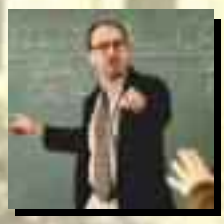
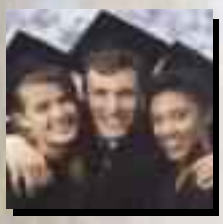
A Call to Action:

Changing the Culture of Drinking at U.S. Colleges



Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism

National Institutes of Health

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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April 2002

NIAAA
National Institute on Alcohol Abuse and Alcoholism

Contents

Special Thanks to Enoch Gordis, M.D.

The Task Force wishes to extend a special thank you to Dr. Enoch Gordis for his leadership and dedication. Dr. Gordis stepped down as Director of NIAAA on December 30, 2001, after 15 years of outstanding leadership. He was the inspiration for this project, citing the lack of research on this important public health problem. "For decades, there has been meeting after meeting that offered plausible, intelligent recommendations, all with no evaluations. Then, when these programs fail to work, meetings are again convened to ponder the same questions. Only through a commitment to research can we truly begin to understand what can and cannot be done, so that in five or ten years we don't find ourselves asking the same questions yet again." In light of his vision, we offer this report as a beginning.

Comment from the Institute

Every year as spring break approaches or when another promising young student dies in an alcohol-related tragedy, college drinking becomes a national issue. Although excessive drinking by college students is accepted as a rite of passage by many, alcohol-related tragedies never fail to shock us and to prompt calls for immediate action. When schools respond with well-intentioned programs, but the problem persists, it is natural to wonder how much we really understand about excessive, college student drinking. Is it inevitable? Can we take steps to prevent it or reduce its consequences? Why have efforts to date proven ineffective?

The fact is that since 1976, when the newly created National Institute on Alcohol Abuse and Alcoholism (NIAAA) issued its only report on abusive drinking by college students, research advances have transformed our understanding of alcohol abuse and related problems. For example, we now know that a broad array of factors affect college student drinking behavior. These include an individual's susceptibility to alcohol, campus norms related to drinking, and conditions within the larger community that make alcohol readily accessible and fail to penalize inappropriate use. Together these influences contribute to a culture of drinking that is more damaging and deadly than previously recognized.

This report, developed by the NIAAA-supported Task Force on College Drinking after 3 years of intensive discussions, describes our new understanding of dangerous drinking behavior by college students and its consequences for both drinkers and nondrinkers. Rather than debate how many drink how much, the Task Force focused on the consequences. What it found challenges many common assumptions about the size and nature of the problem. Not only do some 1,400 college students between the ages of 18 and 24 die every year as a result of hazardous drinking, but a half million suffer unintentional injuries under the influence of alcohol. Another 600,000 are assaulted by fellow drinking students and more than 70,000 are sexually assaulted. The data on academic achievement, damage to facilities, and health problems are equally alarming. The nature of existing data leads to the inference that some college students meet the diagnostic criteria for alcohol dependence as currently specified by the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders,* 4th edition (DSM-IV), but are not receiving treatment. Although most students who exhibit dangerous drinking behavior during their college career mature out of heavy drinking, this behavior and its consequences are nonetheless cause for concern.

In its report, the Task Force outlines a series of recommendations for colleges and universities, researchers, and NIAAA. What distinguishes this guidance from others is its firm reliance on scientific evidence and its call for collaboration between academic institutions and researchers. In response to the information and recommendations in this report, NIAAA is committing an additional $8 million over the next two fiscal years to the issue of college drinking. It also is collaborating with several college presidents to determine the effectiveness of policies aimed at reducing the problem.

The chancellor of a university that recently suffered the alcohol-related death of one of its students said, "Our children's lives are at real risk, and universities need to make every effort to prevent any more lives from being wasted." This report underscores the wisdom of that advice and urges us to join forces in changing the culture of drinking on our Nation's campuses from one that fosters destructive behavior to one that discourages it.

Raynard Kington, M.D., Ph.D., M.B.A.
Acting Director
National Institute on Alcohol Abuse and Alcoholism

Preface

Task Force Co-Chairs

The Task Force on College Drinking, a group of distinguished educators, alcohol researchers, and students, has been meeting for 3 years to respond to the persistent and pervasive problem of excessive drinking by students on U.S. college campuses. The Task Force was established by the National Advisory Council on Alcohol Abuse and Alcoholism. Although NIAAA has maintained a modest portfolio of grants on college drinking for many years, the Task Force represents an effort to address the issue in the most coordinated and comprehensive way possible.

The goals of the Task Force are threefold:

1. Provide research-based information about the nature and extent of dangerous drinking to high school and college administrators, students, parents, community leaders, policymakers, researchers, and members of the retail beverage industry;
2. Offer recommendations to college and university presidents on the potential effectiveness of current strategies to reverse the culture of drinking on campus; and
3. Offer recommendations to the research community, including NIAAA, for future research on preventing hazardous college student drinking.

To this end, the Task Force conducted a comprehensive review of research on drinking by college students and on strategies to prevent it. We established two panels that addressed: (1) the contexts in which college drinking occurs and its consequences, and (2) prevention and treatment. In addition to extensive deliberations, the panels commissioned 24 original scientific papers intended to synthesize what we know and identify research gaps. Most of these papers are being published in a special supplement to the *Journal of Studies on Alcohol*. The extent of drinking consequences among college students is described in a paper by Ralph Hingson et al., being published in the March issue of the Journal. (Please visit our Web site: *www.collegedrinkingprevention.gov* for additional information.)

During the course of our deliberations, it became clear that three primary constituencies must be addressed to change the culture of drinking on campus. They are: (1) individuals, including at-risk or alcohol-dependent drinkers, (2) the student population as a whole, and (3) the college and the surrounding community. To be effective, prevention programs must target all three. The Task Force devised a simple, but comprehensive, *3-in-1 Framework* to help colleges and universities with this process.

Another theme that emerged repeatedly in our work was the need for schools to base their alcohol policies and prevention programs on scientific evidence. In selecting the prevention strategies that appear in this report, we considered feasibility, theoretical rationale, and outcomes in noncollege settings as well as demonstrated effectiveness on college campuses. However, we also found that a number of potentially effective strategies have little evidence to support them because they have not been thoroughly evaluated. This raises a key point. Additional research is needed to determine the value of these promising strategies. We strongly encourage colleges and universities to collaborate with researchers in testing their value on campus.

Because the results of the Task Force's work are important to a broad audience, we have summarized our information and recommendations in a variety of formats. In addition to this report, our products include:

- An alcohol prevention program handbook—*Reducing Alcohol Problems on Campus: A Guide to Planning and Evaluation;*
- Brochures for college and university presidents, student peer educators, and parents (future brochures include community leaders, high school guidance counselors, and students);
- The final reports of the Task Force's two panels—*High-Risk Drinking in College: What We Know and What We Need To Learn* and *How To Reduce High-Risk College Drinking: Use Proven Strategies, Fill Research Gaps*—that describe each panel's findings in detail; and
- The scientific papers commissioned by the panels to supplement the current research literature. (Please see the Resources section of this report for information on ordering or downloading these products.)

The consequences of drinking on campus are too damaging to ignore. Although research alone is insufficient to reverse the problem, it will point the way to solutions. We are simultaneously confronted with statistics that show college drinking worsening and other data that suggest the reverse. This underscores the conundrum that college drinking-related problems are persistent but may change in nature and intensity over time. As a result, this report should not be considered the final solution. It is the beginning, a call to action, involving college presidents, researchers, and students. Unless we improve the collection of data and rigorously evaluate prevention programs, using the most innovative methods available, we will continue to be perplexed by these problems and unable to move ahead and make appreciable differences.

We urge college and university presidents to apply the recommendations in this report. Moreover, we challenge society to no longer ignore the consequences of drinking on our Nation's campuses. Parents, prevention organizations, the alcohol beverage and hospitality industries, and the Federal government must together apply all necessary financial and intellectual resources to address this pervasive and persistent problem.

Edward A. Malloy, C.S.C.
Task Force Co-Chair
President
University of Notre Dame

Mark Goldman, Ph.D.
Task Force Co-Chair
Distinguished Research Professor of Psychology
University of South Florida

Introduction

"Underage drinking and excessive drinking have negative effects on everything we're trying to do as a university. They compromise the educational environment, the safety of our students, the quality of life on campus, town/gown relationships, and our reputation."

—Dr. Judith Ramaley, Former President, University of Vermont

Other than the damage and injuries that occur during spring break each year, the only consequences of college drinking that usually come to the public's attention are occasional student deaths from alcohol overuse (e.g., alcohol poisoning) or other alcohol-related tragedies. They prompt a brief flurry of media attention; then, the topic disappears until the next incident. In fact, the consequences of college drinking are much more than occasional; at least 1,400 college student deaths a year are linked to alcohol, as new research described in this report reveals. High-risk drinking also results in serious injuries, assaults, and other health and academic problems, and is a major factor in damage to institutional property. The relative scarcity of headlines about college drinking belies an important fact: that the consequences of excessive college drinking are more widespread and destructive than most people realize. While only isolated incidents tend to make news, many school presidents conclude that these pervasive, albeit less obvious, problems are occurring on their campuses at the same time. It is a persistent and costly problem that affects virtually all residential colleges, college communities, and college students, whether they drink or not.

The call to action on campus has to do not so much with drinking per se, but with the *consequences* of excessive drinking by college students. Students who drink excessively have higher rates of injuries, assaults, academic problems, arrests, vandalism, and other health and social problems, compared with their nondrinking counterparts. They disrupt the studies and threaten the health and safety of their peers.

College Drinking Is a Culture

The tradition of drinking has developed into a kind of culture—beliefs and customs—entrenched in every level of college students' environments. Customs handed down through generations of college drinkers reinforce students' expectation that alcohol is a necessary ingredient for social success. These beliefs and the expectations they engender exert a powerful influence over students' behavior toward alcohol.

Customs that promote college drinking also are embedded in numerous levels of students' environments. The walls of college sports arenas carry advertisements from alcohol industry sponsors. Alumni carry on the alcohol tradition, perhaps less flamboyantly than during their college years, at sports events and alumni social functions. Communities permit establishments that serve or sell alcohol to locate near campus, and these establishments depend on the college clientele for their financial success.

Students derive their expectations of alcohol from their environment and from each other, as they face the insecurity of establishing themselves in a new social milieu. Environmental and peer influences combine to create a culture of drinking. This culture actively promotes drinking, or passively promotes it, through tolerance, or even tacit approval, of college drinking as a rite of passage.

The Answer: Change the Culture. The Question: How?

When a student dies from intoxication or another alcohol-related incident makes headlines, college drinking captures the public's attention, for a while. On the campus itself, administrators deal with the immediate problem, and campus life soon returns to normal. Generally, the incident doesn't result in effective, long-term changes that reduce the consequences of college drinking.

Among the reasons for this seeming inattention to long-term solutions is that administrators see college drinking as an unsolvable problem. When schools *have* made efforts to reduce drinking among their students—and many have made considerable effort—they haven't had significant, campus-wide success. With each failed effort, the image of college drinking as an intractable problem is reinforced, administrators are demoralized, and the likelihood that schools will devote resources to prevention programs decreases.

One reason for the lack of success of prevention efforts is that, for the most part, schools have not based their prevention efforts on strategies identified and tested for effectiveness by research. Research on college drinking is a relatively young field, and the data are incomplete. Until the recent formation of the Task Force on College Drinking, administrators and researchers did not typically collaborate on this topic. Without the expertise of the research community, administrators were at a disadvantage in trying to identify and implement strategies or combinations of strategies to address alcohol problems specific to their schools.

Now, the Task Force on College Drinking has brought together experienced administrators and scientists, who have assessed what both schools and researchers need to do to establish effective prevention programs. On the basis of their findings, they have made the recommendations contained in this report. Their recommendations focus not on how to effect some type of blanket prohibition of drinking, but on changing the culture of drinking on campuses and involving the surrounding communities.

Foremost among their recommendations is that to achieve a change in culture, schools must intervene at three levels: at the individual-student level, at the level of the entire student body, and at the community level. Research conducted to date strongly supports this three-level approach. Within this overarching structure, schools need to tailor programs to address their specific alcohol-related problems. Underlying each recommendation is the Task Force's understanding that no two schools are alike, that environmental influences as well as individual student characteristics impact alcohol consumption, and that effective strategies extend beyond the campus itself to encompass the surrounding community.

The Task Force's focus is on how to change the culture that underlies alcohol misuse and its consequences on campus, rather than on simply determining the number of negative alcohol-related incidents that occur each year. But because data on the consequences of college drinking underscore the need for effective prevention strategies, these data are included in the section that follows. The report offers (1) a general approach to incorporating prevention programs on campus, (2) specific interventions that schools can combine to meet the needs of their campuses, and (3) recommendations for future research on college drinking.

What Can Research Bring to Prevention Programs?

The research community can provide schools with techniques that will enable them to:

- realistically assess their alcohol-related problems;
- develop research-based programs designed to prevent/ameliorate these problems;
- adjust programs to meet individual schools' needs; and
- define measurable outcomes that can be used periodically to reflect a program's success or the need for its further adjustment.

In conducting their work, members of the Task Force on College Drinking relied on the results of well-designed empirical studies to formulate their recommendations. They downplayed results of methodologically weak studies and assertions that exceeded what the data supported. Studies acceptable to the Task Force followed the principles of the scientific method and met rigorous design and execution criteria.

New techniques have enabled researchers to compare alcohol-related problems in large groups of college students and their noncollege peers and to map the extent of these problems, nationally and regionally. Armed with this information, researchers can determine how new laws and policies, alcohol-prevention programs, and trends in the general population affect drinking patterns among college students and their noncollege peers.

Research shows that a number of personal factors, from family background to alcohol use during high school, influence college students' drinking patterns. In the college environment, additional factors contribute to drinking patterns; for example, membership in fraternities or sororities, sports teams, or other social groups and college organizational factors such as size, location, and number of commuter students. Recent techniques enable researchers to test models for prevention that encompass a multiplicity of factors.

A Snapshot of Annual High-Risk College Drinking Consequences

The consequences of excessive and underage drinking affect virtually all college campuses, college communities, and college students, whether they choose to drink or not.

Death: 1,400 college students between the ages of 18 and 24 die each year from alcohol-related unintentional injuries, including motor vehicle crashes (Hingson et al., 2002).

Injury: 500,000 students between the ages of 18 and 24 are unintentionally injured under the influence of alcohol (Hingson et al., 2002).

Assault: More than 600,000 students between the ages of 18 and 24 are assaulted by another student who has been drinking (Hingson et al., 2002).

