



Alcohol and Highway Safety: Screening and Brief Intervention for Alcohol Problems as a Community Approach to Improve Traffic Safety

This report reviews the current state of knowledge on Screening and Brief Intervention (SBI). It specifically addresses the rationale for addressing at-risk drinkers, defines SBI, provides examples of how it is implemented, and describes some of the outcomes and implications of using SBI, including its effects on traffic safety. The review was performed by the Pacific Institute for Research and Evaluation, with the assistance of Drs. John Higgins-Biddle and Joan Dilonardo.

Introduction and Overview

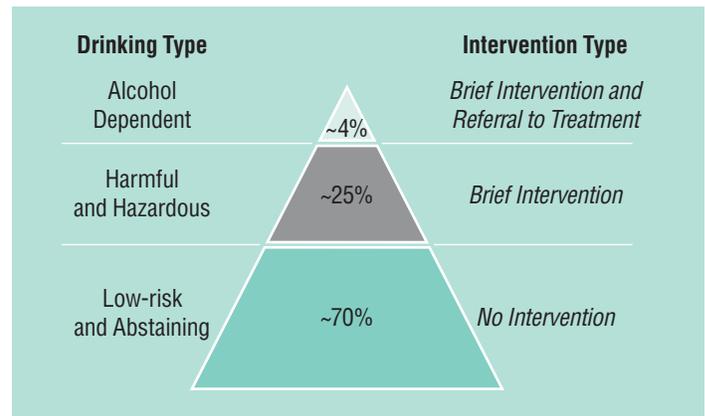
Only a small fraction of the impaired drivers who are at a high risk for alcohol-involved crashes are arrested. These include drivers who drink regularly *or* occasionally to intoxication before they drive. Researchers have estimated the probability of being arrested while driving while intoxicated (DWI) with a blood alcohol concentration (BAC) over .10 g/dL to be about 1 in 200. A similar study reported that only 23% of drivers admitted to trauma units and emergency departments following alcohol-involved crashes are convicted of DWI. Thus it is important to develop countermeasures that make these high-risk drivers aware of their crash risks and to provide assistance. The development of SBI procedures allows trained personnel in varied contexts to identify and address drivers at risk of impaired driving, outside of the criminal justice system.

Risky Drinking and Driving Safety

Several researchers have emphasized the plausibility of what is called the “prevention paradox” in which normative drinkers are believed to account for a higher proportion of total harmful events because they are more numerous than the high-risk group. In the research, this group consistently accounts for the largest percentage of motor vehicle crashes, social problems, and unintentional injury related to alcohol use. Figure 1 demonstrates that

noninstitutionalized adult Americans can be subdivided into three *Drinking Types*: *Low-risk and Abstaining*, *Harmful and Hazardous*, and *Alcohol Dependent*. A groundbreaking study by the Institute of Medicine (IOM) on unintentional injuries associated with alcohol use concluded that the public health community should focus on those with mild-to-moderate alcohol problems in order to significantly reduce unintentional injuries. Though the IOM recommended there be an increased focus on the larger group, it also strongly suggested that interventions/care address the full range of alcohol problems, including those with alcohol/substance dependence issues.

Figure 1



Defining SBI

The Screening and Brief Intervention methodology was an outcome of work in primary medical care settings to assist patients to quit smoking. The SBI process typically begins with screening or differentiating those who have, or are at risk for having, a medical condition from those who do not. This procedure is designed to identify symptoms at an early stage, long before they could contribute to a more serious disease/disorder and to identify those who are likely to have diagnosable disorders. The process

assumes that there are physical, social, and financial benefits to reducing the likelihood of harm as soon as risky behavior has been demonstrated; waiting to address an issue may result in more costly outcomes as well. Once identified through screening, patients can be assisted to accept appropriate assessment and treatment (see *Intervention Type* in Figure 1).

Screening. Three types of screening procedures have been developed and used: (1) clinical examinations, (2) biological markers, and (3) self-report questioning. Self-report questionnaires account for the largest proportion of all screening currently conducted. A number of short (less than 15 minutes to administer), psychometrically sound, self-report measures have been developed for use in medical, educational, employment, and criminal justice settings. A key outcome of the screening is the identification of persons at risk for substance abuse problems, as well as those with substance abuse or dependence—those for whom either brief intervention or other treatment is appropriate. Instruments vary as to the time frame measured (e.g., lifetime, past year, etc.), which content areas are included (e.g., alcohol, or drug use, or both), and whether they ask about typical consumption. The Michigan Alcohol Screening Task (MAST), CAGE, and AUDIT are examples of widely used screening instruments focused on alcohol use. The AUDIT has been given high marks for sensitivity, specificity, and general utility. The Drug Abuse Screening Test (DAST) is one of the most widely used self-report instruments to screen for psychoactive drug use; and the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) measures involvement with alcohol, drugs and nicotine.

