

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

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ABSTRACT. *Objective:* This article outlines a typology of programs and policies for preventing and treating campus-based alcohol-related problems, reviews recent case studies showing the promise of campus-based environmental management strategies and reports findings from a national survey of U.S. colleges and universities about available resources for pursuing environmentally focused prevention. *Method:* The typology is grounded in a social ecological framework, which recognizes that health-related behaviors are affected through multiple levels of influence: intrapersonal (individual) factors, interpersonal (group) processes, institutional factors, community factors and public policy. The survey on prevention resources and activities was mailed to senior administrators responsible for their school's institutional response to substance use problems. The study sample was an equal probability sample of 365 2- and 4-year U.S. campuses. The response rate was 76.9%. *Re-*

sults: Recent case studies suggest the value of environmentally focused alcohol prevention approaches on campus, but more rigorous research is needed to establish their effectiveness. The administrators' survey showed that most U.S. colleges have not yet installed the basic infrastructure required for developing, implementing and evaluating environmental management strategies. *Conclusions:* The typology of campus-based prevention options can be used to categorize current efforts and to inform strategic planning of multilevel interventions. Additional colleges and universities should establish a permanent campus task force that reports directly to the president, participate actively in a campus-community coalition that seeks to change the availability of alcohol in the local community and join a state-level association that speaks out on state and federal policy issues. (*J. Stud. Alcohol*, Supplement No. 14: 140-147, 2002)

HIGH-RISK DRINKING has been a long-standing problem on U.S. college campuses. By 1989, a survey of college and university presidents found that 67% rated alcohol misuse to be a "moderate" or "major" problem on their campus (Carnegie Foundation for the Advancement of Teaching, 1990). Recent national surveys of college student alcohol use have confirmed that a sizable minority of students drinks large quantities of alcohol. For example, a 1999 survey conducted by researchers at the Harvard School of Public Health found that approximately two in five students at 4-year institutions engaged in heavy episodic drinking during the 2 weeks prior to the survey, similar to what had been found in both 1993 and 1997 (Wechsler et al., 2000). For men, heavy episodic drinking was defined as having five or more drinks in a row, and for women as having four or more drinks. About half of the heavy drinkers, or about one in five students overall, drank at this level

three or more times during the 2-week period and account for 68% of all alcohol consumption by U.S. college students (Wechsler et al., 1999).

The 1999 Harvard survey showed that heavy episodic drinkers had far greater alcohol-related problems compared with students who consumed lower amounts of alcohol. By their own report, frequent heavy episodic drinkers were several times more likely to do something they regret, miss a class, fall behind in their schoolwork, forget where they were or what they did, engage in unplanned sexual activity, not use protection when having sex, argue with friends, get hurt or injured, damage property and get into trouble with campus or local police (Wechsler et al., 2000). There is also a positive relationship between heavy episodic drinking and driving after drinking (DeJong and Winsten, 1999).

There is also evidence that most students experience widespread problems as a result of *other* students' misuse of alcohol (secondary heavy use effects), including interrupted study and sleep; having to take care of a drunken student; being insulted or humiliated; having a serious argument or quarrel; having property damaged; unwanted sexual advances; being pushed, hit or assaulted; and being a victim of sexual assault or date rape. Secondary heavy use effects are far more common on campuses with large numbers of high-risk drinkers (Wechsler et al., 2000).

Additional evidence makes clear that high-risk drinking has a profound effect on college students, contributing to

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both academic failure and an unsafe campus. Students who drink at high levels have poorer grades (Presley et al., 1996); anecdotal evidence suggests that many students who drop out of colleges and universities have alcohol- and other drug-related problems (Eigen, 1991). Estimates are that between 50% and 80% of violence on campus is alcohol related (Roark, 1993). In a study of women who had been victims of some type of sexual aggression while in college, the respondents reported that 68% of their male assailants had been drinking at the time of the attack (Frintner and Rubinson, 1993).

Progress in reducing high-risk drinking has been slow. One positive note is an increase in the percentage of college students who abstain from drinking. This figure stood at 19.2% in the 1999 Harvard survey, up from 15.4% in 1993 and 18.9% in 1997 (looking at students from the subset of schools that participated in all three surveys). On the other hand, the 1999 Harvard survey found that 22.7% of students were classified as frequent heavy use drinkers compared with 19.8% in 1993 and 20.9% in 1997 (Wechsler et al., 2000).

