between the two groups are beginning to disappear by the end of the third year. Those drivers in the control group who were re-arrested within three years averaged 515 days until the arrest with a standard deviation of 275 days. Those in the treatment group averaged 716 days to the arrest with a deviation of 262 days. These values are significantly different at the 0.001 level based on a t-Test of differences (\(t=5.28\) with a F test showing no differences between the variances).

\(^3\) The arrests are for driving under the influence, but the conviction could have been for any alcohol related violations including failure to take a breath/blood test, DUI, or plead down to reckless driving.
While interlock devices were installed for only one year, having three years of post-interlock data allows an examination of recidivism rates over a longer period of time than other studies have had the luxury of doing. It appears that the effects of the interlock did hold for some time after the interlock was removed, but this effect can only be characterized as a transient effect that disappeared by the end of three years. Only Weinrath (1997) has reported any sort of carryover effect after interlocks have been removed, and his “n” was relatively small and in need of confirmation. Logically, it makes sense that some offenders might have continued to be influenced by the yearlong experience of having had to use the interlock to get their car started. As in other studies (e.g., Beck, et al., 1999; Popkin, et al, 1992; as well as a review by Cobin and Larkin, 1999), these offenders appear to have relapsed when the interlock was not in place to prevent them from drinking and driving. Recidivism rates returning to pre-interlock levels support this explanation.

The Special Case of Offenders who fail, even on the Interlock.

This study also gave us an opportunity to examine a special group of offenders (n=152), persons in the interlock group who had their RPD rescinded for violations while they were on the interlock. This group is best characterized as the “worst of the worst” offenders examined in this study. This group of offenders was also followed to see whether they were subsequently rearrested for DUI, for Driving While Suspended (DWS), or were involved in a subsequent crash. Offenders showing up in any of these categories provide evidence that they were, in fact, continuing to drive. The data, presented in Table 3, are striking. In the three years following the initial hearing date, approximately 62% of drivers whose RDPs had been cancelled for an alcohol violation while they were on the BAIID and 55% of those cancelled for other reasons also while on the BAIID, had another driving action on their record. These offenders continued to be arrested for driving under the influence at a rate far in excess of the rate for the driving population in Illinois. Given a base of 11.4 million registered drivers and an average of 47,000 DUI arrests yields an annual rate of 4.2 DUI arrests per 1,000 drivers. The annual rate of arrests in the group whose BAIID was cancelled is 110 per 1,000 drivers (Etzkorn and Martin, 1997). Revoking the drivers license for those whose driving record makes them originally eligible for an RDP does not appear to deter driving, especially driving.
under the influence of alcohol. These data suggest that the public would have been safer had the interlocks remained on their cars, no matter what the violation rate had been. Perhaps other sanctions might be considered that would have an impact on the driver, without removing the interlock from the car, so the general driving public would continue to be protected from this individual drinking and driving, at least in his own vehicle. There is a clear need to get this offender’s attention, either by impounding his car and/or increasing the intensity of supervision and/or treatment. Just taking the offenders’ license away again does not appear to have the desired effect, or protect the general driving public from them.

Table 3
Further Driving Actions for Cancelled Treatment Group

<table>
<thead>
<tr>
<th>Cancellation Reason and Next Action</th>
<th>1 Year and Less</th>
<th>1 to 1.5 Years</th>
<th>1.5 to 2 Years</th>
<th>2 to 2.5 Years</th>
<th>2.5 to 3 Years</th>
<th>Total Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Percent</td>
<td>38.5%</td>
<td>19.2%</td>
<td>7.7%</td>
<td>0.0%</td>
<td>19.2%</td>
<td>15.4%</td>
</tr>
<tr>
<td>2nd DUI*</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Crash</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Invalid License</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>57</td>
<td>17</td>
<td>14</td>
<td>20</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Percent</td>
<td>45.2%</td>
<td>13.5%</td>
<td>11.1%</td>
<td>15.9%</td>
<td>8.7%</td>
<td>5.6%</td>
</tr>
<tr>
<td>1st DUI</td>
<td>10</td>
<td>8</td>
<td>16</td>
<td>3</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>Crash</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Invalid License</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>23</td>
</tr>
</tbody>
</table>

* An additional 6 drivers had DUI arrest after 3 years.

Conclusions

During the one-year period that the breath alcohol ignition interlocks (BAIID) were installed on their vehicles, fewer drivers were arrested for DUI than a similar group without the interlocks. This finding is in agreement with what has been found by most other researchers. Even though the control group employed in this study was from a different population than that used for the treatment group, the differences between those groups were probably not large enough to offset the significant differences found in driving behavior between these two groups of offenders. These findings support the assertion that simply providing a Restricted Drivers Permit, as well as the rules and restrictions under which the license is offered, is not sufficient to prevent persons from continuing to drive after drinking. Adding a device that prevents the vehicle from starting when alcohol is detected is a critical component. Those few drivers who were arrested for DUI while the device was installed in their vehicle probably had tampered with the device, were driving another vehicle, or not yet had the device installed.

The BAIID does not appear to promote a long-term change in driving behavior. By the end of three years, those who had the device installed had arrest rates roughly similar to those who had never been exposed to the BAIID. This finding is also in agreement with other research that, in general, has found even shorter carry-over affects.
The finding that long-term behavior is not likely to change also implies the need to
determine if the continued use of the BAIID may need to be a permanent requirement for
some drivers. Currently, only in a few cases has the Illinois Secretary of State continued
requiring the use of the device for more than one year. The Secretary of State may need
to establish guidelines for requiring continued (long term) use of the BAIID.

In the short-term, the interlock appears effective for those who use it. However, this
group represents only a fraction of the potentially eligible drivers. No additional
investigation was made of the large group (approximately 70% of the total) who may
have met the conditions for use of the BAIID but did not apply for the RDP. More
information concerning the likelihood that these drivers will continue to drive without a
valid license is clearly needed. The literature has indicated that the large number of those
with revoked licenses continues to drive. If this were confirmed as the case with Illinois
drivers with multiple alcohol offences, it would call into question the strategy of
employing revocation as a sanction for those drivers presenting the greatest potential
danger on the road.

The failure of revocation as a tool to control driving clearly was evident with the small
group of drivers who had applied for the BAIID, but for multiple reasons were returned
to revoked status. In the three-year period following the return to revoked status, 60%
were either arrested for a driving infraction including DUI or involved in a crash; both
events clearly indicating they were continuing to drive. It appears that what is needed is
to increase the incentives for using BAIID while at the same time increasing the
disincentives for driving while in a revoked status.

In summary, BAIID appears to be a valuable tool that helps reduce driving under the
influence of alcohol by those who previously were likely to continue to drink and drive.
However, especially given the economic disincentives such as the costs of installation,
monitoring and increased insurance premiums, many potential users will not be
motivated to obtain a Restricted Driving Permit when the interlock device is required.
Moreover, there is not sufficient disincentive for persons to continue driving even though
their license has been suspended or revoked. Finally, for those who tamper with the
BAIID, fail to report for monitoring, or do not have it installed, simply a return to
revoked status is not an effective option. An approach needs to be found that will
effectively prevent driving while impaired or in more severe cases, driving at all.
References


Popkin, C. L., J. R. Stewart, C. Martell, and J. D. Brickmayer. An Evaluation of the Effectiveness of the Interlock in Preventing Recidivism in a Population of Multiple DWI Offenders. Chapel Hill: University of North Carolina Highway Safety Research Center,