Sexual Abuse: More than 70,000 students between the ages of 18 and 24 are victims of alcohol-related sexual assault or date rape (Hingson et al., 2002).

Unsafe Sex: 400,000 students between the ages of 18 and 24 had unprotected sex and more than 100,000 students between the ages of 18 and 24 report having been too intoxicated to know if they consented to having sex (Hingson et al., 2002).

Academic Problems: About 25 percent of college students report academic consequences of their drinking including missing class, falling behind, doing poorly on exams or papers, and receiving lower grades overall (Engs et al., 1996; Presley et al., 1996a, 1996b; Wechsler et al., 2002).

Health Problems/Suicide Attempts: More than 150,000 students develop an alcohol-related health problem (Hingson et al., 2002) and between 1.2 and 1.5 percent of students indicate that they tried to commit suicide within the past year due to drinking or drug use (Presley et al., 1998).

Drunk Driving: 2.1 million students between the ages of 18 and 24 drove under the influence of alcohol last year (Hingson et al., 2002).

Vandalism: About 11 percent of college student drinkers report that they have damaged property while under the influence of alcohol (Wechsler et al., 2002).

Property Damage: More than 25 percent of administrators from schools with relatively low drinking levels and over 50 percent from schools with high drinking levels say their campuses have a "moderate" or "major" problem with alcohol-related property damage (Wechsler et al., 1995).

Police Involvement: About 5 percent of 4-year college students are involved with the police or campus security as a result of their drinking (Wechsler et al., 2002) and an estimated 110,000 students between the ages of 18 and 24 are arrested for an alcohol-related violation such as public drunkenness or driving under the influence (Hingson et al., 2002).

Alcohol Abuse and Dependence: 31 percent of college students met criteria for a diagnosis of alcohol abuse and 6 percent for a diagnosis of alcohol dependence in the past 12 months, according to questionnaire-based self-reports about their drinking (Knight et al., 2002).

Heavy Episodic Consumption of Alcohol

Data from several national surveys indicate that about four in five college students drink and that about half of college student drinkers engage in heavy episodic consumption. Recent concerns have, therefore, often focused on the practice of binge drinking, typically defined as consuming five or more drinks in a row for men, and four or more drinks in a row for women. A shorthand description of this type of heavy episodic drinking is the "5/4 definition." Approximately two of five college students—more than 40 percent—have engaged in binge drinking at least once during the past 2 weeks, according to this definition. It should be noted, however, that colleges vary widely in their binge drinking rates—from 1 percent to more than 70 percent—and a study on one campus may not apply to others (Wechsler et al., 1994, 1998, 2000b).

The U.S. Surgeon General and the U.S. Department of Health and Human Services (USDHHS) have identified binge drinking among college students as a major public health problem. In "Healthy People 2010," which sets U.S. public health goals through the year 2010, the Federal government has singled out binge drinking among college students for a specific, targeted reduction (e.g., from 39 percent to 20 percent) by the year 2010. "Healthy People 2010" notes that: "Binge drinking is a national problem, especially among males and young adults." The report also observes that: "The perception that alcohol use is socially acceptable correlates with the fact that more than 80 percent of American youth consume alcohol before their 21st birthday, whereas the lack of social acceptance of other drugs correlates with comparatively lower rates of use. Similarly, widespread societal expectations that young persons will engage in binge drinking may encourage this highly dangerous form of alcohol consumption" (USDHHS, 2000).

There is evidence that more extreme forms of drinking by college students are escalating. In one study, frequent binge drinkers (defined as three times or more in the past 2 weeks) grew from 20 percent to 23 percent between 1993 and 1999. The number of students who reported three or more incidents of intoxication in the past month also increased (Wechsler et al., 2000b). It should be noted, however, that the number of college students who do not drink is also growing. In the same study, the percentage of abstainers increased from 15 to 19 percent.

Understanding Alcohol Consumption

The term alcohol consumption encompasses two ideas important in characterizing an individual's drinking behavior: frequency (how often a person drinks) and quantity (how much a person drinks). Frequency of consumption refers to the number of days or, sometimes, occasions that an individual has consumed alcoholic beverages during a specified interval (e.g., week, month, and year). Quantity of consumption refers to the amount ingested on a given drinking occasion.

Most typically, consumption is assessed using "standard drinks"—in the United States, these are 5 ounces of wine, 12 ounces of beer, or 1.25 ounces of distilled spirits. Because individuals do not drink the same amount at every drinking occasion, some surveys attempt to assess the frequency with which a person drinks various amounts of alcohol (e.g., one to two drinks, three to four drinks, five to six drinks) over a specified period of time. Although cumbersome, this approach probably provides a fairly accurate assessment of total volume consumed and of variability in drinking pattern.

For many purposes, however, identifying "light" or "moderate" consumption is not the issue, "heavy" consumption is. For that reason, it is common to assess heavy consumption on the basis of the frequency of consuming a number of drinks meeting or exceeding a certain threshold. When describing college drinking, heavy drinking occasions are often referred to as "binges." Based on the influential work of Henry Wechsler and colleagues—who define binge as five or more drinks in a row for men and four or more drinks for women—the prevalence of binge drinking has become a key measure in estimating the extent of alcohol problems on college campuses.

Historically, binge drinking has referred to an extended period of heavy drinking (for example, a "bender" that lasts 3 days or more) that is seen in some alcoholic patients. Some clinicians believe that using the term binge to refer to a less severe phenomenon blurs this important distinction. However, Dr. Wechsler has observed that the term binge is now commonly associated with eating and shopping and that its application to alcohol use is consistent with the term's generally accepted meaning.

Other researchers have voiced concern because the specific time period over which the five or four drinks are consumed is not specified nor is the body mass of an individual drinker. For example, after 5 drinks consumed over a fixed time span, a man of 240 pounds would have a lower blood alcohol level than a man of 140 pounds. Nor would a male or female of the same body weight achieve the same blood alcohol level following equal consumption because of gender-related differences in physiology. Dr. Wechsler believes that the phrase "in a row" implies a relatively short time frame. He also shows that individuals who consume alcohol at these levels increase their likelihood of experiencing a range of negative consequences.

Whether terms such as heavy drinking, binge drinking, or drinking to intoxication are used to describe students' behavior, it is clear that consumption of large quantities of alcohol on a single drinking occasion is important in assessing alcohol involvement. Also key in evaluating alcohol consumption are the consequences of that consumption which can include academic, personal, social, legal, and medical problems as well as dependent symptoms such as tolerance, withdrawal, and loss of control.

Alcohol and Adolescent Brain Development

Adolescence is a time of transition, physically, socially, and emotionally. The adolescent brain is in transition as well. Although important structural and functional changes take place in the brain from childhood to adulthood (Giedd et al., 1999), during adolescence such changes are widespread. During adolescence, the brain undergoes a major remodeling involving the formation of new connections between nerve cells, as well as the pruning of existing synaptic connections. These changes affect the processes involved in planning and decision-making, impulse control, voluntary movement, memory, and speech production, among others (Rubia et al., 2000). Similar changes occur in those parts of the brain that seem to affect how a person responds to alcohol and other drugs (Spear, 2000; Teicher et al., 1995). As a result, alcohol appears to have different effects on adolescents than adults (Spear, 2000).

Animal studies suggest that alcohol may have a greater impact on adolescent than adult memory (Markweise et al., 1998; Pyapali et al., 1999) and that these effects may be long lasting. Preliminary studies suggest that rats exposed to high levels of alcohol during adolescence may be more sensitive to alcohol-induced memory impairments later in life (White et al., 2000). Human studies have detected cognitive impairments in adolescent alcohol abusers weeks after they stopped drinking (Brown et al., 2000).

Although the causes of these long-lasting changes are unclear, they may in some cases involve alcohol-induced injury to the nervous system. In rats, exposure to high amounts of alcohol produces more extensive brain damage in adolescents than adults (Crews et al., 2000). In humans, adolescent-onset alcohol abuse has been associated with a reduction in the size of the hippocampus (DeBellis et al., 2000).

Research also suggests that adolescents are less sensitive than adults to some of alcohol's effects. For example, adolescent rats, on their first exposure to alcohol, are less susceptible than adult rats to alcohol's sedative effects, as well as its effects on balance and motor coordination (Little et al., 1996; White et al., 2001). It is not known whether these differences occur in humans. However, the findings suggest that adolescents might be able to stay awake and mobile at higher blood alcohol levels than adults with an equivalent history of alcohol exposure while, at the same time, experiencing greater alcohol-induced cognitive impairments and, possibly, more injury to the brain following high alcohol exposure levels.

Factors Affecting Student Drinking

"Decisions about alcohol consumption are not just individual, they can affect the common life of the university."

Edward A. Malloy, President
University of Notre Dame

Living Arrangements

The proportion of college students who drink varies depending on where they live. Drinking rates are highest in fraternities and sororities followed by on-campus housing (e.g., dormitories, residence halls) (Presley et al., 1996a, 1996b; Wechsler et al., 1998, 2000b). Students who live independently off-site (e.g., in apartments) drink less, while commuting students who live with their families drink the least (O'Hare, 1990; Presley et al., 1996a, 1996b).

College Characteristics

Although the existing literature on the influence of collegiate environmental factors on student drinking is limited, a number of environmental influences working in concert with other factors may affect students' alcohol consumption (Presley et al., 2002). Colleges and universities where excessive alcohol use is more likely to occur include schools where Greek systems dominate (i.e., fraternities, sororities), schools where athletic teams are prominent, and schools located in the Northeast (Presley et al., 1996a, 1996b; Wechsler et al., 1996, 1997, 1998, 2000b; Werner and Greene, 1992).

First-Year Students

Some first-year students who live on campus may be at particular risk for alcohol misuse. During their high school years, those who go on to college tend to drink less than their noncollege-bound peers. But during the first few years following high school, the heavy drinking rates of college students surpass those of their noncollege peers, and this rapid increase in heavy drinking over a relatively short period of time can contribute to difficulties with alcohol and with the college transition in general (Schulenberg et al., 2001). Anecdotal evidence suggests that the first 6 weeks of enrollment are critical to first-year student success. Because many students initiate heavy drinking during these early days of college, the potential exists for excessive alcohol consumption to interfere with successful adaptation to campus life. The transition to college is often so difficult to negotiate that about one-third of first-year students fail to enroll for their second year (Upcraft, 2000).

A Rite of Passage for All, or a Habit for Some That Impacts All?

Although the consequences of campus drinking are a major problem, contrary to popular misconceptions, the majority of college students drink moderately or abstain (Wechsler et al., 2000b). For many students, alcohol use is not a tradition.

Students who drink the least attend:

- Two-year institutions
- Religious schools
- Commuter schools
- Historically Black colleges and universities

(Meilman et al., 1994, 1995, 1999; Presley et al., 1996a, 1996b).

Students who drink the most include:

- First-year students (within the first weeks of arrival)
- Males
- Whites
- Members of fraternities and sororities
- Athletes

(Johnston et al., 2001b; Wechsler et al., 1996, 1997, 1998, 2000b).

Other Factors Affecting Drinking

Numerous other factors affect drinking behavior among college students. These include biological and genetic predisposition to use, belief system and personality, and expectations about the effects of alcohol (Sher et al., 1999; Zucker et al., 1995). In addition to individual student characteristics, the size of a student body, geographical location, and importance of athletics on campus are also associated with consumption patterns as are external environmental variables including the pricing and availability of alcohol in the area surrounding a campus (Chaloupka and Wechsler, 1996; Chaloupka et al., 1998; Leichliter et al., 1998; Nelson and Wechsler, 2001; Presley et al., 1996a, 1996b; Wechsler et al., 1994, 1997, 1998, 2000a, 2000b).

Although some drinking problems begin during the college years, many students entering college bring established drinking practices with them. Thirty percent of 12th-graders, for example, report binge drinking in high school, slightly more report having "been drunk," and almost three-quarters report drinking in the past year (Johnston et al., 2001a). Colleges and universities "inherit" a substantial number of drinking problems that developed earlier in adolescence.

Comparison with Noncollege Peers

College drinking occurs at a stage in life when drinking levels are generally elevated. Compared to all other age groups, the prevalence of periodic heavy or high-risk drinking is greatest among young adults aged 19 to 24; and among young adults, college students have the highest prevalence of high-risk drinking (Johnston et al., 2001b; Substance Abuse and Mental Health Services Administration, 2001). Although their noncollegiate peers drink more often, college students tend to drink more heavily when they do drink (O'Malley and Johnston, 2002).

Secondhand Consequences of Drinking

Students who do not drink or do not abuse alcohol experience secondhand consequences from others' excessive use. In addition to physical and sexual assault and damaged property, these consequences include unwanted sexual advances and disrupted sleep and study (Hingson et al., 2002; Wechsler et al., 1995, 2000b). The problems produced by high-risk drinking are neither victimless nor cost-free. All students—whether they misuse alcohol or not—and their parents, faculty, and members of the surrounding community experience the negative consequences wrought by the culture of drinking on U.S. campuses.

Post-College Consequences

The consequences of alcohol abuse during the college years do not end with graduation. Frequent, excessive drinking during college increases the prospects for continuing problems with alcohol and participation in other "health-compromising or illegal behaviors" (Schulenberg et al., 1996). On the other hand, in a prospective study of college students, researchers found that although fraternity/sorority membership is associated with high levels of alcohol consumption in college, Greek status did not predict post-college heavy drinking levels (Sher et al., 2001).

Overall, these data indicate that high-risk drinking exposes students, either directly or indirectly, to unacceptable risks.

"I've lived in college dormitories for much of my adult life, so I know firsthand the impact irresponsible drinking has on the quality of residential life…reducing alcohol-related harm is clearly central to our mission."

Edward A. Malloy, President
University of Notre Dame

Issues Involved in A Call to Action

During the course of the Task Force on College Drinking's deliberations, college presidents, students, and researchers candidly discussed the dilemmas colleges confront when attempting to respond to the persistent and pervasive problems related to drinking on campus. An understanding of these realities is crucial to developing and implementing effective alcohol abuse prevention programs.

The Challenge for Colleges and Communities

The consequences of excessive student drinking have historically placed college presidents and administrators in untenable positions. When student deaths, injuries, or brawls occur on campus, the response tends to be immediate and focused largely on the individual students and families involved. Once the crisis recedes, there is little incentive to consider either the root causes of such events or their broader implications, especially when other priorities compete for a president's time and attention. In addition, there is little incentive for partnerships between the university or college and the surrounding community, leaving the university or college with the entire problem.