With relatively modest progress being made, college and university presidents are under pressure to lower high-risk drinking among their students. A key source of pressure has been emerging case law regarding legal liability. Increasingly, U.S. courts are ruling that colleges and universities cannot ignore high-risk alcohol consumption, but instead have an obligation to take reasonable measures to create a safe environment by reducing foreseeable risks (Bickel and Lake, 1999). In 1997, student deaths by alcohol poisoning at Louisiana State University and the Massachusetts Institute of Technology put the issue of student drinking on the national agenda. As a result, Mothers Against Drunk Driving (MADD), College Parents of America, The Century Council and other groups have urged students and their parents to demand stronger prevention measures to ensure student safety.

Institutions of higher education have focused their prevention efforts on educational and intervention strategies oriented to influencing and meeting the needs of individual students (Larimer, this supplement). Such programs are essential, of course, but are only a part of what is necessary to reduce alcohol-related problems on a large scale. Community-based prevention research suggests the need for a broader effort, one that also seeks to reshape the physical, social, economic and legal environment that affects alcohol use (Holder et al., 1997; Perry et al., 1996). Informed by this research, and inspired by the example of the anti-drunk driving movement in the United States, the environmental management approach promoted by the U.S. Department of Education's Higher Education Center for Alcohol and Other Drug Prevention urges campus administrators to adopt a comprehensive approach to prevention that goes beyond individually focused health education programs to include

strategies designed to change the campus and community environment in which students make decisions about alcohol use (DeJong et al., 1998).

This article first describes a social ecological framework commonly used in public health work and its application to the problem of college student drinking. This framework is then expanded to create a full typology of campus-based prevention and treatment options, which can be used by prevention planners to provide a systematic review of current efforts and to inform future strategic planning. Next, the article reviews recent case studies showing the promise of campus-based environmental management strategies. Finally, the article reports findings from a national survey of U.S. colleges and universities about available resources for pursuing environmentally focused prevention. At this time, the majority of U.S. campuses have not yet installed the basic infrastructure required to develop, implement and evaluate a comprehensive approach to prevention that features environmentally focused strategies.

Environmental Management: A Social Ecological Framework

Prevention work in the public health arena has been guided by a social ecological framework, which recognizes that any health-related behavior, including college student drinking, is affected through multiple levels of influence: intrapersonal (individual) factors, interpersonal (group) processes, institutional factors, community factors and public policies (Stokols, 1996). On most campuses, prevention efforts have concentrated on intrapersonal factors, interpersonal processes and a subset of institutional factors. Less attention has been paid to factors in the local community that affect student alcohol use; calls by campus officials for changes in state or federal policy remain rare.

Campus prevention activities focused on intrapersonal or individual factors have been designed to increase student awareness of alcohol-related problems, to change individual attitudes and beliefs, to foster each student's determination to avoid high-risk drinking and to intervene to protect other students whose substance use has put them in danger. Typical among these efforts are freshman orientation, alcohol awareness weeks and other special events and curriculum infusion, where faculty introduce alcohol-related facts and issues into their regular academic courses (Ryan and DeJong, 1998). The assumption behind these approaches is that once students are presented with the facts about alcohol's dangers they will make better-informed and therefore healthier decisions about drinking. Rigorous evaluations of these educational programs are rare, but work in elementary and secondary school-based settings suggests that, although these types of awareness programs are necessary, information alone is usually insufficient to produce behavior change (Ellickson, 1995).

Larimer's (this supplement) literature review suggests there is little evidence that standard awareness and values clarification programs can reduce alcohol consumption by college students. There are new approaches being studied that hold promise, however, including expectancy-challenge procedures (involving alcohol/placebo administration), brief motivational feedback interviews and alcohol skills training. These approaches require further study to determine the most effective combination of program components. The ultimate challenge, however, may be in figuring out how to bring these programs to scale so that the behavior of large numbers of students will be affected, not just a small number of research participants.

Activities focused on interpersonal or group processes have been designed to use peer-to-peer communication to change student social norms about alcohol and other drug use. The largest such program, the BACCHUS/GAMMA Peer Education Network, trains volunteer student leaders to implement a variety of awareness and educational programs and to serve as role models for other students to emulate. Formally structured peer programs are the most common, but some campuses have experimented with more informal approaches. At Dartmouth College, for example, health educators train a large cadre of students to engage other students in dialogue when they overhear them make pro-drinking comments. Because well-structured evaluations of peer education are rare, such programs remain an unproven strategy for reducing student alcohol consumption. The value of these programs, which have limited reach compared with other, less expensive educational strategies, might also be questioned on cost-effectiveness grounds.