Brief Intervention. Health care practitioners are in a unique position to assist patients to modify unhealthy drinking practices before they cause or progress to more serious problems. Following the identification of patients as being at risk through screening, the provision of one or more motivational sessions by a trained practitioner has been shown to provide benefits to adult populations. Brief interventions often consist of the following components: personalized feedback, conversation designed to help the patient think about alcohol use and motivational dialog for changing it; and clear respectful medical advice about cutting down or quitting. Such conversations include descriptions of general normative behavior, potential health, social and financial consequences, discussions about goal setting and encouragement that change is possible. Brief interventions differ from the more lengthy educational programs often provided to DWI offenders by virtue of their use in medical settings and use of moti-

vational components in the interventions. Brief intervention may be completed in as few as a single session, and may also include a referral to treatment for those who may benefit from specialty treatment. SBI is primarily designed to identify and help the large number of people whose use of alcohol is risky, but who do not yet need specialized treatment.

SBI Efficacy

During the last two decades, more than 50 randomized, controlled trials have been conducted to evaluate the efficacy of brief interventions with risky drinkers. The results of these trials have been summarized in several literature reviews, which have generally reported statistically significant reductions in drinking among patients who have received some sort of brief intervention as compared to patients in the control condition who did not. One such review reported that SBI delivered in primary care settings is associated with reducing motor vehicle crashes and frequency of crashes with nonfatal injuries. A rigorous review performed by the U.S. Preventative Services Task Force (USPSTF) supported the use of “good quality brief multi-contact” interventions as a means of reducing alcohol misuse by adults (including pregnant women). There is not yet sufficient evidence on the efficacy of the USPSTF to recommend this intervention for adolescents.

In the past two decades, studies have been conducted that demonstrate both the efficacy and effectiveness of SBI in primary care settings. More recent research has been performed to evaluate the utility of SBI in hospitals, emergency departments, trauma centers, college campuses, and through web-based programs. Considerably more studies and reviews have been conducted to determine the efficacy of SBI in emergency departments and trauma centers, due to the high proportion of patients whose condition is related to alcohol misuse. In both settings, the use of SBI by trained personnel has been associated with reductions in excessive alcohol consumption, motor vehicle violations and arrests, and involvement in motor vehicle crashes. Based on studies that demonstrate the positive behavioral outcomes for the participants *and* the health care cost savings that are based on use of SBI, the Committee on Trauma of the American College of Surgeons adopted a requirement that Level I and II trauma centers use the “teachable moment” following alcohol-involved injuries or medical issues to implement alcohol screening and brief intervention. Fewer studies have been performed on the efficacy of SBI in college settings and through the use of web-based programs. While some promising results have been reported, more rigorous evaluations have yet to be completed. Many challenges

remain in understanding the results of these programs, though they do hold the promise of reaching large numbers of at-risk alcohol users.

Discussion

For almost 30 years, research has developed, tested, refined, and supported the practical implementation of SBI. Most (but not all) research has supported the efficacy of SBI as a means for treating injury related to misuse of alcohol and other drugs. However, the settings in which positive results have been sought and found have been related to health care delivery, with implications for impaired driving and traffic safety as a byproduct. Traffic safety and impaired driving are issues affecting the Nation and every community; however, organizations dedicated to health care and promotion do not always recognize the role they play in contributing to the reduction of impaired driving and the improvement of traffic safety. Therefore, policy

initiatives will be necessary to effect a broad dissemination of SBI across various institutions that provide, support, and regulate health care, as well as those involved in the domains of law, law enforcement, and criminal justice. With a partnership of many institutions and constituencies, necessary policy changes could be made to provide education on the utility of SBI, increase collaboration and communication across these areas, educate the public about the risk of alcohol-related injury (including, those related to traffic crashes), and also develop the most effective and efficient ways to conduct SBI training and implementation.

How to Order

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