



Operating under the influence: Three year recidivism rates for motivation-enhancing versus standard care programs



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ABSTRACT

Operating a motor vehicle under the influence of alcohol (OUI) is an international problem. In the United States, one intervention strategy is to require offenders to attend group-delivered interventions. We compared three year rearrest rates among 12,267 individuals in Maine receiving either a motivation-enhancing (ME) program, Prime For Life[®], or historical standard care (SC) programs. We created two cohorts, one when Maine used SC (9/1/1999–8/31/2000) and one after the ME program was implemented (9/1/2002–8/31/2003). Adjusted for control variables, rearrest rates among people *not* completing an assigned program did not differ for the ME versus SC cohorts (12.1% and 11.6%, respectively; OR = 1.05, ns). In contrast, ME compared to SC program completers had lower rearrest rates (7.4% versus 9.9%, OR = 0.73, $p < .05$). The same pattern occurred for people required to take these programs plus substance use treatment (12.1% versus 14.7%, OR = 0.82, $p < .01$). For those rearrested, time to rearrest did not differ between ME and SC cohorts. Among those required to have substance abuse treatment, ME and SC arrest rates did not differ for younger individuals; otherwise, the ME cohort's lower rearrest rates occurred across gender, age, having a previous OUI, and having completed a previous intervention program.

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1. Introduction

Operating motor vehicles under the influence of alcohol (OUI) is an international traffic safety problem. The [Global Road Safety Partnership \(2007\)](#) reports that about 20% of fatally injured drivers in high-income countries, and between 33% and 69% in low- and middle-income countries, have a blood alcohol concentration (BAC) in excess of the legal limit. While differences in legal BAC limits and surveillance systems prevent direct comparisons between countries, OUI is clearly problematic world-wide. In addition to loss of life, the economic costs themselves are high. While there are limited data for many countries, estimates suggest that alcohol-related crashes cost South Africa \$14 million and Thailand \$1 billion annually (in United States dollars; [Global Road](#)

[Safety Partnership, 2007](#)). Moreover, an analysis by [Miller and Zoloshnja \(2009\)](#) estimated the 2006 cost in the United States to be \$129.7 billion: \$66.4 billion in economic cost and \$63.3 billion in quality of life losses.

Even with implementation of a variety of deterrence and intervention strategies, a confluence of evidence suggests that the rates of OUI rearrest remain high ([Nochajski and Stasiewicz, 2006](#)). Studies conducted in the United States with time periods ranging from 2.5 to 8 years suggest that approximately 22–33% of OUI offenders recidivate ([Ahlin et al., 2011](#); [C'de Baca et al., 2001](#)). This is problematic given the large number of OUI arrests reported by the Federal Bureau of Investigation: over 1.2 million in the United States in 2011 ([Federal Bureau of Investigation, 2012](#)). Importantly, risk for an additional OUI offense becomes considerably higher as number of prior offenses increases ([Rauch et al., 2010](#)).

1.1. Methods for reducing OUI rearrest

Identifying effective intervention methods is important given the significant consequences of OUI recidivism. Deterrence through punishment and/or incapacitation has intuitive appeal,

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but these methods have limitations. For example, while license suspension and revocation may have some effect on recidivism, upwards of 75% of offenders continue to drive without a license (Ferguson, 2013). Additionally, punishment through jail and fines has not been shown to reduce rearrest (Nochajski and Stasiewicz, 2006; Voas and Fisher, 2001). Other methods have been more promising, but their effects often dissipate upon their removal. For instance, the positive effects seen with probation, ignition interlock devices, and electronic monitoring typically do not extend beyond the period in which the sanction is in place (Elder et al., 2011; Lapham et al., 2007; Nochajski and Stasiewicz, 2006; Voas and Fisher, 2001; Rauch et al., 2011). Thus, when used alone, the long-term effectiveness of such sanctions in reducing OUI rearrest is limited (Nochajski and Stasiewicz, 2006). A key issue is that while external controls may contribute to stopping a behavior in the short term, they do not necessarily facilitate the development of the intrinsic motivation essential for sustained behavior change over longer periods of time (DiClemente, 2013). Hence, return to previous behavior once the sanction is lifted is all too common.

Because of these limitations, interventionists have developed educational and behavioral programs for use alone or in combination with deterrence approaches (Dill and Wells-Parker, 2006; Nochajski and Stasiewicz, 2006). Such programs vary broadly in scope and effectiveness (e.g., Masten and Peck, 2004; McKnight and Tippetts, 1997; Mills et al., 2008; Moore et al., 2008; Nochajski and Stasiewicz, 2006; Rider et al., 2006; Struckman-Johnson et al., 1989; Wells-Parker et al., 1995). While these interventions differ widely in their specific elements, those combining education with substance abuse treatment components have shown some success in producing cognitive changes and/or decreases in rearrest (Wells-Parker et al., 1995).