Social norms campaigns are another prevention strategy designed to affect interpersonal processes. This approach is grounded in the well-established observation that college students greatly overestimate the number of their peers who drink heavily (Perkins and Wechsler, 1996). Because this misperception drives normative expectations about alcohol use, which in turn influence actual use, a viable prevention strategy is to correct the misperception (Perkins and Berkowitz, 1986). A social norms campaign attempts to do this by using campus-based mass media (e.g., newspaper advertisements, posters, email messages) to provide more accurate information about actual levels of alcohol use on campus. Preliminary studies at Northern Illinois University and other institutions suggest that this approach to changing the social environment has great promise as a prevention strategy (Perkins, this supplement), but more definitive research is still needed to gauge its real impact in reducing student alcohol consumption.

A broader focus on institutional factors, community factors and public policy constitutes the doctrine of environmental management articulated by the Higher Education Center for Alcohol and Other Drug Prevention. The need for environmental change is evident when one considers

the types of mixed messages about high-risk alcohol consumption that are abundant in college communities. In the community, for example, many liquor stores, bars and Greek houses fail to check for proof-of-age identification. Local bars and restaurants offer happy hours and other low-price promotions or serve intoxicated patrons. Where it is allowed, on-campus advertising for beer and other alcoholic beverages "normalizes" alcohol consumption as an inherent part of student life, and an absence of alcohol-free social and recreational options makes high-risk drinking the default option for students seeking spontaneous entertainment. Of critical importance, lax enforcement of campus regulations, local ordinances or state and federal laws teaches students to disregard the law. Until these mixed messages in the campus and community are changed, college officials face an uphill battle in reducing high-risk alcohol consumption and the harm it can cause.

Following the social ecological framework, there are three spheres of action in which environmental change strategies can operate: the institution of higher education, the surrounding community and state and federal laws and regulations. Key to developing and implementing new policies in all three spheres is a participatory process that includes all major sectors of the campus and community, including students.

On campus, an alcohol and other drug task force should conduct a broad-based examination of the college environment, looking not only at alcohol and other drug-related policies and programs, but also the academic program, the academic calendar and the entire college infrastructure. The objective is to identify ways in which the environment can be changed to clarify the college's expectations for its students, better integrate students into the intellectual life of the college, change student norms away from alcohol and other drug misuse or make it easier to identify students in trouble with substance use.

Work in the surrounding community can be accomplished through a campus and community coalition. Community mobilization, involving a coalition of civic, religious and governmental officials, is widely recognized as a key to the successful prevention of alcohol- and other drug-related problems (Hingson and Howland, this supplement). Higher education officials, especially college and university presidents, can take the lead in forming these coalitions and moving them toward an environmental approach to prevention (Presidents Leadership Group, 1997). A chief focus of a campus-community coalition should be to curtail youth access to alcohol and to eliminate irresponsible alcohol sales and marketing practices by local bars, restaurants and liquor outlets.

College officials should also work for policy change at both the state and federal levels. New laws and regulations will affect the community as a whole and can help perpetuate changes in social norms, thereby affecting student alco-

hol use. There are several potentially helpful laws and regulations that can be considered, including distinctive and tamper-proof licenses for drivers under age 21, increased penalties for illegal service to minors, prohibition of happy hours and other reduced-price alcohol promotions, restricted hours of sales, reduced density of retail outlets and increased excise tax rates on alcohol (Toomey and Wagenaar, 1999). A state-level association of colleges and universities can provide the organizational mechanism for college presidents and other top administrators to speak out on these and other issues, while also providing a structure for promoting the simultaneous development of several campus and community coalitions within a state.

A Typology of Campus and Community Interventions

The Higher Education Center’s environmental management framework encourages college presidents and other top administrators to reconceptualize their prevention work to include a comprehensive restructuring of the campus and community environment (DeJong et al., 1998). Recently, the Center has expanded this framework to create a full typology of campus-based prevention and treatment options. This typology can be used to categorize existing efforts, identify missing program elements and guide new strategic planning.

