Special Report from the CDC

Attitudes toward mandatory ignition interlocks for all offenders convicted of driving while intoxicated☆

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ARTICLE INFO

ABSTRACT

Introduction: Ignition interlocks are effective in reducing alcohol-impaired driving recidivism for all offenders, including first-time offenders. Despite their effectiveness, interlock use among persons convicted of driving while intoxicated from alcohol (DWI) remains low. This cross-sectional survey of U.S. adults assessed public support for requiring ignition interlocks for all convicted DWI offenders including first-time offenders. The goal was to update results from a similar 2010 survey in light of new state requirements and increased interlock installations. *Methods*: Questions were included in the Porter Novelli FallStyles survey, which was fielded from September 28 to October 16, 2015. Participants were the 3,536 individuals who provided an opinion toward requiring ignition interlocks for all offenders. For analyses, opinion toward requiring interlocks for all offenders was dichotomized into 'agree' and 'neutral/disagree.' To handle missing data, 10 imputed datasets were created and pooled using fully conditional specification (FCS). *Results*: Fifty-nine percent of adults supported requiring interlocks for all DWI offenders. Multivariate analysis revealed that persons who did not report alcohol-impaired driving (AID) were 60% more likely to support requiring interlocks than those who reported AID. Having heard of interlocks also increased support. Support was generally consistent across demographic subgroups. *Conclusions*: Interlocks for all offenders have majority support nationwide in the current survey, consistent with previous reports. Support is lowest among those who have reported alcohol-impaired driving in the past 30 days. These results suggest that communities with higher levels of alcohol-impaired driving may be more resistant to requiring ignition interlocks for all convicted DWI offenders. Future studies should examine this association further. *Practical applications*: These results indicate that the majority of adults recognize DWI as a problem and support requiring interlocks for all offenders.

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1. Introduction

Alcohol-impaired driving (AID) is a common factor in motor-vehicle crashes. In 2015, 29% of motor-vehicle crash deaths (n = 10,265) involved a driver with a blood alcohol concentration (BAC) 0.08% or higher, the illegal threshold for adult drivers in the United States (National Highway Traffic Safety Administration, 2016). Broader implementation of proven interventions to prevent crashes involving alcohol, including ignition interlock programs, could save many lives (Elder et al., 2011; Goodwin et al., 2015).

Persons convicted of driving while intoxicated from alcohol (DWI) are at high risk for reoffending, even if it is their first offense (Rauch et al., 2010). An ignition interlock device (interlock) requires the driver to submit a passing breath sample (typically 0.02–0.04% BAC) in order to start and continue to operate a vehicle (Casanova-Powell, Hedlund, Leaf, & Tison, 2015). A systematic review conducted for the Community Preventive Services Task Force found that interlocks reduced recidivism by a median of 67% while installed on the vehicles of offenders (Elder et al., 2011). In 2011, the task force recommended that interlocks be required for all DWI offenders, even if it is their first offense (Task Force on

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Community Preventive Services, 2011). Since June 2017, 28 states have laws requiring interlocks for all convicted DWI offenders (Mothers Against Drunk Driving, 2017).

Public support can be an important factor in how states develop and implement DWI prevention programs (Fieldler, Brittle, & Stafford, 2012). Surveys that have assessed support for ignition interlocks without specifying a universal requirement for all offenders reported high levels of support among U.S. adults (Debinski, Clegg Smith, & Gielen, 2014; McCartt, Wells, & Teoh, 2010; Munnich & Loveland, 2011). Likewise, surveys that have assessed support for requiring all offenders to install ignition interlocks including first offenders have reported strong support (AAA Foundation for Traffic Safety, 2016; Debinski et al., 2014; Shults & Bergen, 2012; Smith et al., 2014). For example, a 2015 national AAA survey found that 80% of respondents would support requiring interlocks for all convicted DWI offenders (AAA Foundation for Traffic Safety, 2016). Less is known, however, about the demographic factors related to supporting interlock requirements for all offenders. In 2010, questions assessing support for interlocks were included on the HealthStyles survey conducted by Porter Novelli (Shults & Bergen, 2012). The survey found that 69% of adults supported interlocks for all DWI offenders, and that those who did not report alcohol-impaired driving were 80% more likely to support interlocks. Support was generally consistent across demographic subgroups. In 2010, 13 states had laws requiring or strongly incentivizing the use of interlocks for all offenders (Mothers Against Drunk Driving, 2017). Since then, an additional 15 states and Washington, D.C. have passed such laws (Mothers Against Drunk Driving, 2017). The total number of installed interlocks increased from 210,691 in 2010 to 318,714 in 2014, with approximately 23 interlocks installed for every 100 DWI arrests in 2014 (Roth, 2014). In light of new state requirements and increased interlock installations, we assessed support for all-offender interlock requirements among U.S. adults by geographic region, community size, and individual characteristics. The questions used were the same as those used in the 2010 HealthStyles survey (Shults & Bergen, 2012).