Barriers to Implementing Research-Based Programs

- Data collection requirements
- Lack of information
- Problems with implementation (unrealistic objectives, inadequate resources)
- Students' rights and liability concerns

A number of other factors related to students' rights and liability concerns also discourage schools from exploring the issue further and implementing prevention programs. At what point, for example, is a student's right of privacy violated because of the institution's concerns about alcohol abuse? Does a college face legal liability if it designates a residence hall substance-free when the majority of its students are underage? How does an institution respond to the residential requirements of students in recovery whose needs are protected by the Americans with Disabilities Act? If stepped-up enforcement efforts limit the availability of alcohol on campus, will students endanger themselves and others by driving to off-campus bars? How will alumni react to changes in school "traditions" with respect to alcohol? Although colleges can resolve each of these concerns, the process takes time and requires a substantial commitment of leadership and resources.

"Universities are often afraid to reveal that they have a problem with alcohol, although everyone knows it anyway. But we've seen important benefits from focusing on the problem and taking a tough stand. Applications are up, student quality is up, more students are participating in activities like drama and music, and alumni giving has increased. I know that support for the University has grown with our reputation for taking strong ethical positions and sticking with them."

Robert L. Carothers, President
University of Rhode Island

On the basis of experience, many schools also tend to be justifiably concerned about prevention efforts where data collection is a key activity. Data collection efforts can be difficult to implement on campus. Legal and ethical considerations, such as the necessity of obtaining consent from parents and the obligation to protect the confidentiality of student responses, impede and frequently stop the process completely. Colleges and universities that persist despite these barriers sometimes find that the resulting data are subjectively interpreted and may be used to tarnish a school's reputation.

The widespread perception that student-drinking rates are immutable is another deterrent to action. Given these obstacles, it is not surprising that some colleges are reluctant to undertake and sustain rigorous efforts to address underage and excessive drinking on campuses.

Impact of Inadequate Information

Both college presidents and researchers on the Task Force agreed that the perception that underage and excessive college drinking is intractable reflects the need for more credible research and evaluation to be brought to this issue. In general, colleges and universities have not applied the methods, techniques, and findings from cutting-edge alcohol prevention research to the problem of college student drinking.

Problems with Program Design

In some cases, campus initiatives have been designed without considering the important role of research in planning and evaluating a school's alcohol program. As a result, principles useful in selecting effective programs have been overlooked. Without this knowledge, colleges find it difficult to identify and combine strategies that address the particular drinking problems on their campuses. The role of science should be emphasized more for planning (selecting evidence-based strategies) and evaluation (determining effects of any current strategies).

Steps in Integrating Research into College Alcohol Programs

- Involve college and university presidents using prevalence and cost data, evidence of research effectiveness, and aspirations for a lasting legacy.
- Establish administrative norms acknowledging the need for research and mandating evaluation.
- Obtain external support from the surrounding community, alcohol beverage and hospitality industries, foundations, and other organizations concerned about the consequences of student drinking.

Impact on Implementation

Implementation is another area where insufficient research shortchanges schools. Without a strong research base to guide their formulation, program objectives tend to be nonspecific or unrealistic. Lack of information also affects a college's capacity to develop a meaningful staffing plan and budget, deficiencies that limit program success at the outset. When vital information is not included in program design, used to guide implementation, and monitored through careful evaluation, results are likely to be disappointing.

Results of Prolonged Ineffectiveness

In addition to poor outcomes, prevention efforts that fail to achieve their goals:

- Demoralize the many college administrators who are charged with addressing this problem,
- Leave fewer resources available for investment in productive programs, and
- Lead to a growing sense of fatalism about the issue.

With resources committed to ineffective programs, the problems associated with underage and excessive college drinking—violence, injuries, sexual assaults, vandalism, poor academic performance—persist and, in the process, derail and sometimes destroy the lives of many of the

Nation's most promising young adults. Reversing this situation is crucial and, from the Task Force's perspective, will happen only if every college and university president works in conjunction with the alcohol research community to implement evidence-based prevention strategies. Task Force members also understand that for some administrators this step represents a mindset change—one that looks to validated research for genuine answers rather than quick fixes, which may seem appealing when confronted with a crisis.

Integrating Research Into College Alcohol Program Planning

Integrating research into college alcohol program planning requires the active participation of college and university presidents; cooperation from the larger campus community—including faculty, staff, and the surrounding community (e.g., local police, local businesses, community leaders), as well as students, parents, and alumni; and support from alcohol researchers and policymakers.

Involving Colleges and Universities

The first step in integrating research into the planning and execution of campus alcohol programs is to convince college and university presidents of the wisdom of supporting long-term research agendas that may not produce results during their tenure. Compelling arguments for this position can be made on the basis of:

- Data describing the dimensions of the college drinking epidemic and its effects on students, institutional costs and good will, and the surrounding community;

Creating a Research-Based Campus Alcohol Program

Why Do It?

- Excessive drinking affects all students, increases institutional costs, and hurts town-gown relationships.
- Research-based strategies are more effective than quick fixes and produce quantifiable results.
- Effective programs improve student health and safety and contribute to a meaningful legacy.

Where To Begin?

- Commit to a long-term, research-based approach.
- Persuade the larger campus community of the wisdom of this approach.

How Do I Take Action?

- Collect basic information about the nature and extent of student drinking as a first step.
- Design a comprehensive program using the "3-in-1" framework recommended by the Task Force. Incorporate strategies that address the particular problems on your campus.
- Secure outside support for your program.

How Can I Sustain Interest in the Program?

- Create administrative norms that help institutionalize the program.
- Monitor program results and publicize them.
- Continue the conversation on this issue with all members of the campus community, local community leaders, and your peers; use this dialogue to improve and update the program to respond to changing conditions on campus.

- Findings indicating that research-based strategies are effective in reducing underage and excessive student drinking; and
- College presidents' desires to ensure a legacy that includes improved student health and safety as major achievements.

Establishing Administrative Norms

Once college and university presidents are committed to using a research-based approach, the next step is to establish administrative norms that:

- Recognize the importance of research, and
- Require inclusion of review and evaluation components before institutional resources are allocated for program implementation.

Obtaining External Support

Support is also needed on a more global level. Schools cannot be expected to mount campaigns for or implement research-based approaches on their own. Commitments are needed from the community surrounding the campus, as well as from funding sources such as foundations, national organizations, and the hospitality and alcohol beverage industries to support only comprehensive, research-based strategies for addressing underage and excessive college drinking. Concerted efforts by State and Federal policymakers and leaders from the broad-based alcohol abuse prevention and treatment fields are also essential to achieving this goal.

Credible research provides the foundation for making solid programming decisions. The sophisticated methods employed in contemporary research are producing information that:

- Improves the effectiveness of prevention programs aimed at adolescents and young adults, and
- Provides much-needed accountability for resources expended.

In the Task Force's view, the prospects for genuine progress in addressing underage and excessive student drinking are enhanced substantially when colleges and universities can:

- Assess their problems realistically,
- Adopt research-based strategies to confront them,
- Adjust program activities to meet institution-specific needs, and
- Define outcomes for drinking programs that reflect desired changes and can be measured.

External resources can help presidents ensure that these important activities are integrated within a school's program for addressing hazardous student drinking.

Defining Credible Research

Task Force members relied on *credible research* to understand the impact of high-risk drinking on campus and formulate recommendations for addressing it. In contrast to research that is methodologically weak or where more has been inferred than the data allow, credible research increases understanding.

Sound research follows the principles of the scientific method and uses as many rigorous methodological techniques as possible when designing studies. Among those techniques are randomized assignment of study subjects to control and experimental groups, use of pre- and post-observations or multiple observations when feasible, and use of probability sampling.

Whereas findings from inadequately designed, implemented, or analyzed research can lead to erroneous conclusions, credible research advances the practice of alcohol problem prevention and treatment by generating, methodically applying, and testing new ideas.

A Call to Action: Recommendations for Addressing Excessive College Drinking

To provide practical assistance to colleges and universities, the Task Force on College Drinking developed a series of recommendations on integrating research-based principles and practices in alcohol program planning. The Task Force also prepared recommendations specifically for researchers and NIAAA on the direction of future research and areas for potential collaboration with colleges and universities. All recommendations are based on scientific evidence, reflect a consensus among Task Force members, and represent the most objective guidance currently available on preventing risky drinking by college students. As such, the Task Force believes that these recommendations should serve as the basis for all interventions supported by national, state, and local organizations and implemented by colleges and communities.

Recommendations for Colleges and Universities

To change the culture of drinking on campus, the Task Force recommends that all colleges and universities adopt the following overarching approach to program development and then select appropriate strategies from among those presented on the following pages to tailor programs to the special needs of their schools.

Overarching Framework

The research strongly supports the use of comprehensive, integrated programs with multiple complementary components that target: (1) individuals, including at-risk or alcohol-dependent drinkers, (2) the student population as a whole, and (3) the college and the surrounding community (Hingson and Howland, 2002; DeJong et al., 1998; Institute of Medicine, 1989). The *3-in-1 Framework* presented here focuses simultaneously on each of the three primary audiences.

The Task Force members agreed that the *3-in-1 Framework* is a useful introduction to encourage presidents, administrators, college prevention specialists, students, and community members to think in a broad and comprehensive fashion about college drinking. It is designed to encourage consideration simultaneously of multiple audiences on and off campus. The Task Force offers the *3-in-1 Framework* as a starting point to develop effective and science-based prevention efforts.

The brief descriptions that follow provide the rationale for emphasizing these three targets in prevention programs aimed at high-risk student drinking and identify alternative prevention strategies that address each group.

(1) Individuals, Including At-Risk or Alcohol-Dependent Drinkers: The risk for alcohol problems exists along a continuum. Targeting only those with identified problems misses students who drink heavily or misuse alcohol occasionally (e.g., drink and drive from time to time). In fact, nondependent, high-risk drinkers

What does a multivariate perspective mean?

Alcohol research clearly indicates that multiple factors interact to produce various drinking patterns. Factors include students' genetic/biological characteristics, family and cultural backgrounds and environments, previous drinking experiences in high school, and the particular environment of the college in which they are enrolled. Even within one college, patterns may be influenced by students' participation in fraternities/sororities, sports teams, or other social groups. Research now has the capacity to bring this enlarged perspective to the problem of college drinking and to test models that take into account many of these factors.

account for the majority of alcohol-related deaths, disability, and damage (Lemmons, 1995; Kreitman, 1986).

It is crucial to support strategies that assist individual students identified as problem, at-risk, or alcohol-dependent drinkers. Strategies are clearly needed to engage these students as early as possible in appropriate screening and intervention services—whether provided on campus or through referral to specialized community-based services. One important effort to increase on-campus screening is National Alcohol Screening Day, an event that takes place in April each year. This program, supported by NIAAA and the Substance Abuse and Mental Health Services Administration, provides free, anonymous testing and health information at a growing number of colleges and universities.

(2) Student Body as a Whole: The key to affecting the behavior of the general student population is to address the factors that encourage high-risk drinking (DeJong and Langenbahn, 1996; DeJong and Linkenbach, 1999; DeJong and Langford, 2002; Edwards et al., 1994; Perkins, 2002; Toomey and Wagenaar, 2002; Toomey et al., 1993).

They include the:

- Widespread availability of alcoholic beverages to underage and intoxicated students,
- Aggressive social and commercial promotion of alcohol,
- Large amounts of unstructured student time,
- Inconsistent publicity and enforcement of laws and campus policies, and
- Student perceptions of heavy alcohol use as the norm.

Specific strategies useful in addressing these problem areas tend to vary by school. Examples of some of the most promising strategies appear in the section "Recommended Strategies" (please see below).

(3) College and the Surrounding Community: Mutually reinforcing interventions between the college and surrounding community can change the broader environment and help reduce alcohol abuse and alcohol-related problems over the long term. When college drinking is reframed as a community as well as a college problem, campus and community leaders are more likely to come together to address it comprehensively. The joint activities that typically result help produce policy and enforcement reforms that, in turn, affect the total drinking environment. Campus and community alliances also improve relationships overall and enable key groups such as student affairs offices, residence life directors, local police, retail alcohol outlets, and the court system to work cooperatively in resolving issues involving students (Hingson and Howland, 2002; Holder et al., 1997a, 2000; Perry and Kelder, 1992; Saltz and Stangetta, 1997).

Following are specific strategies that can be used within the *3-in-1 Framework* to create programs addressing all three levels.

Recommended Strategies

The evidence supporting the substance abuse prevention strategies in the literature varies widely. These differences do not always mean that one strategy is intrinsically better than another. They may reflect the fact that some strategies have not been as thoroughly studied as others or have not been evaluated for application to college drinkers. To provide a useful list

that accounts for the lack of research as well as negative findings, Task Force members placed prevention strategies in descending tiers on the basis of the evidence available to support or refute them.

Tier 1: Evidence of Effectiveness Among College Students

Strong research evidence (two or more favorable studies available) supports the strategies that follow. All strategies target individual problem, at-risk, or alcohol-dependent drinkers. *Their efficacy as part of a campus-wide strategy has not been tested.*

Strategy: **Combining cognitive-behavioral skills with norms clarification and motivational enhancement interventions.** *Cognitive-behavioral skills training* strives to change an individual's dysfunctional beliefs and thinking about the use of alcohol through activities such as altering expectancies about alcohol's effects, documenting daily alcohol consumption, and learning to manage stress.

Norms or values clarification examines students' perceptions about the acceptability of abusive drinking behavior on campus and uses data to refute beliefs about the tolerance for this behavior as well as beliefs about the number of students who drink excessively and the amounts of alcohol they consume.

As its name implies, *motivational enhancement* is designed to stimulate students' intrinsic desire or motivation to change their behavior. Motivational enhancement strategies are based on the theory that individuals alone are responsible for changing their drinking behavior and complying with that decision (Miller et al., 1992). In motivational enhancement interventions, interviewers assess student alcohol consumption using a formal screening instrument. Results are scored and students receive nonjudgmental feedback on their personal drinking behavior in comparison with that of others and its negative consequences. Students also receive suggestions to support their decisions to change.

Research indicates that combining the three strategies is effective in reducing consumption (Larimer and Cronce, 2002). One example of such an approach is a program using motivational enhancement, developed by

Assessment of Alcohol Problems

Within the last generation, researchers have developed semi-structured interviews that provide reliable, standardized assessments of alcohol consumption, alcohol problems, and the symptoms of alcohol abuse and dependence.

These new techniques allow researchers to evaluate the extent of various alcohol-related problems among college and noncollege samples and to assess their magnitude nationally and regionally. They also enable researchers to determine how alcohol-related problems change in response to general population trends, new laws and policies, and alcohol prevention and programs.

Influence of Implicit Expectations and Thoughts

Thoughts and motives of which individuals are unaware or barely aware often influence behavioral choices. Research in cognitive psychology and neuroscience has vastly improved capacity to assess "implicit" decision making. Recently, this understanding has been applied to the problem of college drinking. As a result, program planners are developing prevention programs that do *not* assume that every choice college students make has been carefully considered before they act on it.