The social ecological framework defines one dimension of the typology, with programs and policies classified into one of five levels: individual, group, institution, community and state and federal public policy. The second dimension of the Center’s typology concerns the key areas of strategic intervention, each of which is linked to a particular definition of the problem of alcohol use in colleges. There are four alternatives to be considered: (1) changing people’s knowledge, attitudes and behavioral intentions regarding alcohol consumption; (2) eliminating or modifying environmental factors that contribute to the problem; (3) protecting students from the short-term consequences of alcohol consumption (“health protection” or “harm reduction” strategies); and (4) intervening with and treating students who are addicted to alcohol or otherwise show evidence of problem drinking.

These two dimensions can be represented as a matrix, as in Table 1. This representation captures the idea that many areas of strategic intervention can be pursued at one or several levels: individual, group, institution, community and state and federal public policy. For example, in the realm of health protection, a local community could decide to establish a “safe rides” program. This community-level program would be strengthened by the addition of complementary efforts at other levels of the social ecological model. For example, at the group level, fraternity and sorority chapters could vote to require members to sign a pledge not to drink and drive and instead to use the safe rides program.

TABLE 1. Typology matrix for mapping campus and community prevention efforts

| Areas of strategic intervention | Program and policy levels (social ecological framework) | | | |
|---|---|-------|-------------|-------------------------------|
| | Individual | Group | Institution | Community policy ^a |
| Knowledge, attitudes, and behavioral intentions | | | | |
| Environmental change | | | | |
| Alcohol-free options | | | | |
| Normative environment | | | | |
| Alcohol availability | | | | |
| Alcohol promotion | | | | |
| Policy/law enforcement | | | | |
| Health protection | | | | |
| Intervention and treatment | | | | |

^aIn this context, the public policy component of the social ecological framework refers to state and federal policy.

Operating at the individual level, there could be a campus-based media campaign that encourages individual students to utilize the new service.

Consider another example focused on increased observance and enforcement of the minimum drinking age law. At the state level, the alcohol control commission could increase the number of decoy (or “sting”) operations at local bars and restaurants. At the community level, local police could implement a protocol for notifying college officials of all alcohol-related incidents involving students. At the institution itself, the campus pub could require that all alcohol servers complete a training course in responsible beverage service. At the group level, the college might require that residential groups and special event planners provide adequate controls to prevent alcohol service to underage students. Finally, at the individual level, a media campaign could publicize these new policies, the stepped-up enforcement efforts and the consequences of violating the law. Implementing multiple strategies in support of a single strategic objective will increase the likelihood of that objective being achieved.

The typology divides the environmental change category into five subcategories of strategic interventions: (1) offer and promote social, recreational, extracurricular and public service options that do not include alcohol; (2) create a social, academic and residential environment that supports health-promoting norms; (3) limit alcohol availability both on- and off-campus; (4) restrict marketing and promotion of alcoholic beverages both on- and off-campus; and (5) develop and enforce campus policies and local, state and federal laws. Each of these subcategories involves a wide range of possible strategic objectives, as shown in Table 2.

TABLE 2. Strategic objectives focused on environmental change

ALCOHOL-FREE OPTIONS

Problem: Many students, especially at residential colleges, have few adult responsibilities and a great deal of unstructured free time, and there are too few social and recreational options.

Strategic objective: Offer and promote social, recreational, extracurricular and public service options that do not include alcohol and other drugs.

Examples of specific strategies:

- Create new alcohol-free events
- Promote alcohol-free events and activities
- Create student service learning or volunteer opportunities
- Publicize student service learning or volunteer opportunities
- Require community service work as part of the academic curriculum
- Open a student center, coffeehouse or other alcohol-free settings
- Expand hours for student center, gym or other alcohol-free settings
- Promote consumption of nonalcoholic beverages at events

NORMATIVE ENVIRONMENT

Problem: Many people accept drinking and other drug use as a “normal” part of the college experience.

Strategic objective: Create a social, academic and residential environment that supports health-promoting norms.

Examples of specific strategies:

- Change college admissions procedures
- Modify the academic schedule
- Offer substance-free residence options
- Increase academic standards
- Increase faculty-student contact
- Create program to correct student misperceptions of drinking norms

ALCOHOL AVAILABILITY

Problem: Alcohol is abundantly available to students and is inexpensive.

