

SUMMARY

The allocation of resources to prevent alcohol-related injuries should address different risk groups within the population as well as hazardous alcohol products and drinking environments. Because of the high prevalence of hazardous drinking behavior, universal strategies that reduce the alcohol consumption of all drinkers should be a priority, particularly those targeting the price and physical availability of alcohol. Targeting the cheap, high-strength alcohol often preferred by hazardous drinkers through policy interventions (e.g., by setting a minimum price per standard drink) should also be a priority. The risk of alcohol-related injury is highly context-specific, and some drinking environments are especially high risk for injury. There are proven strategies for limiting the risk of injury both in public drinking venues such as bars and nightclubs and on the roads. For example, drinking environments may be modified and staff trained to reduce risk of injury independent of drinking behavior per se. Policing strategies, which can help to reduce risk of alcohol-related violence at drinking venues, and deter impaired driving, can also be implemented. Targeted strategies that screen, identify, and provide brief intervention to hazardous drinkers can also be effective. These types of interventions have been successfully implemented in emergency departments, resulting in reductions in alcohol consumption and related injuries. Evidence that school education and public alcohol awareness campaigns work is weak. However, it is recommended that alcohol education be re-conceptualized as a means to raising awareness of both alcohol-related harms and the availability of effective strategies to

increase public support for effective measures to reduce alcohol-related injury. A sea change in public opinion on alcohol and alcohol-related problems is required so that the yawning gap between what is known about the prevention of alcohol-related injuries and what is actually implemented can begin to be closed.

INTRODUCTION

When strategies to address alcohol-related problems are considered, it is tempting to focus initiatives and resources only on those sectors of the

tion focus, and 2) once focused, convincing persons who are habituated or dependent on alcohol to dramatically change their behavior. On the other hand, at the societal level, there may be public or administrative resistance to implementing measures that do not target those who frequently drink large quantities, so population-level interventions or policies may face the challenge of persuading policy makers that bringing about modest change in many individuals pursuing. Of particular relevance to alcohol-related injury are analyses of the prevention paradox in relation to alcohol use showing that “acute” alcohol-related harms in general are mostly experienced by occasional heavy drinkers (10-12). This perspective may be helpful in overcoming theoretical political resistance to the implementation of effective prevention measures that target this common drinking pattern, especially in hazardous settings (e.g., when driving or operating machinery). Based on the theory of the prevention paradox, population-wide measures such as random breath testing, increased pricing and reduced physical availability of alcohol offer the promise of greater impact (5)—none of which depend on moderate drinkers being internally “motivated” to reduce their occasional excessive consumption.

This concept has been examined in several different contexts, including binge drinking among college students (13), general populations of Norway and Sweden (14), adolescents in 23 European countries (15), and a household survey in Brazil (16). A report by Spurling and Vinson (17) based on a population-based case-control and case-crossover study in three emergency departments in a U.S. county estimated the population-attributable fraction (PAF) associated with drinking in the six-hour period before injury. Based on their results, “the PAF that was due to what is usually considered less hazardous alcohol consumption (fewer than 5 standard drinks for men and fewer than 4 for women on one occasion) was 47%.” The critical point here is that there are substantially larger numbers of individuals consuming at the lower levels of

consumption than there are with dependence, so after these attributable fractions are applied there are many more preventable cases among lower-risk versus high-risk drinkers.

Given their differences in scope and goal, these strategies are not mutually exclusive; neither is fully adequate alone in a comprehensive approach, and both population-level and the more focused interventions are needed (18). Action on the former is essential to make substantial progress in reducing hazardous drinking and alcohol-related harm, and supportive action in the latter area is required in a comprehensive approach.

In generic terms, eight strategies have been shown to be effective in reducing alcohol-related harm: four types of population-level policies, and four types of targeted policies. All have the potential for reducing the incidence of cases that come to emergency room services. They are presented below by category.

Population-level policies

cheap alcohol increase the risk of acute alcohol-related harm such as injury.

Risk by beverage type

Low-risk drinking guidelines are promoted in many countries and many of these provide separate advice recommending various upper limits of consumption to minimize risk of short-term or acute-risk harm (injuries and poisonings) as opposed to longer-term risk of serious illnesses (31). In Canada (32) and the United States (33), the suggested upper limits to reduce risk of short-term harm such as injury are 1) three “standard drinks” (12–14 g of ethanol in the US, 13.45g in Canada) in one day for a female and four standard drinks in one day for males. In Canada, (by one drink in each case) recommended for young Additional advice is provided regarding low-risk drinking environments and drinking speeds, including suggestions about drinking alcohol with meals and avoiding combined use with other mood-altering drugs. Applying these criteria, Zhao et al. (34) analyzed national Canadian survey data to assess the extent to which different types of beverages were consumed in daily quantities inconsistent with as the Yesterday Method (35, 36) Zhao et al. (34) showed that on days when guidelines for avoiding of spirits. However, there were marked gender differences in these trends, with a much higher proportion of males drinking beer versus spirits on risky consumption occasions, and a reverse pattern for females.

Klatsky et al. (37) studied correlates of wine, spirits, or beer preference among 53 172 white men and women in a U.S. prepaid health plan. A preference for wine was more likely to be expressed by women, light drinkers, young or middle-aged people, nonsmokers, people with higher education, and those who were free of symptoms or risk of illness. Persons who preferred spirits were likely to be men, heavier drinkers, middle-aged or older, less educat-

major illnesses. Persons who preferred beer were likely to be younger, male, and intermediate between wine and spirits drinkers on level of consumption and health.

alcohol in beer or spirits is intrinsically more risky than wine, for example, do suggest that due to a constellation of factors and beverage preferences, the consumption of some beverages is more associated with injury risk than others, a conclusion that has policy and prevention implications in relation to marketing and pricing of alcohol in particular. Earlier research also reported marked and similar variations in risk

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department could be used as a surrogate measure of alcohol-related injuries. In line with the prevention paradox theory, it is important to recognize that

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