Marlatt. The program, the Alcohol Skills Training Program (ASTP), is a cognitive-behavioral alcohol prevention program that teaches students basic principles of moderate drinking and how to cope with high-risk situations for excessive alcohol consumption (Fromme et al., 1994). The ASTP is designed for group administration and includes an alcohol expectancy challenge component. Controlled outcome studies show that the ASTP significantly reduces drinking rates and associated problems for both 1-year (Kivlahan et al., 1990) and 2-year follow-up periods (Baer et al., 1992).

Strategy: **Offering brief motivational enhancement interventions.** Students who receive brief (usually 45-minute), personalized motivational enhancement sessions, whether delivered individually or in small groups, reduce alcohol consumption. This strategy can also reduce negative consequences such as excessive drinking, driving after drinking, riding with an intoxicated driver, citations for traffic violations, and injuries (Aubrey, 1998; D'Amico and Fromme, in press; Larimer and Cronce, 2002; Marlatt et al., 1998; Monti et al., 1999). This approach has been used successfully in medical settings (Dimeff, 1999; Monti et al., 1999). An effective brief intervention has been developed at the University of Washington. This brief intervention for high-risk drinkers is based on the ASTP program and is known as the BASICS program: Brief Alcohol Screening and Intervention for College Students (Dimeff et al., 1999). BASICS is administered in the form of two individual sessions in which students are provided feedback about their drinking behavior and given the opportunity to negotiate a plan for change based on the principles of motivational interviewing. High-risk drinkers who participated in the BASICS program significantly reduced both drinking problems and alcohol consumption rates, compared to control group participants, at both the 2-year follow-up (Marlatt et al., 1998) and 4-year outcome assessment periods (Baer et al., 2001). BASICS has also been found to be clinially significant in an analysis of individual student drinking changes over time (Roberts et al., 2000).

Strategy: **Challenging alcohol expectancies.** This strategy works by using a combination of information and experiential learning to alter students' expectations about the effects of alcohol so they understand that drinking does not necessarily produce many of the effects they anticipate such as sociability and sexual attractiveness (Darkes and Goldman, 1993, 1998; Jones et al., 1995). The research conducted to date indicates that the positive effects of this strategy last for up to 6 weeks in men, but additional research is under way to verify and extend this approach to women and for longer time periods.

Tier 2: Evidence of Success With General Populations That Could Be Applied to College Environments

The Task Force recommends that college presidents, campus alcohol program planners, and student and community leaders explore the strategies listed below because they have been successful with similar populations, although they have not yet been comprehensively evaluated with college students (Hingson et al., 1996; Holder et al., 2000; Saltz and Stangetta, 1997; Voas et al., 1997). These environmental strategies are not guaranteed to alter the behavior of every college student, but they can help change those aspects of the campus and community culture that support excessive and underage alcohol use.

"Student safety is of paramount importance, we simply have to make certain that our [alcohol prevention] program is working."

William Jenkins, President
Louisiana State University System

Strategy: **Increased enforcement of minimum drinking age laws** (Toomey and Wagenaar, 2002). The minimum legal drinking age (MLDA) law is the most well-studied alcohol control policy. Compared to other programs aimed at youth in general, increasing the legal age for purchase and consumption of alcohol has been the most successful effort to date in reducing underage drinking and alcohol-related problems. Most studies suggest that higher legal drinking ages reduce alcohol consumption, and over half found that a higher legal drinking age is associated with decreased rates of traffic crashes. Studies also indicate that policies are less effective if they are not consistently enforced. Moreover, the certainty of consequences is more important than severity in deterring undesirable behavior.

The benefits of the MLDA have occurred with minimal enforcement, yet studies of the effects of increased enforcement show that it is highly effective in reducing alcohol sales to minors (Wagenaar and Toomey, 2002). Increased enforcement—specifically compliance checks on retail alcohol outlets—typically cuts rates of sales to minors by at least half (Preusser et al., 1994; Lewis et al., 1996; Grube, 1997). Efforts to reduce the use of false age identification and tighter restrictions on "home delivery" of alcohol may also help enhance the effectiveness of this law.

Strategy: **Implementation, increased publicity, and enforcement of other laws to reduce alcohol-impaired driving.** Injury and deaths caused by alcohol-impaired driving and related injuries and deaths can be reduced by lowering legal blood alcohol limits to .08 percent for adult drivers (Dee, 2001; Hingson et al., 1996a, 2000; Schultz et al., 2001; Voas et al., 2000); setting legal blood alcohol content (BAC) for drivers under age 21 at .02 percent or lower (Hingson et al., 1994; Wagenaar et al., 2001); use of sobriety check points (Castle et al., 1995; Lacey et al., 1999; Schultz et al., 2001); server training intervention (Gliksman et al., 1993; Lang et al., 1998; Russ and Geller, 1987; Saltz, 1989; Schultz et al., 2001); and administrative license revocation laws (Dee, 2001; Klein, 1989; Voas et al., 2000; Zador et al., 1989). Safety belt laws, particularly primary enforcement belt laws, have been shown in numerous studies to reduce traffic deaths and injuries (Dinh-Zaar et al., 2001). When California changed from a secondary to a primary enforcement belt law that permits police to stop vehicles and give a citation simply because an occupant was not belted, safety belt use rates increased 39 percent among drivers with BAC of .10 percent or higher compared to 23 percent overall (Lange and Voas, 1998). This indicates that primary enforcement belt laws can prevent many alcohol-related traffic fatalities. Comprehensive community interventions have also shown that increased enforcement and publicity of laws to reduce alcohol-impaired driving have produced significant reductions in the types of motor vehicle crashes most likely to involve alcohol (Holder et al., 2000) and alcohol-related traffic deaths (Hingson et al., 1996b).

Strategy: **Restrictions on alcohol retail outlet density** (Scribner et al., 1995; Gruenewald et al., 1993). Studies of the number of alcohol licenses or outlets per population size have found a relationship between the density of alcohol outlets, consumption, and related problems such as violence, other crime, and health problems (Toomey and Wagenaar, 2002). One study, targeting college students specifically, found higher levels of drinking and binge drinking among underage and older college students when a larger number of businesses sold alcohol within one mile of campus (Chaloupka and Wechsler, 1996). Numbers of outlets may be restricted directly or indirectly through policies that make licenses more difficult to obtain such as increasing the cost of a license.

Strategy: **Increased price and excise taxes on alcoholic beverages** (Godfrey, 1997; Chaloupka and Wechsler, 1996; Sutton and Godfrey, 1995; Kenkel, 1993). The effect of price on consumption has been studied extensively. All types of drinkers appear to be affected by price. Studies show that when the price of alcohol increases, many alcohol-related problems, including motor vehicle fatalities, robberies, rapes, and liver cirrhosis mortality, decrease (Cook and Moore, 1993). Although older heavy drinkers seem to be less affected by variations in price than other consumers, price still appears to have a substantial impact on young, heavy drinkers. For this reason, efforts to increase price or to prevent reductions in price likely would affect the behavior of the full spectrum of drinkers on campus.

Strategy: **Responsible beverage service policies in social and commercial settings** (Saltz and Stangetta, 1997; Holder et al., 1997b; Treno and Holder, 1997). Studies suggest that bartenders, waiters, and others in the hospitality industry would welcome written policies about responsible service of alcohol and training in how to implement them appropriately. Policies could include serving alcohol in standard sizes, limiting sales of pitchers, cutting off service of alcohol to intoxicated patrons, promoting alcohol-free drinks and food, and eliminating last-call announcements. Servers and other staff could receive training in skills such as slowing alcohol service, refusing service to intoxicated patrons, checking age identification, and detecting false identification. To prevent sales to underage patrons, it is important to back identification policies with penalties for noncompliance.

Strategy: **The formation of a campus and community coalition involving all major stakeholders may be critical to implement these strategies effectively.** A number of comprehensive community efforts have been designed to reduce alcohol and other substance use and related negative consequences among underaged youth, including college students, and among adults (Chou et al., 1998; Hingson et al., 1996b; Holder and Treno, 1997; Holder et al., 1997b; Pentz et al., 1989; Perry et al., 1996; Saltz and Stangletta, 1997; Wagenaar et al., 2000); and their outcomes demonstrate the potential effectiveness of this approach in college communities. For example, the Community Trials Program (Grube, 1997; Holder and Treno, 1997; Holder et al., 1997a, b; Holder and Reynolds, 1997; Holder et al., 2000; Treno and Holder, 1997; Reynolds et al., 1997; Saltz and Stangletta, 1997; Voas et al., 1997), which focused on alcohol trauma in the general population, resulted in a significant decline in emergency room admissions for alcohol-related assault. Both this program and Communities Mobilizing for Change (CMCA) (Wagenaar et al., 1999, 2000), which was designed specifically to reduce drinking among

young people, resulted in reduced alcohol sales to minors. In the CMCA project young people ages 18 to 20 reduced their propensity to provide alcohol to other teens and were less likely to try to buy alcohol, drink in a bar, or consume alcohol. The Massachusetts Saving Lives Program (Hingson et al., 1996b), designed to reduce drunk driving and speeding in the general population, produced relative declines in alcohol-related traffic deaths among persons 16 to 25 years of age.

This approach reframes the issue as a community problem, not simply a college problem, brings together the range of players needed to address it, and sets the stage for cooperative action. In addition to college presidents and campus administrators, stakeholders in campus-community coalitions include student groups, faculty, staff, community leaders, law enforcement, and representatives from hospitality and alcohol beverage industries (Hingson and Howland, 2002). Research shows that promoting community ownership of programs enhances success (Holder et al., 1997a; Perry et al., 1996). On that basis, active campus and community coalitions can be expected to build support for addressing underage and excessive college drinking; help assure that strategies used respond to genuine community needs; maintain and, ultimately, institutionalize effective strategies; and evaluate and disseminate the results of the coalition's activities to other college communities (Hingson and Howland, 2002).

Tier 3: Evidence of Logical and Theoretical Promise, But Require More Comprehensive Evaluation

The Task Force recognizes that a number of popular strategies and policy suggestions make sense intuitively or have strong theoretical support. Many also raise researchable questions that may be crucial in reducing the consequences of college student drinking. Although the Task Force is eager to see these strategies implemented and evaluated, it cautions interested schools to assemble a team of experienced researchers to assist them in the process.

The Task Force recommends that schools considering any of these strategies incorporate a strong evaluation component to test their viability in actual practice. Every strategy that appears below targets the student population as a whole.

***Strategy:* Adopting the following campus-based policies and practices that appear to be capable of reducing high-risk alcohol use.** These activities are particularly appealing because straightforward and relatively brief evaluations should indicate whether they would be successful in reducing high-risk drinking on a particular campus.

- Reinstating Friday classes and exams to reduce Thursday night partying; possibly scheduling Saturday morning classes;

"Excessive student drinking contributes to failed academic performance ranging from missed classes to attrition. At the same time, many colleges and universities unwittingly help create a culture of student drinking by scheduling no classes on Friday, thereby creating three-day weekends, and by grade inflation which tolerates and even rewards minimal student performance."

Susan Resneck Pierce, President
University of Puget Sound

- Implementing alcohol-free, expanded late-night student activities;
- Eliminating keg parties on campus where underage drinking is prevalent;
- Establishing alcohol-free dormitories;
- Employing older, salaried resident assistants or hiring adults to fulfill that role;
- Further controlling or eliminating alcohol at sports events and prohibiting tailgating parties that model heavy alcohol use;
- Refusing sponsorship gifts from the alcohol industry to avoid any perception that underage drinking is acceptable; and
- Banning alcohol on campus, including at faculty and alumni events.

Strategy: **Increasing enforcement at campus-based events that promote excessive drinking** (DeJong, 1998; DeJong and Langenbahn, 1996; Gomberg, 1999; Gulland, 1994; Pittayathikhun et al., 1997). Campus police can conduct random spot checks at events and parties on campus to ensure that alcohol service is monitored and that age identification is checked. It may be important for non-students to enforce these campus policies. Resident assistants and others charged with developing close supportive relationships with students might find it difficult to enforce alcohol-related rules and regulations consistently and uniformly.

Strategy: **Increasing publicity about and enforcement of underage drinking laws on campus and eliminating "mixed messages."** As indicated previously, active enforcement of minimum legal age drinking laws results in declines in sales to minors (Grube, 1997; Lewis et al., 1996; Preusser et al., 1994; Wagenaar et al., 2000). Lax enforcement of State laws

"We dare not let alcohol blemish your bright promise."

Thomas K. Hearn, Jr., President
Wake Forest University
in a letter to incoming first-year students

and local regulations on campus may send a "mixed message" to students about compliance with legally imposed drinking restrictions. Creative approaches are needed to test the feasibility of this strategy (DeJong and Langford, 2002).

Strategy: **Consistently enforcing disciplinary actions associated with policy violations** (DeJong and Langford, 2002). Inconsistent enforcement of alcohol-related rules may suggest to students that "rules are made to be broken." To test the effectiveness of this approach would likely require staff and faculty training, frequent communication with students, and the implementation of a research component.

Strategy: **Conducting marketing campaigns to correct student misperceptions about alcohol use** (Berkowitz, 1997; Clapp and McDonnell, 2000; DeJong and Linkenbach, 1999; Johannessen et al., 1999; Page et al., 1999; Perkins, 1997, 2002; Perkins and Wechsler, 1996). On the basis of the premise that students overestimate the amount of drinking that occurs among their peers and then fashion their own behavior to meet this perceived norm, many schools are now actively conducting "social norming" campaigns to correct many of these misperceptions.

Strategy: **Provision of "safe rides" programs** (DeJong, 1995). Safe rides attempt to prevent drinking and driving by providing either free or low-cost transportation such as taxis or van shuttles from popular student venues or events to residence halls and other safe destinations. Safe rides are usually restricted to students, faculty, staff, and a limited number of "guests." Safe rides sponsors often include student government, Greek Councils, student health centers, campus police, Mothers Against Drunk Driving chapters, and other local community organizations, agencies, and businesses. They have been criticized as potentially encouraging high-risk drinking, and this possibly should be considered in design, promotion, and monitoring.

Strategy: **Regulation of happy hours and sales** (Chaloupka and Wechsler, 1996; Toomey and Wagenaar, 2002). Happy hours and price promotions—such as two drinks for the price of one or women drink for free—are associated with higher consumption among both light and heavy drinkers. Research shows that as the price of alcohol goes up, consumption rates go down, especially among younger drinkers. Because many bars surrounding campuses attract students by promoting drink specials, restrictions on happy hours have the potential to reduce excessive consumption off campus. If colleges and universities have a licensed establishment on campus, drink specials could be prohibited or promotion of alcohol-free drinks and food specials could be encouraged. In nonlicensed settings on campus that serve alcohol, event planners could opt to limit the amount of free alcohol that is available and eliminate all self-service. Schools could also limit alcohol use to weekends or after regular class hours in an effort to separate drinking from activities more closely aligned with the core academic mission.

