

Ignition interlock devices for alcohol-related offenses

Adult Criminal Justice

Literature review updated March 2014.

As part of WSIPP’s research approach to identifying evidence-based programs and policies, WSIPP determines “what works” (and what does not work) to improve outcomes using an approach called meta-analysis. For detail on our methods, see our [Technical Documentation](#). At this time, WSIPP has not yet calculated benefits and costs for this topic.

Program Description: Typically, ignition interlock devices are installed on motor vehicles for offenders who have been convicted of alcohol-related offenses (e.g., driving under the influence (DUI) offenses). The device operates like a breathalyzer and when alcohol above a specified threshold is detected in the breath, the vehicle will not start. Most devices also require periodic breath samples once the car has started. Offenders are typically required to pay for the cost of the ignition interlock device. Interlock devices are usually required for periods of 12 to 24 months.

For the studies included in this meta-analysis, ignition interlock devices were used for individuals with multiple DUI offenses. The devices were monitored by an executive agency (e.g., department of motor vehicles), not by the courts. To test the longevity of the impact of ignition interlock devices on recidivism outcomes, we examined the effectiveness of the program once devices were removed from the vehicle and found that the effect size decreased by 38%. That is, ignition interlock devices were more effective in deterring recidivism while installed on the vehicle; after the device was removed, the effect on recidivism was smaller.

Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Alcohol-related offenses	4	3363	-0.265	0.048	40	-0.467	0.004

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

Citations Used in the Meta-Analysis

Beck, K.H., Rauch, W.J., Baker, E.A., & Williams, A.F. (1999). Effects of Ignition Interlock License Restrictions on Drivers With Multiple Alcohol Offenses: A Randomized Trial in Maryland. *American Journal of Public Health*, 89, 11.

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- Rauch, W. J., Ahlin, E.M., Zador, P.L., Howard, J.M., & Duncan, G.D. (2011). Effects of administrative ignition interlock license restrictions on drivers with multiple alcohol offenses. *Journal of Experimental Criminology*, 7(2), 127-148.
- Weinrath, M. et al. (1997). The Ignition Interlock Program for Drunk Drivers: A Multivariate Test. *Crime & Delinquency*, 43, 42-59.

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