2. Methods

2.1. Data source

Data come from the 2015 FallStyles survey conducted in the United States by Porter Novelli from September 28 to October 16, 2015. The survey was administered to a sample of respondents who completed a larger, initial survey called SpringStyles 2015. SpringStyles 2015 participants were drawn from a random sample of panelists from GfK's KnowledgePanel. Methods for the KnowledgePanel have been described elsewhere (GfK, 2013). Briefly, the GfK KnowledgePanel is a randomly selected, national panel drawn from an address-based sample. GfK KnowledgePanel maintains around 55,000 members who are replenished continuously throughout the year.

Of the 11,028 panelists selected for the SpringStyles 2015 survey, 6,836 adults completed the survey and were eligible for the current survey. Of those who completed the SpringStyles 2015 survey, 4,665 were randomly selected to receive the FallStyles survey, and 3,550 completed at least half of the survey (Porter Novelli Public Services, 2015). Respondents who did not provide an opinion on requiring interlocks for all offenders were excluded from these analyses (n = 14). Since 2011, the FallStyles survey has been administered online instead of by mail (Porter Novelli Public Services, 2015). Respondents who completed the survey received an incentive worth around $5 (U.S.). Data were weighted to approximate 2014 U.S. Current Population Survey estimates for gender, age, region, household income, race/ethnicity, education, household size, metropolitan statistical area (MSA) status, and internet access. As the Centers for Disease Control and Prevention received a de-identified dataset, this study was exempt from IRB review.

2.2. Measures

2.2.1. Data collected

Demographic information included sex, age, race/ethnicity, current employment status, education, marital status, household income, community size, and census region. For attitudes toward alcohol-impaired driving, respondents were first asked to rate their support for the statement: "Alcohol-impaired or drunk driving is a big problem in the community." Response options included 'strongly disagree;' 'moderately disagree;' neither agree or disagree;' moderately agree;' and 'strongly agree.' Next, respondents were asked, "Some states require people who have been convicted for drunk driving to install special alcohol test devices called ignition interlocks in their cars. If the interlock registers alcohol when the driver blows into a small tube, the car will not start. Have you heard of these ignition interlocks being required for the cars of convicted drunk drivers?" Respondents could answer 'Yes' or 'No.' Then, respondents were asked to rate their support for the statement: "Interlocks should be required for all convicted drunk drivers, even if it is the driver's first conviction for drunk driving" with options of: 'strongly disagree;' 'moderately disagree;' 'neither agree or disagree;' and 'strongly agree.' Finally, to assess alcohol-impaired driving (AID), respondents who reported consuming any alcohol in the past 30 days were asked, "During the past 30 days, have you driven when you've had perhaps too much to drink?"

2.2.2. Missing data

Of 3,536 individuals who responded to the interlock support question, 157 had missing values for other response items, including AID (n = 125), a belief that AID was a big community problem (n = 16), and knowledge of interlocks (n = 22). After assessing the relationship of demographic characteristics to missingness of data, fully conditional specification (FCS) multiple imputation was performed using all 9 demographic variables, belief that AID is a big problem in the community, knowledge of interlocks, AID, and interlock support for each variable with missing values. We pooled 10 imputed data sets to generate a single set of estimates (Liu & De, 2015; Van Buuren, Brand, Groothuis-Oudshoorn, & Rubin, 2006). After descriptive and multivariate analyses, results from imputed data and the data before the multiple imputation modeling (complete case analysis) were compared for similarity (Lee & Carlin, 2010; Liu & De, 2015).

2.3. Modeling

For interlock support and perception that AID is a big problem in the community, response options were dichotomized as either "agree" or "neutral/disagree" for bivariate and multivariate analyses. Prevalence estimates and 95% confidence intervals (CIs) for AID being a big problem in the community, knowledge of interlocks, and interlock support were calculated by all demographic variables. For interlock support, bivariate and multivariate models were fit with demographic variables and knowledge of interlocks. The multivariate model included all variables with one or more significant levels in bivariate models. Log-linear regression was used to assess the association of demographic characteristics with all-offender interlock support. Statistical analyses were performed using SAS 9.3 (Cary, NC).