Strategy: **Informing new students and their parents about alcohol policies and penalties before arrival and during orientation periods** (DeJong and Langford, 2002). There is some anecdotal evidence that experiences during the first 6 weeks of enrollment affect subsequent success during the freshman year. Because many students begin drinking heavily during this time, they are unable to adapt appropriately to campus life. Alerting parents and students to this possibility early on (e.g., through preadmission letters to parents and inclusion of information in orientation sessions and in presidents' and student leaders' welcoming speeches) may help prevent the development of problems during this critical, high-risk period.

Tier 4: Evidence of Ineffectiveness

The Task Force recognizes that it is difficult or impossible to "prove" that a specific intervention approach is universally ineffective. Nevertheless, when there are consistent findings across a wide variety of well-designed studies, it is possible to conclude that an approach is not likely to be effective and that limited resources should be used in other ways. Additionally, if there is strong evidence that an intervention approach is actually harmful or counterproductive, recommendations not to use it can be made based on fewer studies.

The Task Force also notes that some interventions may be ineffective when used in isolation, but might make an important contribution as part of a multicomponent integrated set of programs and activities. However, until there is evidence of a complementary or synergistic effect resulting from inclusion with other strategies, college administrators are cautioned against making assumptions of effectiveness without scientific evidence. For instance, two strategies sometimes are labeled as ineffective—the TIPS server training program and Prime for Life! On Campus (Talking About Alcohol), formerly known as OCTAA—when not used with other strategies (Larimer and Cronce, 2002; Maddock, 1999; Sammon et al., 1991). However, there is no scientific evidence that these programs actually work well if used in conjunction with other complementary strategies.

Strategy: **Informational, knowledge-based, or values clarification interventions about alcohol and the problems related to its excessive use, when used alone** (Larimer and Cronce, 2002; Maddock, 1999). This strategy is based on the assumption that college students excessively use alcohol because they lack knowledge or awareness of health risks and that an increase in knowledge would lead to a decrease in use. Although educational components are integral to some successful interventions, they do not appear to be effective in isolation. Despite this evidence, informational/educational strategies are the most commonly utilized techniques for individually focused prevention on college campuses (DeJong and Langford, 2002; Larimer and Cronce, 2002; Ziemelis, 1998).

Strategy: **Providing blood alcohol content feedback to students.** This strategy uses breath analysis tests to provide students accurate information on their BAC. It could be used as part of a research evaluation or to dissuade students from driving while under the influence or continuing to drink past intoxication. Providing this information to students who are drinking must be approached with caution. Some researchers have found that the presence of immediate breath analysis feedback can actually encourage excessive drinking when students make a contest of achieving high BACs (personal communications from Scott Geller, 2002 and Robert Voas, 2002). If BAC feedback is to be provided in naturalistic settings, the procedure should be carefully monitored for adverse effects and adjusted as necessary.

3-in-1 Framework

Tier	Strategy	Level of Operation		
		Individuals, including At-Risk and Dependent Drinkers	Student Population as Whole	Community
1: Effective among college students	Combining cognitive-behavioral skills with norms clarification & motivational enhancement intervention	Yes	No	No
	Offering brief motivational enhancement interventions in student health centers and emergency rooms	Yes	No	No
	Challenging alcohol expectancies	Yes	No	No
2: Effective with general populations	Increased enforcement of minimum drinking age laws	No	Yes	Yes
	Implementation, increased publicity, and enforcement of other laws to reduce alcohol-impaired driving	No	Yes	Yes
	Restrictions on alcohol retail density	No	No	Yes
	Increased price and excise taxes on alcoholic beverages	No	No	Yes
	Responsible beverage service policies in social & commercial settings	No	Yes	Yes
	The formation of a campus/community coalition	No	Yes	Yes
3: Promising	Adopting campus-based policies to reduce high-risk use (e.g., reinstating Friday classes, eliminating keg parties, establishing alcohol-free activities & dorms)	No	Yes	No
	Increasing enforcement at campus-based events that promote excessive drinking	No	Yes	No
	Increasing publicity about enforcement of underage drinking laws/eliminating "mixed" messages	No	Yes	Yes
	Consistently enforcing disciplinary actions associated with policy violations	No	Yes	No
	Conducting marketing campaigns to correct student misperceptions about alcohol use on campus	No	Yes	No
	Provision of "safe rides" programs	No	Yes	Yes
	Regulation of happy hours and sales	No	Yes	Yes
	Enhancing awareness of personal liability	Yes	Yes	No
	Informing new students and parents about alcohol policies and penalties	Yes	Yes	No
4: Ineffective	Informational, knowledge-based or values clarification interventions when used alone	N/A	N/A	N/A

A Special Role for College Presidents

"It has been my experience, both on campus and in the community, that invitations on presidential letterhead result in greater participation in our efforts than otherwise have been the case."

Susan Resneck Pierce, President
University of Puget Sound

In the Task Force's view, presidential leadership is essential to ensure that recommendations relevant to each college and university are incorporated into its alcohol abuse prevention program planning process. As a school's chief executive officer, educational leader, and public spokesperson, a president is expected to set priorities, serve as a catalyst for new programs, and communicate concern about issues compromising the educational environment (DeJong, 1998). By virtue of their authority, presidents can pull together all the disparate pieces of institutional policy on alcohol from student life, athletics, administrative affairs, and residence life. Once new or refined policies and practices are in place, their position helps ensure that every sector of the college implements the new procedures (Mara, 2000; DeJong, 1998).

Presidential visibility and influence also lend increased importance to prevention efforts on campus and in the community and promote student as well as faculty investment in and ownership of programs. According to the project director of Louisiana State University's Community Coalition for Change, students deem it an "honor" to participate on the college prevention task force when the school president calls for their involvement and conveys personal commitment to the issue.

The Task Force recognizes that although research can provide useful guidance to colleges and universities in addressing the consequences of high-risk student drinking, presidential leadership is crucial to set plans in motion and support the actions needed to reverse the culture of drinking on campus.

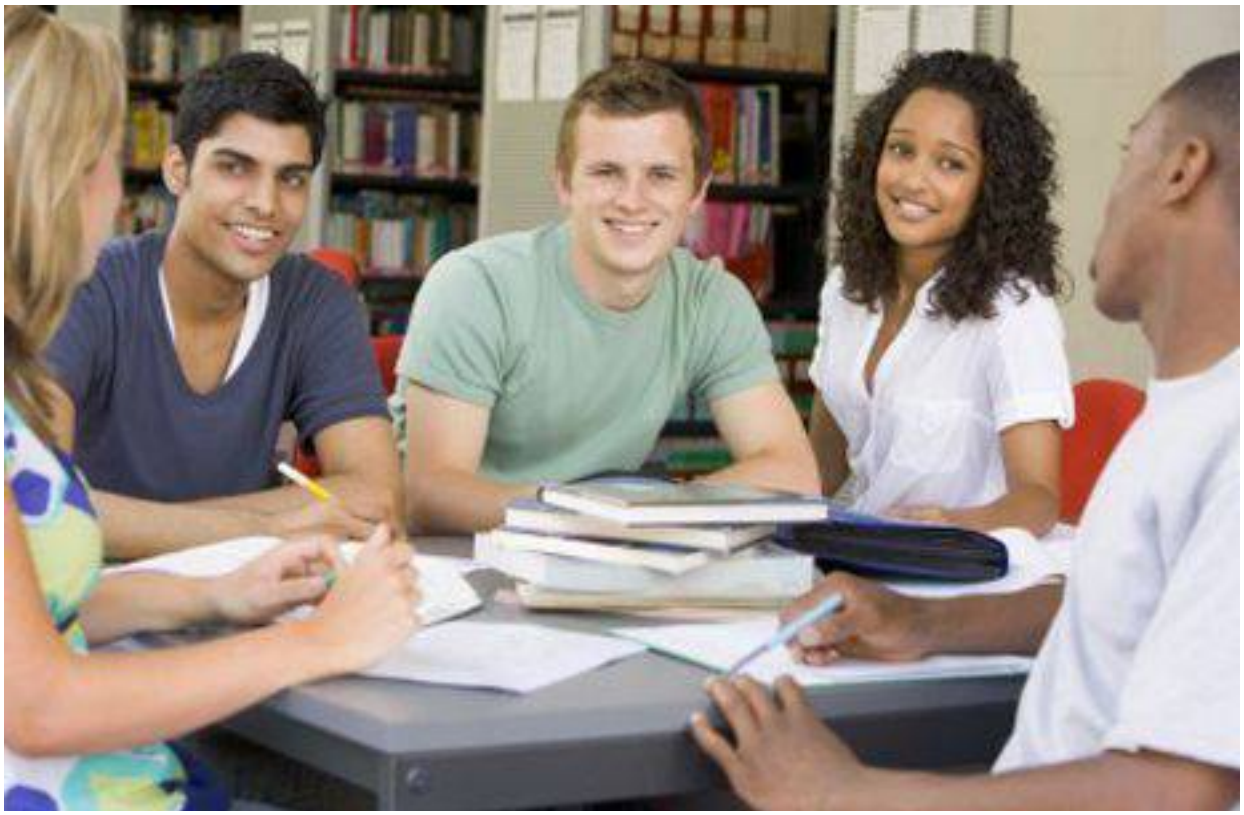
The Need for Student Participation in Prevention Policymaking and Programs

Both college presidents and student members of the Task Force reiterated the importance of involving students in rethinking a school's approach to high-risk student drinking. Students are not only the primary targets and beneficiaries of prevention programs, but also key contributors to their successful implementation (Mara, 2000; Presidents Leadership Group, 1997).

In their discussions about the practical issues involved in developing and sustaining workable policies, Task Force members described several areas where student participation not only improved a school's policy, but also increased campus-wide "ownership" of the prevention efforts emanating from it (Mara, 2000). These include participation in (Mara, 2000):

- Campus-based task forces to direct prevention program efforts and develop specific strategies for promoting change in student organizations,
- Joint campus and community coalitions,
- Reviews of proposed policies before they are finalized,
- Judicial reviews by dormitory councils that hear cases of first alcohol infractions, and
- Training of student residence hall staff to eliminate communication of mixed messages about alcohol use on campus and improve consistent enforcement of alcohol policies.

From the Task Force's perspective, inviting students to share in the development and implementation of the recommendations outlined above will help ensure that the strategies selected meet an institution's specific needs and receive the continued attention required for success.



Steps That Signal Imminent Change in the Culture of Drinking

College and university presidents will need time to carefully consider the implications of the Task Force's recommendations. As they do, the Task Force suggests that they take the following, immediate steps to signal their interest in changing the culture of drinking on campus:

- **Review current alcohol prevention programs, assess whether they are working, and consider what could be changed.** Research-based methods are available to assist college presidents with this task. Without an informed assessment, colleges and universities cannot fully identify needs or structure programs to respond to the particular types of drinking problems on their campuses.

- **Involve students, the community, and other stakeholders in the review and assessment process and in the planning and implementation of interventions.** Stakeholders can help ensure that planned interventions represent and reconcile the diversity of perspectives on campus, include appropriate and acceptable strategies, and achieve wider buy-in for proposed changes. A mix of students and more "permanent" stakeholders will help guarantee continuity over time.

- **Focus on strategies most likely to make a difference at individual institutions and document them in a strategic plan.** Effective alcohol policies and programs are tailored to the specific situation on each campus. Just as there are multiple contributing factors to high-risk drinking, there are multiple strategies that can be applied to improve identified problems. A strategic planning process conducted in collaboration with campus and community stakeholders can identify strategies appropriate for a given school and community. Strategic plans also include ongoing program evaluation and campus monitoring components to ensure that both needs and progress are assessed at timed intervals.

- **Communicate the institution's position on underage and excessive drinking.** Students, parents, alumni, community leaders, and college faculty and staff are more likely to support a school's efforts to reduce underage and excessive drinking if they understand why action is necessary and how student health and safety can benefit from the university's position. Orientation and other appropriate gatherings of the university community may offer appropriate opportunities to convey those messages.

- **Commit to addressing the issue over time.** Strategies effective in reducing underage and excessive drinking require substantial time to produce results. Planning efforts recognizing this need can help ensure that programs are implemented effectively and achieve intended outcomes.

- **Collaborate with NIAAA to develop an evaluation plan.** Practical strategies for beginning and supporting institutional initiatives include:
  - Using data collection and data extrapolation methods to assemble information needed in problem assessment,
  - Evaluating campus-based approaches and longer-term campus- and community-based environmental approaches, and
  - Participating in research dissemination initiatives offered by NIAAA.

Recommendations for the Research Community

As the Task Force explored the role of the research community in supporting college drinking prevention programs, the need for both new and expanded research-oriented activities became clear. Researchers, no matter their subject specialty or interest, are members of their college or university community and, as such, have a unique knowledge and concern about alcohol-related problems. Specifically, researchers need improved methods for understanding the dimensions of the alcohol problem on campus, developing timely answers to immediate policy questions, and evaluating the impact of prevention programs on student drinking. In the Task Force's view, enhancing both the methods and opportunities for conducting evaluations is a priority. Well-designed evaluations increase the likelihood of program effectiveness, maximize the use of resources, and validate program credibility. Evaluation results also help researchers develop the knowledge needed to inform future policies and programs (Saltz and DeJong, 2002).

To amass the research-based information needed to improve campus-based prevention policies and programs, the Task Force recommends that the research community:

- Expand its focus on extracting information from existing research databases and studies and produce findings that are immediately useful in understanding college drinking.
- Develop specific standards and guidelines for assessing campus alcohol problems, monitoring trends, and evaluating interventions. This should include developing more effective screening tools for use by clinicians and researchers to facilitate the identification of at-risk, problem, and dependent drinkers among college students.
- Improve existing data systems such as the Department of Transportation's Fatality Analysis Reporting System (FARS) and the Centers for Disease Control and Prevention's Vital Statistics Mortality files to more accurately specify, count, and monitor college student deaths over time.
- Collaborate with universities to capitalize on the "natural" research opportunities that emerge when schools, communities, or States institute a major policy change that affects multiple aspects of the academic community—for example, restricting sales of alcohol at school-sponsored events.
- Partner with individual institutions to implement short-term studies to assess the impact of popular, commonsense strategies for changing campus-based environmental policies and practices that have not yet been comprehensively evaluated. The strategies in Tier 3 could be effectively studied through short and relatively simple campus-based research efforts.
- Offer assistance to colleges and universities in using research-based evidence to develop and improve current alcohol policies.

