What is a Breath Alcohol Ignition Interlock Device (BAIID)?
A Breath Alcohol Ignition Interlock Device (BAIID) or ignition interlock device is an electro-mechanical device that is installed in a vehicle's dashboard. Before drivers can start the vehicle, they must first exhale into the device’s mouth piece to ensure their breath alcohol concentration (BAC) is below the programmed limits for BAC (usually 0.02 or 0.04). If the device records a failure then the engine will not start. Additionally, the device will ask for a breath sample at random times after the engine has started to ensure that no one operating the vehicle is doing so while impaired.

Overview of Research Results Related to the Effectiveness of BAIIDs
- The Centers for Disease Control (CDC) recommends ignition interlocks as an effective countermeasure for motor-vehicle injury prevention based on strong evidence presented in peer-reviewed research
- When interlocks were installed, re-arrest rates decreased by a median of 67% relative to comparison groups (average from 13 studies), based on all of the available studies that reported separate results for re-arrests during the interlock installation period
- Ignition interlocks are more effective at reducing recidivism (re-arrest rate) for both first-time and multiple offenders when the device is operative and connected to the vehicle when compared to license suspensions
- When interlocks were removed, re-arrest rates reverted to rates similar to those of persons convicted of alcohol-impaired driving who had not used interlocks based on the results from 11 separate studies
- Drivers with interlocks installed had fewer alcohol-related crashes than those who had licenses suspended for an alcohol-impaired driving conviction
- Ignition interlock programs are effective in reducing DWI recidivism (research results range from a 20% to a 74% reduction) among repeat offenders during the period of installation
- Recidivism rates were lower among first-time offenders who had an ignition interlock installed compared to first-time offenders whose licenses were suspended, but did not receive an order for the installation of an ignition interlock device
- One study indicated that 82% of users believed ignition interlock devices were a very effective way to prevent drinking and driving and 68% believed it changed their drinking behavior

Effectiveness of Ignition Interlocks
The Cochrane Collaboration reviewed multiple studies (domestic and international) that examined the effectiveness of ignition interlocks on recidivism and reduction in crashes. In general, the studies showed a decrease in recidivism as long as the ignition interlocks were installed on their vehicles. In a study conducted in California (2005), there was a lower risk of crashes for drivers with a BAIID installed than for offenders who did not receive an order for an interlock. Most of the research related to interlocks focuses on recidivism.
One of the main benefits of a BAIID when compared to license suspension is that a BAIID allows the offender to still drive legally. A mere license restriction, does not physically prevent a person from driving a vehicle, while a BAIID can at least prevent someone from driving under the influence of alcohol. Having a BAIID installed does not preclude drivers from having driving restrictions such as only being able to go to work and treatment. BAIIDs are also very cost-effective to the state. According to Miller (2005), the public saves $3-$7 for every $1 spent on BAIIDs. The offender pays the installation and upkeep costs associated with the BAIID, leaving the state to only pay for associated monitoring costs. Table 1 provides a summary of interlock evaluation studies.

### Table 1: Summary of Interlock Evaluation Studies

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Authors/Year</th>
<th>Characteristics of population</th>
<th>Findings: Recidivism with interlock</th>
<th>Findings: Recidivism after interlock</th>
<th>Comparison Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>EMT Group (1990)</td>
<td>First and multiple</td>
<td>Interlock 3.9% &lt;br&gt;Noninterlocks 5.3%</td>
<td>——</td>
<td>Suspended</td>
</tr>
<tr>
<td>Cincinnati, Ohio</td>
<td>Elliot &amp; Morse (1993)</td>
<td>First offenders over 20% BAC plus multiple offenders</td>
<td>Interlock 2.9%  &lt;br&gt;Noninterlocks 6.4%</td>
<td>Interlock 8.6%  &lt;br&gt;Noninterlocks 9.5%</td>
<td>Suspended</td>
</tr>
<tr>
<td>Oregon</td>
<td>Jones (1993)</td>
<td>Multiple offenders</td>
<td>Interlock 5%  &lt;br&gt;Noninterlocks 8%</td>
<td>Interlock 10.8%  &lt;br&gt;Noninterlocks 11.5%</td>
<td>Restricted</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Popkin et al. (1993)</td>
<td>Second offenders</td>
<td>Interlock 2.7%  &lt;br&gt;Restricted 7.1%  &lt;br&gt;Suspended 9.8%</td>
<td>Interlock same or higher than noninterlock</td>
<td>Restricted license &amp; suspended</td>
</tr>
<tr>
<td>California</td>
<td>Peck (1997)</td>
<td>Second offenders</td>
<td>Interlock 5.5%  &lt;br&gt;Noninterlocks 10.5%</td>
<td>——</td>
<td>Suspended &amp; restricted</td>
</tr>
<tr>
<td>Alberta</td>
<td>Weinath (1997)</td>
<td>Multiple offenders</td>
<td>Interlock 10%  &lt;br&gt;Noninterlocks 26%</td>
<td>Interlock 7%  &lt;br&gt;Noninterlocks 11%</td>
<td>Suspended</td>
</tr>
<tr>
<td>West Virginia</td>
<td>Voas &amp; Tippett (1997)</td>
<td>First and second offenders</td>
<td>Interlock 1.6%  &lt;br&gt;Noninterlocks 6.4%</td>
<td>Interlock 10%  &lt;br&gt;Noninterlocks 10%</td>
<td>Licensed &amp; suspended</td>
</tr>
<tr>
<td>Maryland</td>
<td>Heck et al. (1999)</td>
<td>Second offenders</td>
<td>Interlock 2.4%  &lt;br&gt;Noninterlocks 6.7%</td>
<td>Interlock 3.5%  &lt;br&gt;Noninterlocks 2.6%</td>
<td>Licensed</td>
</tr>
<tr>
<td>Alberta</td>
<td>Voas et al. (1999)</td>
<td>First &amp; second offenders</td>
<td>(12 months)  &lt;br&gt;Interlock 0.1%  &lt;br&gt;Suspended 2.3%  &lt;br&gt;Ineligible 4.61%  (24 months)  &lt;br&gt;Interlock 0.86%  &lt;br&gt;Suspended 8.08%  &lt;br&gt;Ineligible 18.72%</td>
<td>Interlock 2.75%  &lt;br&gt;Reinstated 2.63%  &lt;br&gt;Still Suspended 2.46%</td>
<td>Suspended &amp; ineligible</td>
</tr>
</tbody>
</table>