One potentially promising approach involves use of motivational interviewing (MI) techniques. In the years since MI was initially introduced (Miller and Rollnick, 1991), developers have incorporated its principles into interventions for a wide range of problem behaviors. Often referred to as motivation-enhancing (ME) interventions, these share the following characteristics: using methods explicitly geared to engaging participants, adopting a non-judgmental attitude, rolling with (rather than confronting) resistance, exploring ambivalence, facilitating participants' recognition of their own reasons for change, emphasizing participants' choice in change, and supporting participants' belief in their ability to make changes (Miller and Rollnick, 2013). One goal of these interventions is to reduce participant resistance or discord (i.e., opposition to the practitioner or the intervention). In theory, this reduction allows participants an increased openness to recognizing the consequences of their actions and exploring information relevant to their circumstances, thereby increasing motivation. Because ME approaches extend beyond simple information provision by targeting underlying attitudinal and motivational processes, they are particularly well-suited for court-mandated individuals who tend to enter intervention programs with high resistance and low motivation for change (Dill and Wells-Parker, 2006; Nochajski and Stasiewicz, 2006).

A growing body of empirical evidence supports the effectiveness of OUI prevention programs that use ME. For instance, researchers have found that brief (e.g., 30-minute) ME-based programs among OUI recidivists are associated with greater participant satisfaction and decreased drinking compared to controls (Brown et al., 2010). In terms of OUI, brief ME intervention was found to result in decreased 3-year rearrest rates in one study (Schermmer et al., 2006), but in another study 5-year rearrest rates were only decreased among younger individuals (i.e., <43 years old) (Ouimet et al., 2013). In contrast to these relatively brief interventions, Robertson et al. (2009) examined two iterations of a

more intensive (10–12 h), group-delivered, ME program for OUI offenders. They found that a version incorporating ME content and facilitator training was associated with lower 3-year rearrest rates than a previous version that did not incorporate these elements (Robertson et al., 2009). To our knowledge, the Robertson et al. (2009) study is the only one that has compared ME to non-ME group-delivered programs by examining OUI recidivism rates. Given their promising results and the fact that substance use interventions are often group-delivered in community-based practice (Weiss et al., 2004), further studies are warranted.

As the field moves towards an increased focus on “what works for whom”, the OUI prevention literature benefits from understanding whether programs are more or less effective for certain types of people. For example, the effectiveness of any particular program may depend on participant characteristics such as gender, age, having previous OUI offenses, and receiving a previous OUI program. Robertson et al. (2009) did not examine such moderators of program effectiveness, and literature that addresses whether programs are differentially effective in preventing OUI recidivism for certain types of people is sparse (Brown et al., 2012; Ouimet et al., 2013). Moreover, findings from studies with related outcomes (e.g., non-OUI-specific recidivism, recidivism risk factors) have been too inconsistent to definitively say whether personal characteristics moderate program effectiveness (e.g., Brown et al., 2010, 2012; Ekeh et al., 2008; McMurrin et al., 2011; Liang and Long, 2013; Ouimet et al., 2013). Hence, studies that examine the differential effectiveness of ME-based programs on OUI recidivism are needed.

1.2. The present study

The present study attempts to further the literature by replicating and extending the Robertson et al. (2009) findings. Specifically, it aims to (a) examine the effects of a prevention program using ME principles versus standard care on 3-year OUI recidivism and (b) examine potential moderating effects of participant baseline characteristics (age, gender, previous OUI offenses, and previous OUI intervention participation). To do so, the study takes advantage of a policy change in Maine (a state in the northeastern United States) where the prevention program administered to OUI offenders changed from non-ME programs to one based on ME. Comparing recidivism rates in two cohorts – one using an ME program and the other not – makes possible a quasi-experimental, real-world study contrasting these two recidivism prevention approaches.

1.3. Maine's Driver Education and Evaluation Programs (DEEP)

The Driver Education and Evaluation Programs (DEEP) are the state of Maine's programs for individuals with OUI offenses. Administered by the Maine Office of Substance Abuse and Mental Health Services, DEEP has a goal of reducing the risk of OUI rearrest. Procedures in the state include the removal of offenders' driver's licenses (or, for first offenders issuing 90-day restricted licenses) while individuals pursue services. To obtain full license reinstatement, offenders are required to contact DEEP, which assigns them to complete one of two intervention approaches; either a stand-alone prevention program or, in some circumstances, a prevention program followed by substance abuse treatment. Community-based substance abuse counselors provide the prevention programs.

Prior to 9/1/2001, DEEP used what is hereafter referred to as standard care (SC) for its prevention programs. For SC programs, DEEP personnel had the option to assign people to the Adult Assessment Program (AAP), a 2-hour, individually-provided substance use assessment. Personnel could choose this option when the individual was a first time offender with a BAC \leq .14. Otherwise, personnel assigned people to the Weekend Intervention Program

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