Recommendations for NIAAA

One of the Task Force's most important tasks is to recommend activities and research that NIAAA could sponsor to support colleges and universities in their efforts to change the culture of drinking on campus. Backed by the NIH reputation for rigorous scientific research, NIAAA is in a unique position to foster careful studies of underage and excessive college drinking. Results from such efforts would enable campus and community policymakers to speak with greater confidence about the causes and consequences of the problem and its possible solutions. The Task Force urges NIAAA and the Congress to expand funding to support these vital research endeavors on as many campuses as possible.

From the Task Force's perspective, NIAAA should assume primary responsibility for:

- Supporting the research community's efforts to address existing knowledge gaps and alter the culture of drinking on campus;
- Facilitating long-term, campus-community research aimed at preventing hazardous student drinking; and
- Imparting what is known about the patterns of college drinking and the quality of current interventions to encourage college presidents, administrators, and other campus and community leaders to adopt policies and implement strategies based on research.

The Task Force grouped its recommendations for NIAAA by these three functional areas.

(1) Supporting Development of Improved Research Methods

Improved data collection and extrapolation methods will help equip college administrators to assess the dimensions of the problem on their campuses and understand their situation in comparison to others. To support this activity, the Task Force recommends that NIAAA:

- Design and implement one national surveillance and data system for all colleges and universities to establish reliable estimates of the magnitude of the problem, provide mechanisms to track nationwide changes, assist colleges in monitoring their own campuses, and facilitate intercampus research.
- Take the leadership role in working with other relevant agencies and organizations, researchers, and college administrators to support development of a range of state-of-the-art screening and assessment measures for use by colleges as well as researchers.

(2) Facilitating Lengthy and Complex Research

The Task Force recommends that NIAAA assist colleges and universities by providing guidance and consultation

The Need for Longitudinal Studies

The overwhelming majority of studies on college student drinking assess students at a single point in time. Although these "cross-sectional" snapshots provide useful information concerning the extent that two factors—such as heavy drinking and fraternity membership—are correlated, they cannot specify the nature of the causal relationship between the two. For example, if heavy drinking is associated with fraternity memberships, it could be because:

- Greek residence life facilitates drinking (i.e., socialization),
- Heavier drinkers differentially affiliate with Greek organizations because of the drinking opportunities they may afford (i.e., selection), or
- Other factors such as personality traits promote both affiliation and drinking.

Only by prospectively following individual students and assessing them on multiple occasions can researchers begin to uncover the likely direction of influence, if any, between drinking behavior and its correlates.

on the implementation of longitudinal studies and joint campus and community-based initiatives designed to alter the larger environment as it affects student drinking. Such studies are complicated to implement and require a greater commitment of resources than those highlighted above. However, they also have the potential to change the landscape permanently by providing conclusive evidence of the long-term consequences of hazardous student drinking and reducing tolerance for it at all levels of the campus-community environment.

The Task Force recommends that NIAAA:

- Pursue longitudinal studies of youth—beginning early in adolescence (7th grade) and continuing into young adulthood—to obtain information about such important issues as the development of alcohol problems over time and their longer-term consequences.
- Support research on the effectiveness of joint campus- and community-based coalitions in reducing underage and excessive drinking. Coalitions could include alcohol wholesalers and retailers as well as college presidents, campus and community leaders, and policymakers. Coalition activities could also span the continuum of program possibilities from strategies designed to address those social norms and characteristics of the campus-community environment that influence student drinking to the provision of alcohol prevention and treatment services.
- Partner with other Federal and State agencies and national organizations to support campuses interested in implementing joint campus- and community-based initiatives.
- Organize multisite campus trials of individual campus- and community-based projects that have been evaluated favorably.

(3) Disseminating Research-Based Information and Promoting Its Application on Campus

Outreach efforts are essential to disseminate information about existing research-based initiatives to stakeholders and persuade colleges and universities to rely on research-based strategies in developing campus policies and programs.

The Task Force recommends that NIAAA:

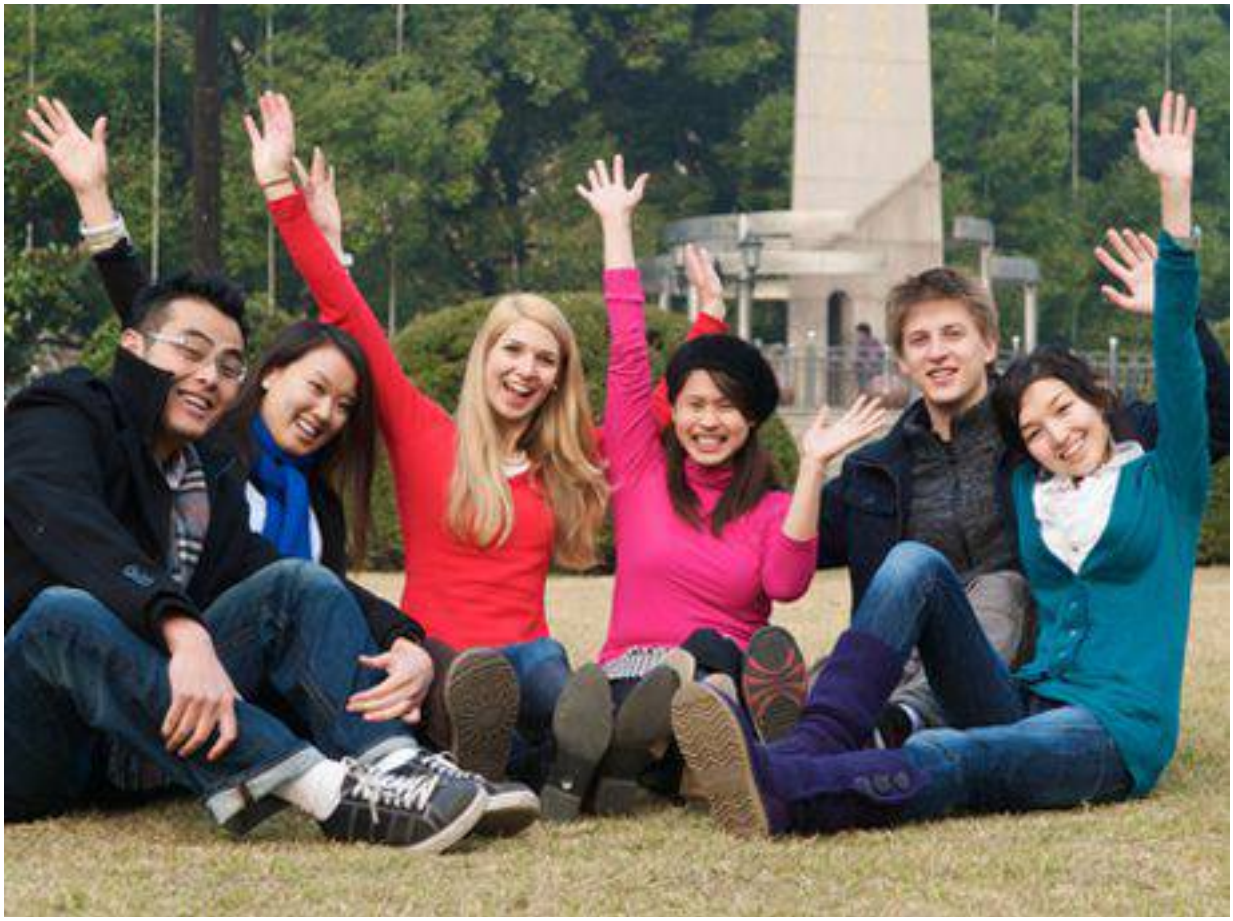
- Share the results of the Task Force's comprehensive review of the current state-of-the-research on college drinking with a variety of audiences, including local, State, and national organizations interested in the issue, to expedite and reinforce the process of information exchange.
- Develop a series of regional workshops across the United States to share the Task Force's recommendations with college presidents and promote campus participation in surveillance activities and research trials.
- Expand the dialogue among college presidents and administrators, community leaders, and researchers

"It is not realistic to expect that colleges can eradicate alcohol problems among students, given the complexity of the issues and the role of alcohol in the broader social culture. But we can work to prevent alcohol-induced behavior that violates our sense of peace and security and that makes us passive contributors to the degradation of student lives."

Edward A. Malloy, President
University of Notre Dame

through annual updates and other mechanisms designed to:

- Disseminate research findings to the campus and surrounding community and promote two-way communication between campus/community leaders and researchers,
- Support continued campus and community participation in research-based activities,
- Alert researchers to emerging alcohol-related issues on campus and within the community,
- Offer practical feedback to researchers on policy changes and other intervention efforts that affect college drinking, and
- Provide campuses and collaborating communities with technical assistance to help them implement effective data collection and intervention efforts.
- Continually update informational materials based on research for key stakeholders that include brochures for college presidents, parents, high school guidance counselors, student activists, and community leaders.
- Assist campus planners and their counterparts in the community in incorporating research into the planning, implementation, and evaluation of campus-based and joint campus- and community-based alcohol programs and policies.
- Foster collaborations between campus administrators and community leaders to facilitate the process of information exchange and ongoing communication.
- Coordinate and cooperate with other Federal agencies in providing training on alcohol and drug abuse to college student health center personnel.



A Final Word

The concerns expressed by the members of the Task Force on College Drinking reflect the concerns of college presidents, students, parents, and college communities nationwide about the consequences of high-risk student drinking. The culture of drinking on contemporary college campuses is antithetical to the culture of learning, which is the core of higher education.

As the information in this report clearly demonstrates, the fallout from excessive consumption does not discriminate. It threatens the health and safety of all students, disrupts the academic process, frustrates faculty, and disturbs the lives of those in adjacent communities. Yet the experience of a growing number of colleges and universities offers new hope for changing the culture of drinking and reducing its negative consequences. We believe the combination of vigorous leadership, institutional resolve, and campus-community partnerships can make a difference.

Improvements in research methodology also enhance understanding of effective prevention strategies, so that schools can begin to design programs that suit their needs. At the same time, there is increasing recognition that high-risk drinking is not a neatly bounded phenomenon that can be addressed solely within the borders of the college or university. It frequently begins in high school, is sustained by a combination of campus and community conditions, and follows a course affected by an array of personal, behavioral, biological, and genetic as well as social and environmental factors. For this reason, the Task Force recommends a multidimensional approach to college student drinking that acknowledges these diverse but intersecting influences. It also recommends that schools commit to using research-based strategies in developing their programs and emphasize evaluation as an important priority.

Despite the advances that have been made, there is little evidence of effectiveness available for many of the most appealing prevention strategies identified in this report. Because ideas and data fuel the intellectual life on campus, the Task Force encourages colleges and universities to work collaboratively with NIAAA and the research community in planning and assessing those strategies. School presidents who served on the Task Force observed that it is difficult to mobilize staff and direct their energy to implementing programs of uncertain efficacy. Results from carefully conducted evaluations will enable presidents to allay those concerns and ensure administrators, faculty, and students that they are investing in strategies with proven value.

Although there are no easy answers to high-risk college drinking, there is reason for optimism. More educators at the college/university and, as important, secondary school levels are acknowledging the existence of a problem. Researchers are discovering new approaches for responding, and communities are becoming aware of their vital role in prevention. Through committed collaborative efforts grounded in research and supported by institutional leadership, the Task Force is convinced that the culture of drinking at U.S. colleges and universities can be changed.

References

American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders,* 4th ed., Washington, DC: American Psychiatric Association, 1994.

Aubrey LL. Motivational interviewing with adolescent presenting for outpatient substance abuse treatment. Unpublished doctoral dissertation. Albuquerque, NM: University of New Mexico, 1998.

Baer JS, Kivlahan DR, Blume AW, McKnight P, Marlatt, GA. Brief intervention for heavy drinking college students: Four-year follow-up and natural history. *American Journal of Public Health,* 91(8):1310–1316, 2001.

Baer JS, Marlatt GA, Kivlahan DR, Fromme K, Larimer M, Williams E. An experimental test of three methods of alcohol risk reduction with young adults. *Journal of Consulting and Clinical Psychology* 60:974–979, 1992.

Berkowitz AD. From reactive to proactive prevention: Promoting an ecology of health on campus. In: Rivers PC, Shore, ER (eds), *Substance Abuse on Campus: A Handbook for College and University Personnel.* Westport, CT: Greenwood Press, 119–139, 1997.

Brown SA, Tapert SF, Granholm E, Delis DC. Neurocognitive functioning of adolescents: effects of protracted alcohol use. *Alcoholism: Clinical and Experimental Research* 24(2):164–171, 2000.

Castle SP, Thompson JD, Spataro JA, et al. Early evaluation of a state-wide sobriety check point program. *39th Annual Proceedings, Association for the Advancement of Automotive Medicine,* October 16–18, 1995, p. 65–78.

Chaloupka FJ, Grossman M, Saffer H. The effects of price on the consequences of alcohol use and abuse. In: Galanter M (ed), *Recent Developments in Alcoholism.* New York: Plenum Press, 1998.

Chaloupka FJ, Wechsler H. Binge drinking in college: The impact of price, availability, and alcohol control policies. *Contemporary Economic Policy* 14:112–124, 1996.

Chou CP, Montgomery S, Pentz M, Rohrbach L, Johnson A, Flay B, MacKinnon D. Effects of a community based prevention program on decreasing drug use in high risk adolescents. *American Journal Public Health* 88(6):944–948, 1998.

Clapp J, McDonnell AL. The relationship of perceptions of alcohol promotion and peer drinking norms to alcohol problems reported by college students. *Journal of College Student Development* 41(1):19–26, 2000.

Cook PJ, Moore MJ. Violence reduction through restrictions on alcohol availability. *Alcohol Health and Research World* 17:151–156, 1993.

Crews FT, Braun CJ, Hoplight B, Switzer RC III, Knapp DJ. Binge ethanol consumption causes differential brain damage in young adolescent rats compared with adult rats. *Alcohol Clinical and Experimental Research* 24(11):1712–1723, 2000.

D'Amico EJ, Fromme K. Implementation of the risk skills training program: A brief intervention targeting adolescent participation in risk behaviors. *Cognitive and Behavioral Practice* 7(1):101–117, 2000.

Darkes J, Goldman MS. Expectancy challenge and drinking reduction: Experimental evidence for a mediational process. *Journal of Consulting and Clinical Psychology* 61:344–353, 1993.

Darkes J, Goldman MS. Expectancy challenge and drinking reduction: Process and structure in the alcohol expectancy network. *Experimental and Clinical Psychopharmacology* 6(1):64–76, 1998.

