

STUDIES ON THE EFFECTIVENESS OF IGNITION INTERLOCKS

Updated: January 2017

McGinty, Emma E. *American Journal of Preventive Medicine, "Ignition Interlock Laws: Effects on Fatal Motor Vehicle Crashes, 1982–2013,"* January, 2017

- Ignition interlock laws reduce alcohol-involved fatal crashes. Increasing the spread of interlock laws that are mandatory for all offenders would have significant public health benefit.
- Laws requiring interlocks for all drunk driving offenders with a blood alcohol concentration (BAC) of .08 or greater were associated with a seven percent decrease in the rate of drunk driving fatal crashes.
- Laws requiring interlocks for first-time offenders with a BAC of .15 or greater were associated with an eight percent decrease in the rate of drunk driving fatal crashes.
- Laws requiring interlocks for segments of high-risk drunk driving offenders, such as repeat offenders, may reduce alcohol-involved fatal crashes after 2 years of implementation.

California DMV Study of Four-County Ignition Interlock Pilot Program, June 2016

- Ignition interlocks are **74% more effective in reducing DUI recidivism** than license suspension alone for first offenders during first 182 days after conviction.
- **Interlocks are 45% more effective** in preventing a repeat DUI incidence when compared to license suspension alone during days 183 to 365 after conviction. (Many first-time offenders have the device removed after 182 days of use.)
- Ignition interlocks are **70% more effective than license suspension** alone in preventing repeat offenses for second-time offenders, compared to license suspension alone, for the first 364 days of use.
- Interlocks are **58% more effective in preventing a repeat DUI incidence during days 365 to 730** days of use for second-time offenders.
- **Third-time offenders who only had a suspended license were 3.4 times more likely to have a fourth DUI** conviction or incidence compared to the interlocked offender group.
- Because interlocked offenders are able to be part of society and provide for their family by driving to work, grocery stores, restaurants and any anywhere else, their crash risk is most likely similar to the general driving population in California, but higher than offenders whose licenses were suspended or revoked and not permitted to drive.

Kaufman, University of Pennsylvania, "Impact of State Ignition Interlock Laws on Alcohol-Involved Crash Deaths in the United States," March 2016

- DUI deaths decreased by 15% in states that enacted all-offender interlock laws.
- States with mandatory interlock laws saw a 0.8 decrease in deaths for every 100,000 people each year – which is comparable to lives shown to have been saved from mandatory airbag laws (0.9 lives saved per 100,000 people).

Mothers Against Drunk Driving, "How Technology Stopped 1.77 million Drunk Drivers," February 10, 2016

- Ignition interlocks have prevented more than 1.77 million would-be drunk drivers with a blood alcohol concentration of .08 or greater in the U.S.

<http://www.talklikemadd.org/books/IgnitionInterlockReport2016/>

Ullman, Darin F. International Review of Law and Economics 45, "Locked and not loaded: First time offenders and state ignition interlock programs," 2016, 1-13.

- The interlock program should be applied to first time offenders who are not just high-BAC offenders.
- Additionally, the interlock program provides a low cost solution, paid for by off-enders, to a dangerous and often fatal activity that imposes large social and economic costs on society.
- To maximize public health, states with weak IID laws or states that currently have no interlock program which require mandatory participation for first time off-enders, should adopt strong IID programs to prevent future costly alcohol-related fatal crashes.
- Results indicate that the potential for interlock programs to prevent alcohol involved driving and alcohol-related crashes is most significant when the program is applied to a broader cross-section of offenders and a higher proportion of offenders have the interlock device installed.

National Highway Traffic Safety Administration, Mayer, "Ignition Interlocks – What You Need to Know: A Toolkit for Policymakers, Highway Safety Professionals, and Advocates (2nd Edition)," 2014. DOT HS 811 883

- The record of breath tests logged into an ignition interlock has been effective in predicting the future DWI recidivism risk.
- Offenders with higher rates of failed BAC tests have higher rates of post-ignition interlock recidivism.

National Transportation Safety Board, "Safety Report Reaching Zero: Actions to Eliminate Alcohol-Impaired Driving," 2013.