Strategic objective: Limit alcohol availability both on- and off-campus.

Examples of specific strategies:

- Ban or restrict use of alcohol on campus
- Prohibit alcohol use in public places
- Prohibit delivery or use of kegs or other common containers on campus
- Require use of registered and trained alcohol servers
- Institute responsible server-training programs
- Disseminate guidelines for off-campus parties
- Limit number and concentration of alcohol outlets near campus
- Increase costs of alcohol sales licenses
- Limit days or hours of alcohol sales
- Limit container size for alcohol sales
- Limit number of servings per alcohol sale
- Require keg registration
- Increase state alcohol taxes

MARKETING AND PROMOTION OF ALCOHOL

Problem: Bars, restaurants and liquor stores use aggressive promotions to target underage and other college drinkers.

Strategic objective: Restrict marketing and promotion of alcoholic beverages both on- and off-campus.

Examples of specific strategies:

On campus

- Ban or restrict alcohol advertising on campus
- Ban or restrict alcohol industry sponsorship of on-campus events
- Limit content of party or event announcements

Off campus

- Ban or limit alcohol advertising in the vicinity of schools
- Ban alcohol promotions with special appeal to underage drinkers
- Ban alcohol promotions that show drinking in high-risk contexts
- Require pro-health messages to counterbalance alcohol advertising
- Institute cooperative agreement to institute minimum pricing
- Institute cooperative agreement to limit special drink promotions

POLICY DEVELOPMENT AND ENFORCEMENT

Problem: Campus policies and local, state and federal laws are not enforced consistently.

Strategic objective: Develop and enforce campus policies and local, state and federal laws.

Examples of specific strategies:

On campus

- Revise campus alcohol and other drug (AOD) policy
- Disseminate campus AOD policy
- Require on-campus functions to be registered
- Increase ID checks at on-campus functions
- Use decoy operations at campus pubs and on-campus functions
- Increase patrols near on-campus parties
- Increase disciplinary sanctions for violation of campus AOD policies
- Increase criminal prosecution of students for alcohol-related offenses

Off campus

- Change driver's licensing procedures and formats
- Impose driver's license penalties for minors violating alcohol laws
- Educate sellers/servers about potential legal liability
- Increase ID checks at off-campus bars and liquor stores
- Enforce seller penalties for sale of liquor to minors
- Enforce law against buying alcohol for minors
- Enforce penalties for possessing fake ID
- Use decoy operations at retail alcohol outlets
- Increase patrols near off-campus parties
- Increase enforcement of DUI laws
- Pass ordinances to restrict open house assemblies and noise level

One use of the typology matrix is for campus-community coalitions to categorize their current programs and policies. In practice, most coalitions find that the bulk of their efforts are focused on addressing knowledge, attitudes and behavioral intentions regarding alcohol consumption, which is most often attempted through programs designed to reach students as individuals. What environmental change strategies there are tend to be focused at the institutional level. Once gaps are noted, the coalition can use the matrix to explore systematically how to expand or modify their programs and policies. Training and technical assistance services provided by the Higher Education Center for Alcohol and Other Drug Prevention are designed to encourage a

detailed exploration of the five subcategories of environmentally focused strategic interventions.

The typology's matrix structure also leads to a consideration of how a program or policy that operates at one level of strategic intervention (as defined by the social ecological framework) might be complemented by efforts operating at other levels. For example, a social norms campaign, which operates primarily at the group level, could be enhanced by an alcohol screening program that gives individualized feedback to students on their drinking compared with other students on campus (Marlatt et al., 1998). As another example, community leaders might foster the creation of new businesses that can provide recreational op-

tions for students. Simultaneously, college officials might create a center to promote student involvement in service learning projects, while also conducting an awareness campaign to inform students of the career advantages of community volunteer work. The idea is to design programs and policies that work in sync to change the campus and community environment, thereby offering a safer and richer learning experience for students.

Emerging Evidence on Environmental Management Strategies

Very few college-focused alcohol prevention programs have undertaken an evaluation that meets even minimal scientific standards. As a result, to guide future program and policy development, the Higher Education Center for Alcohol and Other Drug Prevention relies on the broader prevention literature, which clearly points to the potential for coalition-driven environmental change strategies (Hingson and Howland, this supplement). The Center's training program for campus and community coalitions, technical assistance services and publications have urged college officials to adopt this broader approach, based on the reasoned expectation that what has been shown to work to reduce alcohol-related problems in the population at large will also work to reduce alcohol-related problems among college students.

Recent case study reports underscore the potential value of an environmental approach to reduce alcohol-related problems among college students. In Albany, New York, for example, a campus-community coalition worked to reduce problems related to off-campus student drinking. Committee initiatives included improving enforcement of local laws and ordinances, sending safety awareness mailings to off-campus students and developing a comprehensive advertising and beverage service agreement with local tavern owners. These initiatives were associated with a decline in the number of alcohol-related problems in the community, as indicated by decreases in the number of off-campus noise ordinance reports filed by police and in the number of calls to a university-maintained hotline for reporting off-campus problems (Gebhardt et al., 2000).

In 1995, the University of Arizona installed and publicized new policies to provide better alcohol control during its annual homecoming event. Systematic observation at pregame tents showed that, compared with 1994, these policies led to a lower percentage of tents selling alcohol, elimination of beer kegs, greater availability of food and nonalcoholic beverages, the presence of hired bartenders to serve alcohol and systems for ID checks. These changes were still in evidence through 1998. In 1995, campus police also saw a downward shift in the number of neighborhood calls for complaints related to homecoming activities, which was maintained through 1998. Statistics on law en-

forcement actions were inconsistent. There was a sharp drop in 1995, but 1996 and 1998 saw enforcement levels similar to what was seen before the new policies (Johannessen et al., 2001).

Researchers at the University of Rhode Island conducted a study to assess the impact of the university's tougher alcohol policies, which were installed in 1991, including prohibitions against underage drinking or alcohol possession, public alcohol consumption and use of kegs or other common alcohol containers. The results suggested that aggressive enforcement of the new policies led to a 60% decrease in more serious alcohol violations (Cohen and Rogers, 1997).

Additional scientifically based research is needed to assess the effectiveness of college-based prevention programs that feature environmentally focused policies and programs. Why have there been so few good program and policy evaluations? In general, the problem is not that program directors are unaware of the need for evaluation, or that they are worried about their program failing to measure up. Rather, it is that, until recently, most foundations and government agencies invested insufficient resources in evaluation research. Good research in this area is expensive. On a promising note, new research initiatives funded by the U.S. Department of Education, the National Institute on Alcohol Abuse and Alcoholism and the Robert Wood Johnson Foundation should soon make it possible for a scientifically based research literature to emerge.

With the promise of environmental management strategies for reducing alcohol-related problems among college students, the question arises as to how many colleges and universities have the resources needed to pursue this approach. Reported next are the results of a national study conducted by the Higher Education Center for Alcohol and Other Drug Prevention to answer that question.

National Survey of Senior Campus Administrators

In 1998, the Higher Education Center conducted its first Survey of American College Campuses to learn more about the types of alcohol and other drug prevention efforts now in place in U.S. institutions of higher education. Of particular interest was the extent to which colleges and universities have installed the infrastructure they need to develop, implement and evaluate a comprehensive program that includes prevention strategies with an environmental management focus.

The study sample was an equal probability sample of 365 two- and four-year colleges and universities, both public and private, drawn from an updated database of U.S. institutions of higher education. All of the selected institutions had undergraduate students and granted an associates degree or higher. A survey was mailed to the senior administrator responsible for coordinating each school's in-

stitutional response to alcohol- and other drug-related problems.

One survey was returned without a forwarding address for the institution, leaving a total sample size of 364. With 280 completed surveys, the response rate was 76.9%. Of those providing this information, 133 were from a 4-year institution (48.0%) and 144 were from a 2-year school (52.0%).

Current funding and staff levels

Fully 81.1% of the respondents reported that "hard money" (nongrant) funding for their institution's alcohol and other drug prevention programs had remained the same during the past 3 years; 9.4% reported that funding had increased, and 9.4% reported that funding had decreased. Results for 4- and 2-year institutions were somewhat different. Roughly equal percentages of respondents said that funding had decreased (4-year schools, 9.2%; 2-year schools, 9.7%); more 4-year schools (16.8%) than 2-year schools (1.8%) had funding increases during the past 3 years.

On average, respondents to the Center's survey stated that 1.2 full-time equivalent (FTE) staff were employed at their institution to develop and implement alcohol and other drug prevention programs and policies. Four-year institutions reported having more staff devoted to this work than did 2-year schools: less than one FTE (4-year schools, 38.5%; 2-year schools, 57.8%), one to less than two FTEs (4-year schools, 40.4%; 2-year schools, 24.8%) and two or more FTEs (4-year schools, 21.1%; 2-year schools, 17.4%).

Prevention infrastructure

Respondents to the survey were also asked questions about their school's infrastructure for developing prevention programs and policies. Only 39.8% of the respondents reported that their institution had a campus-wide task force or committee in place to oversee prevention efforts. Among those with a task force, 70.1% reported participation by the president or the president's designee. Respondents from 4-year schools were far more likely than those from 2-year schools have a campus-wide task force (51.5% vs 29.6%, respectively).

Only 28.5% of the respondents said that their institution was part of a local coalition focused on alcohol and other drug prevention. Again, there was a large difference between 4- and 2-year institutions. Fully 37.9% of respondents from 4-year schools said that they participated in such a coalition compared with 18.9% of those from 2-year schools. In addition, 32.6% of the respondents reported that their institution was part of a state-level association focused on prevention. This was the case for 41.3% of 4-year institutions but only 23.3% of 2-year schools.

Data collection and research

Only 19.8% of the respondents reported that their institution conducts a formal assessment of the implementation and impact of its alcohol and other drug policies and programs. This was the case for 25.2% of 4-year schools and 13.9% of 2-year schools.

Only 37.3% of the respondents said that their institution carries out a formal survey of student alcohol and other drug use, knowledge and attitudes. Again, there were large differences between 4- and 2-year institutions. Such a survey was conducted at 58.3% of 4-year institutions and only 17.7% of 2-year schools.

Two-thirds of the respondents (66.3%) indicated that their institution's prevention effort includes a review of incident reports from campus security. This was the case for 72.1% of 4-year schools and 62.2% of 2-year schools. Only 35.4% of institutions review summary statistics from student health services; this was done at 48.4% of 4-year schools but only 23.1% of 2-year schools.

Conclusions

To prevent alcohol- and other drug-related problems on campus, college and university administrators are being asked to adopt a more comprehensive prevention approach that features environmentally focused strategies. Because this represents a profound shift in how most college and university administrators think about alcohol and other drug prevention, this change in approach will come slowly, a fact reinforced by the results of the 1998 Survey of American College Campuses.

Cultivating and sustaining a campus and community environment in which students are helped to make healthier decisions about substance use requires a long-term financial investment. The Higher Education Center's new typology of campus and community prevention efforts makes clear there is much more involved here than tougher campus policies and stricter enforcement. However, despite recent publicity about college student drinking, approximately 9 in 10 U.S. colleges and universities did not increase their nongrant budget allocation for alcohol and other drug prevention during the 3 years previous to the 1998 Survey of American College Campuses.

In addition, the vast majority of colleges and universities have not yet put in place the basic infrastructure they need to develop, implement or evaluate this comprehensive approach. Progress will be greatly facilitated by constituting a permanent campus task force that reports directly to the president, participating actively in a campus-community coalition that seeks to change the availability of alcohol in the local community and joining a state-level association that speaks out on state and federal policy issues.

Another important role of state-level associations is to facilitate the simultaneous development of multiple campus and community coalitions within a state (Deucher et al., in press). The advantages of this approach to infrastructure development are several. First, having several institutions join together in common effort makes clear that high-risk drinking is not a problem of any one campus, but one that all colleges and universities share in common. Second, a state-level effort will draw media attention, which can be used to reinforce the fact that high-risk drinking is not the social norm on campus and to build the case for environmentally focused solutions. Third, a statewide initiative can attract additional funds for prevention. In various states, funds for a state initiative have been provided by departments of state government, the state alcohol beverage control commission and private foundations.

As noted previously, as colleges and universities continue to experiment with a broader range of environmental strategies, additional research is needed to assess their effectiveness and to build a true science of campus-based prevention. Clearly, an environmental approach to drunk driving prevention has led to great reductions in alcohol-related traffic fatalities in the United States (DeJong and Hingson, 1998). Indeed, it was the success of the anti-drunk driving movement that informed the Higher Education Center's doctrine of environmental management. Ultimately, however, if college and university officials are to continue making the investment that an environmental approach requires, evidence is needed about which strategies work best under particular circumstances and are the most cost effective.

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