DeBellis MD, Clark DB, Beers SR, Soloff PH, Boring AM, Hall J, Kersh A, Keshavan MS. Hippocampal volume in adolescent-onset alcohol use disorders. *American Journal of Psychiatry* 157(5):737–744, 2000.

Dee T. Does setting limits save lives? The case of 0.08% BAC laws. *Journal of Policy and Analysis* 20(1):113–130, 2001.

DeJong W. *Preventing Alcohol-Related Problems on Campus: Impaired Driving: A Guide for Program Coordinators.* Newton, MA: Higher Education Center for Alcohol and Other Drug Prevention, 1995.

DeJong W. What college presidents can do about student drinking. *About Campus* July-August:12–17, 1998.

DeJong W, Langenbahn S. *Setting and Improving Policies for Reducing Alcohol and Other Drug Problems on Campus: A Guide for Administrators.* Newton, MA: The Higher Education Center for Alcohol and Other Drug Prevention, 1996.

DeJong W, Langford LM. A typology for campus-based alcohol prevention: Moving toward environmental management strategies. *Journal on Studies of Alcohol Supplement* 14:140–147, 2002.

DeJong W, Linkenbach J. Telling it like it is: Using social norms marketing campaigns to reduce student drinking. *American Association for Higher Education Bulletin* 32(4):11–16, 1999.

DeJong W, Vince-Whitman C, Colthurst T, Cretella M, Gilbreath M, Rosati M, Zweig K. *Environmental Management: A Comprehensive Strategy for Reducing Alcohol and Other Drug Use on College Campuses.* Newton, MA: Higher Education Center for Alcohol and Other Drug Prevention, 1998.

Dimeff LA, Bear JS, Kivlahan DR, Marlatt GA. *Brief Alcohol Screening and Intervention for College Students (BASICS): A Harm Reduction Approach.* New York: Guilford Press, 1999.

Dinh-Zarr TB, Sleet DA, Shultz RA, et al. Review of evidence regarding interventions to increase the use of safety belts. *American Journal of Preventive Medicine* 21(4S):48–65, 2001.

Edwards G, Anderson P, Babor TF, Casswell S, Ferrence R, Geisbrecht N, Godfrey C, Holder HD, Lemmens P, Makela K, Midanik LT, Norstrom T, Osterberg E, Romelsjo A, Room R, Simpura J, Skog OJ. *Alcohol Policy and the Public Good.* New York: Oxford University Press, 1994.

Engs RC, Diebold BA, Hansen DJ. The drinking patterns and problems of a national sample of college students, 1994. *Journal of Alcohol and Drug Education* 41(3):13–33, 1996.

Fromme K, Marlatt GA, Baer JS, Kivlahan DR. The alcohol skills training program: A group intervention for young adult drinkers. *Journal of Substance Abuse Treatment* 11(2):143–154, 1994.

Giedd JN, Blumenthal J, Jeffries NO, Castellanos FX, Liu H, Zijdenbos A, Paus T, Evans AC, Rapoport JL. Brain development during childhood and adolescence: a longitudinal MRI study. *Nature Neuroscience* 2(10):861–863, 1999.

Gliksman L, McKensie D, Single E, Douglas R, Brunet S, Moffatt K. The role of alcohol providers in prevention: An evaluation of a server intervention programme. *Addiction* 88:1195–1203, 1993.

Godfrey C. Can tax be used to minimize harm? A health economist's perspective. In: Plant M, Single E, Stockwell T. (eds), *Alcohol Minimising the Harm.* London: Free Association Books, 1997.

Gomberg L. Covering AOD issues in the collegiate press. *Catalyst* 5(1):1–2, 1999.

Grube JW. Preventing sales of alcohol to minors: Results from a community trial. *Addiction* 92(Supplement):251–260, 1997.

Gruenewald PJ, Ponicki WR, Holder HD. The relationship of outlet densities to alcohol consumption: A time series cross sectional analysis. *Alcoholism Clinical and Experimental Research* 17:38–47, 1993.

Gulland E. *Developing Effective and Legally Sound Alcohol Policies.* Washington, DC: National Association of College and University Business Officers, 1994.

Hingson R, Heeren T, Winter M. Lower legal blood alcohol limits for young drivers. *Public Health Reports* 109:738–744, 1994.

Hingson R, Heeren T, Winter M. Lowering state legal blood alcohol limits to 0.08%: The effect on fatal motor vehicle crashes. *Public Health Brief,* 86(9):1297–1299, 1996a.

Hingson R, Heeren T, Winter M. Effects of recent 0.08 percent legal blood alcohol limits on fatal crash involvement. *Injury Prevention* 6:1009–1114, 2000.

Hingson RW, Heeren T, Zakocs RC, Kopstein A, Wechsler H. Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18–24. *Journal of Studies on Alcohol* 63(2):136–144, 2002.

Hingson RW, Howland J. Comprehensive community interventions to promote health: Implications for college-age drinking problems. *Journal of Studies on Alcohol Supplement* 14:226–240, 2002.

Hingson R, McGovern T, Howland J, Hereen T, Winter M, Zakocs R. Reducing alcohol-impaired driving in Massachusetts: The Saving Lives program. *American Journal of Public Health* 86:791–797, 1996b.

Holder HD, Gruenewald PJ, Ponicki WR, Treno AJ, Grube JW, Saltz RF, Voas RB, Reynolds R, Davis J, Sanchez L, Gaumont G, Roeper P. Effect of community-based interventions on high-risk drinking and alcohol-related injuries. *Journal of the American Medical Association* 284(18):2341–2347, 2000.

Holder HD, Reynolds RI. Application of local policy to prevent alcohol problems: Experiences from a community trial. *Addiction* 92(Suppl 2):285–292, 1997.

Holder HD, Saltz RF, Grube JW, Treno AJ, Reynolds R, Voas RB. Summing up: Lessons from a comprehensive community prevention trial. *Addiction* 92(Suppl 2):293–302, 1997a.

Holder HD, Saltz RF, Grube JW, Voas RB, Gruenewald J, Treno AJ. A community prevention trial to reduce alcohol-involved accidental injury and death: Overview. *Addiction* 92(Suppl 2):S155–S172, 1997b.

Holder H, Treno A. Media advocacy in community prevention: news as a means to advance policy change. *Addiction* 92(Suppl 2):S189–S200, 1997.

Institute of Medicine. *Prevention and Treatment of Alcohol Problems: Research Opportunities.* Washington, DC: National Academy Press, 1989.

Johannesson K, Collins C, Mills-Novoa B, Glider P. *A Practical Guide to Alcohol Abuse Prevention: A Campus Case Study in Implementing Social Norms and Environmental Management Approaches.* Tucson, AZ: Campus Health Services, University of Arizona, 1999.

Johnston LD, O'Malley PM, Bachman JG. *Monitoring the Future National Survey Results on Drug Use, 1975–2000. Volume I: Secondary School Students.* NIH Publication No. 01-4924. Bethesda, MD: National Institute on Drug Abuse, 2001a.

Johnston LD, O'Malley PM, Bachman JG. *Monitoring the Future National Survey Results on Drug Use, 1975–2000. Volume II: College Students and Adults Ages 19–40.* NIH Publication No. 01–4925. Bethesda, MD: National Institute on Drug Abuse, 2001b.

Jones LM, Silvia LY, Richman CL. Increased awareness and self-challenge of alcohol expectancies. *Substance Abuse* 16(2):77–85, 1995.

Kenkel DS. Prohibition versus taxation: Reconsidering the legal drinking age. *Contemporary Policy Issues* July:48–57, 1993.

Kivlahan DR, Marlatt GA, Fromme K, Coppel DB, Williams E. Secondary prevention with college drinkers: Evaluation of an alcohol skills training program. *Journal of Consulting and Clinical Psychology* 58:805–810, 1990.

Klein T. Changes in alcohol-involved fatal crashes with tougher state alcohol legislation (Final Report under Contract No. DTNH–122–88–C–07045). Washington, DC: National Highway Traffic Safety Administration, 1989.

Knight JR, Wechsler H, Kuo M, Seibring M, Weitzman ER, Schuckit M. Alcohol abuse and dependence among U.S. college students. *Journal of Studies on Alcohol,* 2002, in press.

Kreitman N. Alcohol consumption and the preventive paradox. *British Journal of Addictions* 81:353–363, 1986.

Lacey JH, Jones RK, Smith RG. *Evaluation of Checkpoint Tennessee: Tennessee's Statewide Sobriety Checkpoint Program.* DOT HS 808 841. Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration, 1999.

Lange E, Stockwell T, Rydon P, Beele A. Can training bar staff in responsible serving practices reduce alcohol related harm? *Drug and Alcohol Review* 17:39–50, 1998.

Lange JE, Voas RB. Nighttime observations of safety belt use: an evaluation of California's primary law. *American Journal of Public Health* 88:1717-1720, 1998.

Larimer ME, Cronce JM. Identification, prevention, and treatment: A review of individual-focused strategies to reduce problematic alcohol consumption by college students. *Journal of Studies on Alcohol Supplement* 14:148–163, 2002.

Leichliter JS, Meilman PW, Presley CA, Cashin JR. Alcohol use and related consequences among students with varying levels of involvement in college athletics. *Journal of American College Health* 46(6):257–262, 1998.

Lemmons PH. Individual risk and population distribution of alcohol consumption. In Holder HD, Edwards G (eds), *Alcohol and Public Policy: Evidence and Issues.* New York: Oxford University Press, 1995.

Lewis RK, Paine-Andrews A, Fawcett SB, Francisco VT, Richter KP, Copple B, Copple JE. Evaluating the effects of a community coalition's efforts to reduce illegal sales of alcohol and tobacco products to minors. *Journal of Community Health* 21:429–436, 1996.

Little PJ, Kuhn CM, Wilson WA, Swartzwelder HS. Differential effects of ethanol in adolescent and adult rats. *Alcohol Clinical and Experimental Research* 20(8):1346–1351, 1996.

Maddock JE. Statistical power and effect size in the field of health psychology. Unpublished doctoral dissertation, 1999.

Mara JR. The view from the president's office: The leadership of change. Paper prepared for the Panel on Prevention and Treatment of College Alcohol Problems, National Advisory Council on Alcohol Abuse and Alcoholism, National Institute on Alcohol Abuse and Alcoholism, 2000.

Markweise BJ, Acheson SK, Levin ED, Wilson WA, Swartzwelder HS. Differential effect of ethanol on memory in adolescent and adult rats. *Alcohol Clinical and Experimental Research* 22(2):416–421, 1998.

Marlatt GA, Baer JS, Kivlahan DR, Dimeff LA, Larimer ME, Quigley LA, Somers JM, Williams E. Screening and brief intervention for high-risk college student drinkers: Results from a two-year follow-up assessment. *Journal of Consulting and Clinical Psychology* 66:604–615, 1998.

Meilman PW, Leichliter JS, Presley CA. Greeks and athletes: Who drinks more? *Journal of American College Health* 47(4):187–190, 1999.

Meilman PW, Presley CA, Cashin JR. The sober life at the historically black colleges. *Journal of Blacks in Higher Education* 9:98–100, 1995.

Meilman PW, Presley CA, Lyerla R. Black college students and binge drinking. *Journal of Blacks in Higher Education* 8:70–71, 1994.

Miller WR, Zweben A, DiClemente CC, Rychatarik RG. *Motivational Enhancement Therapy Manual: A Clinical Research Guide for Therapists Treating Individuals with Alcohol Abuse and Dependence.* DHHS Publication No. (ADM)92–1894. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1992.

Monti PM, Colby SM, Barnett NP, Spirito A, Rohsenow DJ, Myers M, Wollard R, Lewander W. Brief intervention for harm reduction with alcohol-positive older adolescents in a hospital emergency room. *Journal of Consulting and Clinical Psychology* 67:989–994, 1999.

Nelson TF, Wechsler H. Alcohol and college athletes. *Medicine and Science in Sports and Exercise* 33(1):43–47, 2001.

O'Hare TM. Drinking in college: Consumption patterns, problems, sex differences and legal drinking age. *Journal of Studies on Alcohol* 51(6):536–541, 1990.

O'Malley PM, Johnston LD. Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol Supplement* 14:23–39, 2002.

Page RM, Scanlan A, Gilbert L. Relationship of the estimation of binge drinking among college students and personal participation in binge drinking: Implications for health education and promotion. *Journal of Health Education* 30(2):98–103, 1999.

Pentz M, Dwyer J, MacKinnon D, Flay B, Hensen W, Wang E, Johnson A. A multi-community trial for primary prevention of adolescent drug abuse. *Journal of the American Medical Association* 261(22):3259–3265, 1989.

Perkins HW. College student misperceptions of alcohol and other drug norms among peers: Exploring causes, consequences, and implications for prevention programs. In: *Designing Alcohol and Other Drug Prevention Programs in Higher Education.* Newton, MA: The Higher Education Center for Alcohol and Other Drug Prevention, 1997.

Perkins HW. Social norms and the prevention of alcohol misuse in collegiate contexts. *Journal of Studies on Alcohol Supplement* 14:164–172, 2002.

Perkins HW, Wechsler H. Variation in perceived college drinking norms and its impact on alcohol abuse: A nationwide study. *Journal of Drug Issues* 26(4):961–974, 1996.

Perry CL, Kelder SH. Prevention. In: Langenbucher JW (ed), *Review of Addictions: Research and Treatment,* Vol. 2. New York: Pergamon Press, 1992, 453–472.

Perry CL, Williams CL, Veblen-Mortenson S, Toomey TL, Komro KA, Anstine PS, McGovern P, Finnegan JR, Forster JL, Wagenaar AC, Wolfson M. Project Northland: Outcomes of a community-wide alcohol use prevention program during early adolescence. *American Journal of Public Health* 86:956–965, 1996.

Pittayathikhun T, Ku R, Rigby D, Mattson M, DeJong W. *Complying with the Drug Free Schools and Campuses Regulations: A Guide for University and College Administrators.* Newton, MA: The Higher Education Center for Alcohol and Other Drug Prevention, 1997.

Presidents Leadership Group. *Be Vocal, Be Visible, Be Visionary: Recommendations for College and University Presidents on Alcohol and Other Drug Prevention.* Newton, MA: The Higher Education Center for Alcohol and Other Drug Prevention, 1997.

Presley CA, Leichliter MA, Meilman PW. *Alcohol and Drugs on American College Campuses: A Report to College Presidents: Third in a Series, 1995, 1996, 1997.* Carbondale, IL: Core Institute, Southern Illinois University, 1998.

Presley CA, Meilman PW, Cashin JR. *Alcohol and Drugs on American College Campuses: Use, Consequences, and Perceptions of the Campus Environment,* Vol. IV: 1992–1994. Carbondale, IL: Core Institute, Southern Illinois University, 1996a.