*Adapted from Voas (2000)*

### Education of Stakeholders

The judicial education organizations and interlock providers have provided training to prosecutors, judges and probation personnel in Texas related to the operational characteristics of the BAIIDs. This has allowed individuals who order BAIIDs and track offender performance with the devices to understand how the BAIID works and what happens when the device senses alcohol during a test.

Prosecutors and judges are generally supportive of the use of ignition interlocks as a condition of bond/provisional license. Each of these groups recognizes that in order for BAIIDs to be effective, they must be installed on the vehicle that the offender drives. Requiring the use of interlocks is an effective countermeasure, but this also needs to be balanced with judicial discretion.
based on the issues of the case. In Texas, better data collection related to the ordering and installation of BAIIDs could assist the state in determining the effectiveness of BAIIDs relative to recidivism and reduction in crashes.

**Issues Related to the Issuance of Interlocks**

When ignition interlocks are ordered as a condition of bond or occupational licenses, there are concerns about the oversight of the driver’s performance. Currently, probation officers provide the primary oversight for offenders post-conviction, but they are not involved with drivers prior to adjudication. Some stakeholders have suggested that probation officers also have oversight of those with interlock provisions prior to trail, but this raises concerns about financial and staff resources.

**Challenges at the Level of the Individual Offender**

Some offenders may choose not to comply with orders for ignition interlocks by avoiding the renewal of their driver’s license. Many drivers believe that driving without a license is a low-risk venture. Offenders make this decision for a number of reasons including the relicensing fees and increases in insurance following their convictions.

Two issues raised in relation to the ordering of ignition interlocks involve the cost born by the individual driver and the availability of vendor service centers, especially in the rural areas. Upon discussing these issues with stakeholders, the cost issues can often be mitigated at the local level by requiring vendors to offer a sliding scale so that any driver can handle the expense. The availability of vendors may continue to be a problem in some areas due to the low demand for devices. Ignition interlock vendors have worked with jurisdictions to help control the costs, as follows:

- Typically, the offender must pay for the ignition interlock device installation. The installation costs from $50 to $200. This fee may be more for luxury vehicles or if installation takes longer. There is a monthly rental fee for the device. This fee ranges from $50 to $100. The user is responsible for maintenance expenses as well as fees for downloading the data from the ignition interlock device. The user is also required to come into the service center for scheduled appointments to have the ignition interlock device calibrated, or to have the records downloaded and the device reset so that the user can keep driving. The calibration appointment is extremely important to ensure the equipment is operating appropriately. The device will normally need to be checked every 60 days. Failure to maintain the device can be considered a violation of the ignition interlock program.
- Of the 254 counties in Texas, 82 (32%) have ignition interlock providers located in the county. An additional 14 counties are immediately adjacent to one of these counties and a service center is within 30 miles. This is a conservative estimate of the availability of BAIID providers to offenders.
While many counties have providers within or close to their geographic location, West Texas and the Panhandle are underserved based on geographic area. Since many of these counties have smaller populations, it may not be cost-effective on the part of the providers to serve these locations.

Table 2: Summary of Ignition Interlock Service Centers in Texas

<table>
<thead>
<tr>
<th>Availability of Ignition Interlock Service Centers</th>
<th>Population</th>
<th>Percent</th>
<th>Counties</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Facilities</td>
<td>22,157,556</td>
<td>91%</td>
<td>82</td>
<td>32%</td>
</tr>
<tr>
<td>Without Facilities</td>
<td>2,169,418</td>
<td>9%</td>
<td>172</td>
<td>68%</td>
</tr>
<tr>
<td>Total</td>
<td>24,326,974</td>
<td>100%</td>
<td>254</td>
<td>100%</td>
</tr>
</tbody>
</table>

Data from 2008 Population Estimates
Final Comments: While ignition interlocks are an effective countermeasure for reducing alcohol-related crashes and fatalities and decreasing recidivism, it is also important to understand the process of ordering and monitoring the devices. Prosecutors and judicial personnel need to understand how the devices function to ensure that monitoring driver performance is part of the sentencing plan. Probation personnel must be trained to analyze the BAIID reports provided by the interlock vendors in order to provide effective feedback to the court. Finally, law enforcement officers need to be aware if a driver is only supposed to be operating a vehicle if it is equipped with an interlock.

Additionally, it is important to establish effective and efficient evaluation plans at a local and statewide level that provide for data collection and analysis. If the state invests significant resources into a BAIID program, financial and personnel, it is equally important to evaluate whether the countermeasure is accomplishing the intended effect.

Detailed information related to the research used in the development of this briefing is available upon request from the research contacts.

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