- Administrative license suspension or revocation laws are an effective means of reducing alcohol-impaired traffic fatalities, and such laws could be strengthened by requiring that individuals arrested for driving while intoxicated (DWI) install an alcohol ignition interlock as a condition of license reinstatement.

McCartt, Leaf, Farmer, and Eichelberger, Traffic Injury Prevention, “Washington State’s Alcohol Ignition Interlock Law: Effects on Recidivism Among First-Time DUI Offenders,” 2013.

- Mandating interlock orders for all first DUI convictions was associated with reductions in recidivism, even with low interlock use rates, and reductions in crashes.
- Additional gains are likely achievable with higher rates.
- Jurisdictions should seek to increase use rates and reconsider permitting reductions in DUI charges to other traffic offenses without interlock order requirements.

Voas, Tippetts, and Grosz, Alcoholism Clinical Experimental Research, “Administrative Reinstatement Interlock Programs: Florida, A 10-Year Study.”

- Recidivism Rates...it is not surprising that the recidivism rate rose with the number of years of revocation.
- The lower section of Table 5 presents the annual recidivism rates of offenders while the interlock was on their vehicles and after it had been removed. In keeping with past research, the recidivism rate while on the interlock was approximately two-thirds lower than after the units were removed.

| | PERIOD | % RECIDIVATING | Number OF SUBJECTS |
|--|----------|----------------|--------------------|
| Recidivism of all mandated to receive interlock during 'hard' suspension | 1 year | 4.38% | 91,520 |
| | 2 years | 4.90% | 60,709 |
| | 3 years | 5.29% | 42,464 |
| | 4 years | 6.00% | 29,282 |
| | 5 years | 6.86% | 18,600 |
| Recidivism while interlock was installed | 6 months | 0.55% | 36,063 |
| | 1 year | 1.20% | 19,581 |
| Recidivism after interlock was removed | 1 year | 3.55% | 24,976 |
| | 2 years | 6.76% | 18,095 |

National Transportation Safety Board “Highway Special Investigation Report Wrong-Way Driving, 2012.

- Research evaluation of ignition interlock programs over the last two decades has found that ignition interlock devices are **effective in reducing recidivism among DWI offenders.**
- Most studies have not found continued reduced recidivism after the device has been removed; however, one study that randomly assigned offenders either to an interlock or to a control program found a **36% reduction in recidivism for the 2-year period after** the interlocks were removed.
- A recent study that examined the effectiveness of laws that require alcohol interlock installations for first-time offenders, as well as repeat or high-BAC offenders, found an **additional benefit in reducing repeat DWI offenses.**

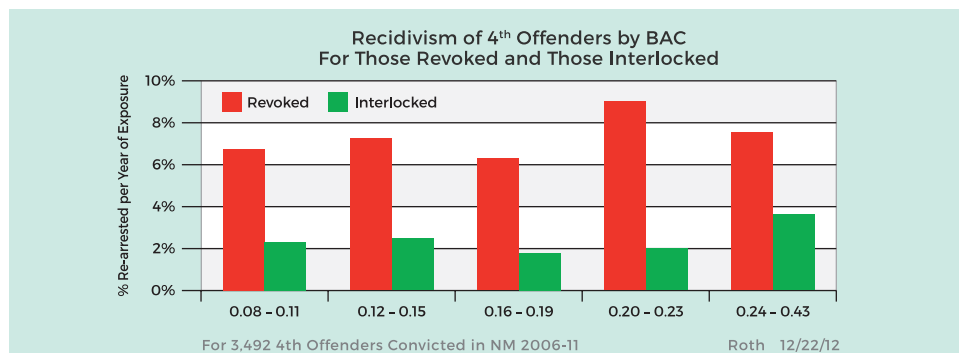
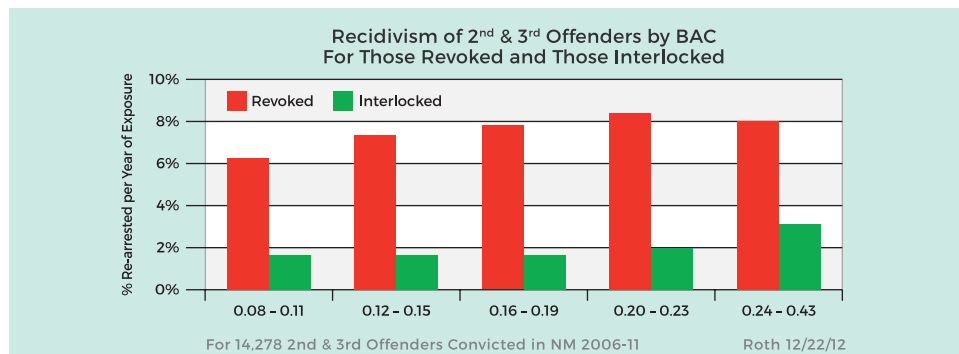
- According to one estimate, if all drivers with at least one alcohol-impaired driving conviction within the 3 years prior to the accident used zero-BAC interlock devices, **approximately 1,100 deaths could have been prevented in 1 year.**
- The **NTSB concludes** that the installation of alcohol ignition interlocks on the vehicles of all DWI offenders **would reduce accidents** caused by alcohol-impaired drivers.

Traffic Injury Prevention, Ferguson, "Alcohol-Impaired Driving in the United States: Contributors to the Problem and Effective Countermeasures," 2012.

- The available scientific evidence **clearly indicates** that offenders with ignition interlocks on their vehicles **are at a substantially lower risk of reoffending** compared to offenders who have had their licenses suspended.
- A review undertaken by the Cochrane Collaboration (Willis et al. 2004) reported that when these devices are used on the vehicles of convicted DWI offenders, they **reduce recidivism by about two thirds** (Willis et al. 2004).
- These effects were **similar for first time offenders** and repeat offenders alike.
- The additional studies examined by Elder et al. (2011) found similar effect sizes. Pooling the data from many of the studies, Elder (2011) estimated the **median effect as a reduction of 67 percent** (range -85 to -50%) in recidivism. Effect sizes were similar for first-time and repeat offenders.

Roth, Presentation to NHTSA Region 5, "Comparison of Recidivism Rates for NM DWI Offenders Obtaining Ignition Interlock Driving Privileges and Offenders with 'Hard' License Suspensions," Madison, WI, October, 2012.

- Recidivism per year of exposure by BAC group and conviction number for interlocked vs revoked offenders. (53,048 persons convicted of DWI in New Mexico, 2006-2011).



Centers for Disease Control and Prevention, 2011

- Re-arrest rates **decreased by a median of 67 percent** relative to comparison groups in a review of 15 studies

Marques, 2010

- Re-arrest rates **decreased by 39 percent** after the device is removed compared to offenders who never installed an interlock

Rauch, Zador, Ahlin, Howard, Frissell, and Duncan. American Journal of Public Health, Vol 100, No. 5, "Risk of Alcohol-Impaired Driving Recidivism Among First Offenders And Multiple Offenders." May 2010.

- The recidivism rate among first offenders more closely resembles that of second offenders than of non-offenders.
- Men and women are at equal risk of recidivating once they have had a first violation documented. Any alcohol-impaired driving violation, not just convictions, is a marker for future recidivism.

Voas, Marques, Roth, 2008

- **60 percent reduction** in DUI recidivism for first time offenders in New Mexico.

Voas et al, 2005

- **Decrease in recidivism by over half** in New Mexico

Bjerre, 2003

- Interlocks for first and multiple offenders found **recidivism dropped to nearly zero** in Sweden

Vezina, 2002

- **80 percent reduction in recidivism** among first offenders and **66 percent** among repeat offenders in Quebec.

Voas et al, 1999

- **95 percent reduction in recidivism** among interlocked first offenders and **89 percent reduction** among repeat offenders in Alberta.

Tippetts and Voas, 1998

- **77 percent decrease in recidivism** among interlocked first offenders and **75 percent reduction** among repeat offenders in West Virginia.

Elliott and Morse, 1992

- **65 percent decrease in recidivism** for first-time offenders with a BAC of .20 or greater and repeat offenders in Cincinnati.