Presley CA, Meilman PW, Cashin JR, Lyerla R. *Alcohol and Drugs on American College Campuses: Use, Consequences, and Perceptions of the Campus Environment,* Vol. III: 1991–1993. Carbondale, IL: Core Institute, Southern Illinois University, 1996b.

Presley CA, Meilman PW, Leichliter JS. College factors that influence drinking. *Journal of Studies on Alcohol Supplement* 14:82–90, 2002.

Preusser DF, Williams AF, Weinstein HB. Policing underage alcohol sales. *Journal on Safety Research* 25:127–133, 1994.

Pyapali GK, Turner DA, Wilson WA, Swartzwelder HS. Age and dose-dependent effects of ethanol in the induction of hippocampal long-term potentiation. *Alcohol* 19(2):107–111, 1999.

Reynolds RI, Holder HD, Gruenewald PJ. Community prevention and alcohol retail access. *Addiction* 92(Suppl 2):261–272, 1997.

Roberts LJ, Neal DJ, Kivlahan DR, Baer JS, Marlatt GA. Individual drinking changes following a brief intervention among college students: Clinical significance in an indicated prevention context. *Journal of Consulting and Clinical Psychology* 68(3):500–505, 2000.

Rubia K, Overmeyer S, Taylor E, Brammer M, Williams SCR, Simmons A, Andrew C, Bullmore ET. Functional frontalization with age: Mapping neurodevelopmental trajectories with MRI. *Neuroscience Biobehavioral Review* 24(1):13–19, 2000.

Russ NW, Geller ES. Training bar personnel to prevent drunken driving: A field evaluation. *American Journal of Public Health* 77:952–954, 1987.

Saltz RF. The role of bars and restaurants in preventing alcohol-impaired driving: An evaluation of server intervention. *Evaluation Health Professions* 10:5–27, 1989.

Saltz RF, DeJong W. *Reducing Alcohol Problems on Campus: A Planning and Evaluation Guide.* Paper prepared for the Task Force on College Drinking, National Advisory Council on Alcohol Abuse and Alcoholism, NIAAA, 2002.

Saltz RF, Stangetta P. A community-wide responsible beverage service program in these communities: Early findings. *Addiction* 92(Suppl 2):251–260, 1997.

Sammon P, Smith T, Cooper T, Furnish, G. On campus talking about alcohol and drugs (OCTAA). *Journal of Dental Education* 55:30–31, 1991.

Schulenberg J, Maggs JL, Long SW, Sher KJ, Gotham HJ, Baer JS, Kivlahan DR, Marlatt GA, Zucker RA. The problem of college drinking: Insights from a developmental perspective. *Alcoholism: Clinical and Experimental Research* 25(3):473–477, 2001.

Schulenberg J, O'Malley PM, Bachman JG, Wadsworth KN, Johnston LD. Getting drunk and growing up: Trajectories of frequent binge drinking during the transition to young adulthood. *Journal of Studies on Alcohol* 57(3):289–304, 1996.

Schultz R, Elder R, Sleet D, Nichols J, Alas M, Grande-Kulis V, Zaza S, Sosin D, Thompson R. Reviews of evidence regarding interventions to reduce alcohol impaired driving. *American Journal of Preventive Medicine* 48:66–88, 2001.

Scribner RA, MacKinnon DP, Dwyer JH. Risk of assaultive violence and alcohol availability in Los Angeles county. *American Journal of Public Health* 85:335–340, 1995.

Sher K, Bartholow B, Nanda S. Short- and long-term effects of fraternity and sorority membership on heavy drinking: a social norms perspective. *Psychology of Addiction Behaviors* 15(1):42–51, 2001.

Sher KJ, Trull TJ, Bartholow BD, Vieth A. Personality and alcoholism: Issues, methods, and etiological processes. In: Leonard KE, Blane HT (eds), *Psychological Theories of Drinking and Alcoholism.* New York: Guilford Press, 54–105, 1999.

Spear LP. The adolescent brain and age-related behavioral manifestations. *Neuroscience Biobehavioral Review* 24(4):417–463, 2000.

Substance Abuse and Mental Health Services Administration. *Summary Findings from the 2000 National Household Survey on Drug Abuse.* Office of Applied Studies, NHSDA Series H-13, DHHS Publication No. (SMA)01-3549. Rockville, MD, 2001.

Sutton M, Godfrey CA. Grouped data regression approach to estimating economic and social influences on individual drinking behavior. *Health Economist* 4:237–247, 1995.

Teicher MH, Anderson SL, Hostetter JC Jr. Evidence for dopamine receptor pruning between adolescence and adulthood in striatum but not nucleus accumbens. *Developmental Brain Research* 89(2):167–172, 1995.

Toomey TL, Jones-Webb RJ, Wagenaar AC. Policy—alcohol. *Annual Review of Addictions Research and Treatment* 3:279–292, 1993.

Toomey TL, Wagenaar AC. Environmental policies to reduce college drinking: Options and research findings. *Journal of Studies on Alcohol Supplement* 14:193–205, 2002.

Treno A, Holder H. Community mobilization: Evaluation of an environmental approach to local action. *Addiction* 92(Suppl 2):173–188, 1997.

Upcraft ML. Today's first-year students and alcohol. Paper prepared for the Task Force on College Drinking, National Advisory Council on Alcohol Abuse and Alcoholism, Bethesda, MD, 2000.

U.S. Department of Health and Human Services. *Healthy People 2010,* conference edition, Vol. II, pp. 26–29. Washington, DC: USDHHS, 2000.

Voas R, Holder H, Gruenewald P. The effects of drinking and driving intervention on alcohol involved traffic crashes within a comprehensive community trial. *Addiction* 92(Suppl 2):221–236, 1997.

Voas R, Tippetts A, Fell J. The relationship of alcohol safety laws on drinking drivers in fatal crashes. *Accident Analysis and Prevention* 22(4):483–492, 2000.

Wagenaar A, Gehan J, Jones-Webb R, Toomey T, Forster J. Communities mobilizing for change: Lessons and results from a 15 community randomized trial. *Journal of Community Psychology* 27(3):315–326, 1999.

Wagenaar AC, Murray DM, Gehan JP, Wolfson M, Forster JL, Toomery TL, Perry CL, Jones-Webb R. Communities mobilizing for change on alcohol: Outcomes from a randomized community trial. *Journal of Studies on Alcohol* 61(1):85–94, 2000.

Wagenaar A, O'Malley P, LaFond L. Lowered legal blood alcohol limits for young drivers: Effects on drinking, driving and driving after drinking behaviors in 30 states. *American Journal of Public Health* 91(5):801–804, 2001.

Wagenaar AC, Toomey TL. Effects of minimum drinking age laws: Review and analyses of the literature from 1960 to 2000. *Journal of Studies on Alcohol Supplement* 14:206–225, 2002.

Wechsler H, Davenport AE, Dowdall GW, Grossman SJ, Zanakos SE. Binge drinking, tobacco, and illicit drug use and involvement in college athletics. A survey of students at 140 American colleges. *Journal of American College Health* 45(5):195–200, 1997.

Wechsler H, Davenport A, Dowdall G, Moeykens B, Castillo S. Health and behavioral consequences of binge drinking at colleges: A national survey of students at 140 campuses. *Journal of the American Medical Association* 272(21):672–1677, 1994.

Wechsler H, Dowdall GW, Maenner G, Gledhill-Hoyt J, Lee H. Changes in binge drinking and related problems among American college students between 1993 and 1997. Results of the Harvard School of Public Health College Alcohol Study. *Journal of American College Health* 47(2):57–68, 1998.

Wechsler H, Kuh G, Davenport AE. Fraternities, sororities and binge drinking: Results from a national study of American colleges. *NASPA Journal* 33(4):260–279, 1996.

Wechsler H, Kuo M, Lee H, Dowdall GW. Environmental correlates of underage alcohol use and related problems of college students. *American Journal of Preventive Medicine* 19(1):24–29, 2000a.

Wechsler H, Lee JE, Kuo M, Lee H. College binge drinking in the 1990s: A continuing problem. Results of the Harvard School of Public Health 1999 College Alcohol Survey. *Journal of American College Health* 48(5):199–210, 2000b.

Wechsler H, Lee JE, Kuo M, Seibring M, Nelson TF, Lee HP. Trends in college binge drinking during a period of increased prevention efforts: Findings from four Harvard School of Public Health study surveys, 1993–2001. *Journal of American College Health* 50(5):203–217, 2002.

Wechsler H, Moeykens B, Davenport A, Castillo S, Hansen J. The adverse impact of heavy episodic drinkers on other college students. *Journal of Studies on Alcohol* 56(6):628–634, 1995.

Werner MJ, Greene JW. Problem drinking among college freshmen. *Journal of Adolescent Health* 13(6):487–492, 1992.

White AM, Ghia AJ, Levin ED, Swartzwelder HS. Binge-pattern ethanol exposure in adolescent and adult rats: Differential effects on subsequent ethanol exposure. *Alcohol Clinical and Experimental Research* 24(8):1251–1256, 2000.

White AM, Montoya D, Wilson WA, Swartzwelder HS. Differences in EtOH-induced motor impairments and EtOH metabolism in adolescent and adult rats. *Alcohol Clinical and Experimental Research* 25(Supplement): 109A, 2001.

Zador P, Lund A, Fields M, Weinberg K. Fatal crash involvement and laws against alcohol impaired driving. *Journal of Public Health Policy* 10:467–485, 1989.

Ziemelis A. Efforts, evidence, and promising directions. Paper presented at the Higher Education Center for Alcohol and Other Drug Prevention, Center Associates Annual Meeting, 1998.

Zucker RA, Fitzgerald HE, Moses HD. Emergence of alcohol problems and the several alcoholisms: A developmental perspective on etiologic theory and life course trajectory. In: Cicchetti D (ed), *Developmental Psychopathology, Vol. 2: Risk, Disorder, and Adaptation.* New York: John Wiley & Sons, 677–711, 1995.

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Resources

The following materials related to college drinking will be available from NIAAA by mail or through the NIAAA Web site:

National Institute on Alcohol Abuse and Alcoholism
6000 Executive Boulevard, Willco Building
Bethesda, Maryland 20892-7003
www.collegedrinkingprevention.gov

Task Force Report

A Call to Action: Changing the Culture of Drinking at U.S. Colleges
Final Report of the Task Force on College Drinking

Panel Reports

High-Risk Drinking in College: What We Know and What We Need To Learn
Final Report of the Task Force on College Drinking's Panel on Contexts and Consequences

How To Reduce High-Risk College Drinking: Use Proven Strategies, Fill Research Gaps
Final Report of the Task Force on College Drinking's Panel on Prevention and Treatment

Brochures

What Presidents Need to Know About College Drinking

What Parents Need to Know About College Drinking

What Peer Educators and Resident Advisors (RAs) Need to Know About College Drinking

Future Brochures

What High School Guidance Counselors Need to Know About College Drinking

What Community Leaders Need to Know About College Drinking

What Students Need to Know About College Drinking

Planning and Evaluation Handbook

Reducing Alcohol Problems on Campus: A Guide to Planning and Evaluation

Commissioned Papers

Panel 1—CONTEXTS AND CONSEQUENCES

Studying College Alcohol Use: Widening the Lens, Sharpening the Focus

George W. Dowdall, Ph.D., Professor, Department of Sociology, St. Joseph's University, and Henry Wechsler, Ph.D., Lecturer and Director of College Alcohol Studies, Department of Health and Social Behavior, Harvard School of Public Health

Epidemiology of Alcohol and Other Drug Use among American College Students

Patrick M. O'Malley, Ph.D., Senior Research Scientist, Institute for Social Research, University of Michigan, and Lloyd D. Johnston, Ph.D., Distinguished Research Scientist, Institute for Social Research, University of Michigan

Student Factors: Understanding Individual Variation in College Drinking

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A Developmental Perspective on Alcohol Use and Heavy Drinking during Adolescence and the Transition to Young Adulthood

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The Adolescent Brain and the College Drinker: Biological Basis of Propensity to Use and Misuse Alcohol

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College Factors That Influence Drinking

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Surveying the Damage: A Review of Research on Consequences of Alcohol Misuse in College Populations

H. Wesley Perkins, Ph.D., Professor of Sociology, Department of Anthropology and Sociology, Hobart and William Smith Colleges

Alcohol Use and Risky Sexual Behavior among College Students and Youth: Evaluating the Evidence

M. Lynne Cooper, Ph.D., Professor of Psychology, Department of Psychology, University of Missouri at Columbia

Alcohol-Related Sexual Assault: A Common Problem among College Students

Antonia Abbey, Ph.D., Associate Professor, Department of Community Medicine, Wayne State University

Alcohol-Related Aggression during the College Years: Theories, Risk Factors, and Policy Implications

Peter R. Giancola, Ph.D., Assistant Professor of Psychology, University of Kentucky

Today's First-Year Students and Alcohol

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So What Is an Administrator to Do?

Susan Murphy, Ph.D., Vice President, Student and Academic Services, Cornell University

Panel 2—PREVENTION AND TREATMENT

A Typology for Campus-Based Alcohol Prevention: Moving toward Environmental Management Strategies

William DeJong, Ph.D., Professor, Boston University School of Public Health, and Director, U.S. Department of Education's Higher Education Center for Alcohol and Other Drug Prevention, and Linda Langford, Sc.D., Associate Director of Evaluation and Assessment, U.S. Department of Education's Higher Education Center for Alcohol and Other Drug Prevention

Identification, Prevention, and Treatment: A Review of Individual-Focused Strategies to Reduce Problematic Alcohol Consumption by College Students

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Social Norms and the Prevention of Alcohol Misuse in Collegiate Contexts

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Alcohol Advertising and Youth

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The Role of Mass Media Campaigns in Reducing High-Risk Drinking among College Students

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Environmental Policies to Reduce College Drinking: Options and Research Findings

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Effects of Minimum Drinking Age Laws: Review and Analyses of the Literature from 1960 to 2000

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Comprehensive Community Interventions to Promote Health: Implications for College-Age Drinking Problems

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The Role of Evaluation in Prevention of College Student Drinking Problems

Robert F. Saltz, Ph.D., Associate Director and Senior Research Scientist, Prevention Research Center, Berkeley, CA

View from the President's Office: The Leadership of Change

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JOINT PANEL PAPERS

The Student Perspective on Alcohol Abuse

Peggy Eastman, Author and Journalist

Magnitude of Alcohol-Related Mortality and Morbidity among U.S. College Students Ages 18–24

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NIH Publication No. 02-5010
Printed April 2002

National Institute on Alcohol Abuse and Alcoholism • National Institutes of Health
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES