

Mobilizing for Change: A Case Study of a Campus and Community Coalition to Reduce High-Risk Drinking

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Abstract Campus and community coalitions include a partnership between campus leaders and community stakeholders and can effectively address the environment that may promote high-risk drinking. Despite evidence suggesting that coalitions may be effective vehicles for producing sustainable changes in college drinking, few campuses work within such a structure. The purpose of this study was to examine the effectiveness of a campus and community coalition to implement environmental changes and thereby reduce high-risk drinking and associated consequences. This study utilized a case study method to tell the story of a campus and community coalition (CCC) implemented on a large university campus in the Northeast. The study employed multiple methods including archival document review, review of campus and community level data (i.e. alcohol-related arrests and sanctions) and analysis of student level data. The case study discusses the strategies employed, the environmental changes that occurred and the impact these changes have had on student drinking and consequences. Since implementing the campus and community coalition, the campus has seen an increase in enforcement by campus and local police, changes in community by-laws, and significant reductions in student drinking and consequences. The data provide evidence that a comprehensive approach to reducing high-risk drinking

can have an impact on the campus and community environment, which in turn impacts student drinking and associated consequences. The CCC utilized a strategic and comprehensive approach to substance abuse prevention, allowing all participants to have a shared understanding of the challenges and best practices. Implications for research and practice are also discussed.

Keywords Alcohol · Underage drinking · Adolescent · Coalition · College students · Prevention · Environmental strategies

Introduction

High-risk drinking continues to be a problem on college campuses. Each year, an estimated 1,825 college students die from alcohol-related unintentional injuries. Alcohol is involved in 599,000 unintentional injuries, 696,000 assaults and 97,000 cases of sexual assault and acquaintance rape [1]. In 2007, 70% of college students reported consuming alcohol in the past 30 days. Nearly 50% of males and 36% of females on college campuses qualified as heavy episodic drinkers, using a gender-specific 5/4 measure of consumption in one sitting [2]. In 2002, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) reviewed and organized specific programs and strategies “descending tiers on the basis of the evidence available to support or refute them” [3]. In this report, *A Call to Action: Changing the Culture of Drinking at U.S. Colleges*, campuses are advised to use a research-based “3-in-1 Framework” to include comprehensive, integrated programs with multiple complementary components that target (1) individuals, including at-risk and dependent drinkers, (2) the student population as a whole, and (3) the college and surrounding

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community. The social ecological framework has been increasingly applied to understand and address underage and excessive alcohol use [4, 5]. When applied to university settings, this framework consists of complementary components that have been operationalized into the environmental management approach to prevention [6].

The environmental management approach addresses risk factors unique to campus and community settings and includes strategies such as offering alcohol-free social, extracurricular, and public service options; creating a health-promoting normative environment; restricting the marketing and promotion of alcoholic beverages both on and off campus; limiting alcohol availability; and increasing the enforcement of laws and policies. These strategies have gained support due to their demonstrated effectiveness in reducing high-risk drinking on college campuses [4, 6–8]. The NIAAA identified campus and community coalitions as a Tier 2 strategy for reducing high-risk drinking among college students [3, 5, 9–11]. Tier 2 included strategies with evidence of effectiveness in general populations; NIAAA recommended colleges and universities apply these strategies focused on changing the environment that abets heavy student alcohol use.

A campus and community coalition can be an effective mechanism for colleges and communities to address the environment that may promote high-risk drinking [3, 4, 6, 12]. A case study of three statewide initiatives to reduce high-risk college alcohol use suggests that campuses that have an active campus and community coalition are more likely to implement a range of environmental management strategies [13]. Other studies examining the effectiveness of coalitions to reduce substance use have demonstrated modest or strong positive effects [14–17].

Butterfoss and colleagues define a coalition as “inter-organizational, cooperative, and synergistic working alliances” ([18], p. 315). Campus and community coalitions include a partnership between campus leaders (e.g. Director of health promotion, director of residence life, campus police, dean of students, student government leaders) and community stakeholders (e.g. local police, retail partners, and town officials). This collaborative group can work effectively to develop a shared understanding of campus and community factors associated with excessive drinking and identify and implement environmental management strategies to address these factors. Despite the evidence that suggests campus and community coalitions may be effective vehicles for producing sustainable changes in college drinking, a recent report to the US Department of Education suggests that only 16% of campuses across the country maintain an active coalition [19]. Additionally, few studies have documented the process and outcomes of a campus and community coalition dedicated to reducing high-risk drinking among college students. This case study tells the

story of a campus and community coalition (CCC) implemented at the University of Massachusetts Amherst. The CCC has been in existence for 6 years and continues to be active on the campus and in the local community.

Description of the Coalition

Dangerous consumption had long been part of the culture at the University of Massachusetts Amherst, the flagship of the state’s university system. The Campus and Community Coalition to Reduce High-risk Drinking (CCC) described here began forming in the fall of 2004 in order to address this problem from an environmental management framework. Part of a larger project administered by Boston University Campus and Community Partnership Initiative, the coalition received technical assistance on strategic planning and evaluation beginning in the spring of 2005 and continuing into 2007. Funding was provided for data collection from 2005 to 2007. The coalition continued data collection efforts for 2008–2009. With few exceptions, the membership remained consistent over the 5 years of the coalition. Membership was diverse and included representatives from campus police, town police, town government representatives from at least three local towns, representatives from community chambers of commerce, residence life, Greek life, health services, dean of students, athletics, transit, community relations, and the Center for Student Development.

Within the first 6 months of building the coalition, members worked collaboratively to create a strategic plan of action. Consistent with the strategic planning framework for college campuses [20], the coalition conducted a problem analysis, articulated clear goals, objectives, reviewed theory, and selected strategies to achieve success. As part of this process, the coalition engaged in ongoing evaluation of its efforts. The coalition utilized the Tiers of effectiveness [3] when selecting the strategies and activities. Central to the theoretical framework, the coalition relied upon an environmental management approach to change [6]. The larger coalition convened several sub-committees dedicated to particular environmental changes. These included sub-committees on municipal strategies, retail partnerships, communications, social norms marketing, operating under the influence prevention, and academic engagement. Each group used campus and community data to identify problems, and then explored best practices and theoretical models from the national alcohol and other drug literature.

CCC members organized based on a shared set of guiding principles. First, members agreed to focus efforts toward harm reduction, seeking to reduce the incidence of heavy episodic and frequent heavy episodic (or “binge”) drinking among University of Massachusetts Amherst

students. Second, the membership viewed the reduction of high-risk drinking as a shared responsibility of campus and community. Finally, members agreed to the use of best practices including a comprehensive approach to prevention. The CCC full membership meets monthly to share information, discuss successes and challenges, learn from experts in the field, and strengthen relationships. The CCC formed the previously mentioned subcommittees in order to work on specific strategies.

The CCC followed a theory of change articulated by DiFulvio and Capitani [13] and supported by the literature. In this model, campus and community coalitions are seen as effective mechanisms for implementing a range of environmental management strategies. Implementation of a broad range of strategies would theoretically result in changes in student outcomes including drinking behaviors and consequences among college students [15] (see Fig. 1). In an effort to build and sustain leadership over time, the CCC hosted leadership events to celebrate successes and increase the visibility of campus and community outcomes.

This paper explores three primary questions: (1) What strategies did the coalition employ? (2) What campus environmental changes have occurred as a result of the strategies? (3) Have the campus changes resulted in student level outcomes?

Methods

Archival Document Review

Minutes from the coalition meetings were reviewed for verification of the strategic plan and environmental management strategies implemented. Other archival data was reviewed including campus police data, Amherst police reports, and campus judicial reports.

The IRB at the University of Massachusetts Amherst approved the data collection for this study.

Measures

Self-reported drinking data were used as the basis for analysis. Data were collected during the spring semester of each academic year. Beginning in 2005, the University randomly selected undergraduate students to participate in a web-based survey developed by the Boston University Campus and Community Partnership Initiative. Each of the surveys asked consistent questions allowing for the calculation of

binge and frequent binge rates over time. In all cases, a drink was defined as 12 oz of beer, 4 oz of wine, or 1.5 oz of liquor or 1 mixed drink.

Alcohol Use

All surveys assessed student heavy episodic drinking (binge drinking) and frequent heavy episodic drinking (frequent binge drinking). *Heavy episodic drinking*, was operationalized as the number of times a student drank five/ four or more drinks in one sitting within the 2 weeks prior to taking the survey [2]. Those who reported engaging in heavy episodic drinking three or more times in the same two-week period reached the threshold of *frequent heavy episodic drinking*.

Consequences of Alcohol Use

The BU CCPI survey used similar questions to measure consequences of alcohol use. Students were asked to report on a number of consequences associated with drinking alcohol over a six-month period. Responses were made on a 5-point scale ranging from 0 (never) to 4 (10 or more times). Responses were combined into a yes/no response with those reporting 1 or greater experiences coded as “yes.” Percent of drinkers (past year use) per consequence and percent of drinkers who responded yes to five or more items were tracked over time.

Results

Program interventions were expected to alter the environment especially as related to policy and enforcement. Environmental changes, in turn would lead to changes in drinking behaviors. Demographics of the samples by year are provided in Table 1.

Campus and Community Changes

Figure 2 provides a graphic representation of the campus and community changes that resulted from the campus and community coalition. As part of its strategic plan, the CCC focused on reducing underage drinking rates and consequences by emphasizing two environmental strategies: changing the normative environment and increasing policy and enforcement. A subcommittee was formed in spring 2005 to begin working on the campus’ first social norms

Fig. 1 Theory of change driving strategic planning

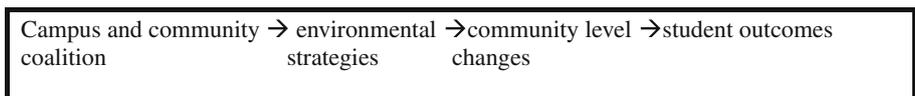
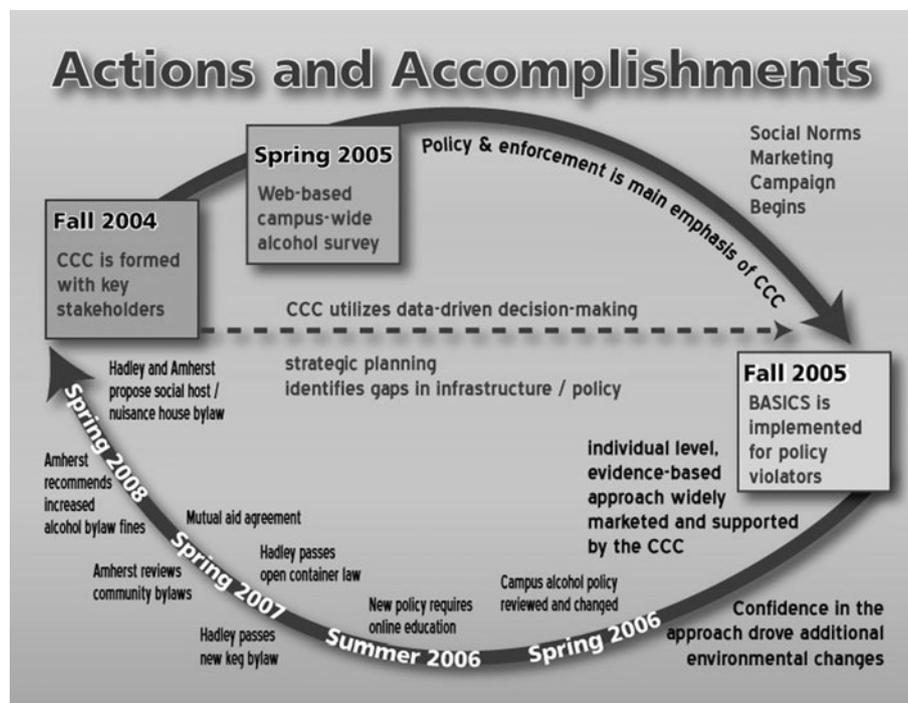


Table 1 Sample demographics

	2005	2006	2007	2008	2009
Total sample size (including all ages)	573	1,154	616	971	703
Percentage under 21	62.1	62.0	70.1	63.7	57.9
Percentage of males under 21	35.4	41.0	34.5	40.8	36.3
Percentage of white under 21	86.7	85.7	82.3	81.2	80.5
Percentage under 21 who live on campus	88.5	83.7	83.5	83.3	84.0

Fig. 2 Actions and accomplishments of the CCC

marketing campaign. The campaign focused on correcting misperceived alcohol use norms was implemented in the Fall 2005.

Key stakeholders were initially reluctant to increase enforcement because of perceived gaps in the campus judicial program that led to tracking violations and completed sanctions. Although in 2004, the University did offer a mandated alcohol referral program, the referral process was complex, the programs in place at the time were not evidence-based, and many students referred were not held accountable for the offense. Therefore, one of the first actions taken by coalition members included creating an evidence-based program for mandated students. In 2005, the University implemented the Brief Alcohol Screening and Intervention for College Students (BASICS) program [21–24]. A campus-wide kick-off event introduced the program to the campus and community members. Resident Assistants, students responsible for enforcing on campus policy violations, and other stakeholders were also invited to attend the BASICS program in order to build confidence in the program to which students were being referred.

The implementation of this evidence-based program increased stakeholder confidence in the judicial process and in turn created a willingness to engage in the process of reviewing and revising campus and community policies. Revising the campus residence hall alcohol policy became the first environmental focus of the CCC. By the spring 2006, members of the coalition participated in a subcommittee to review and revise the campus alcohol policies and relevant educational interventions and/or sanctions. The primary changes to the policy included prohibitions against: drinking games (creating, offering, and or engaging in such games); alcohol related paraphernalia (including funnels, beer pong, and other such items); large gatherings in residential dorm rooms (over 10 people at a party); the possession of empty containers; and intoxication. Additionally, the policy reduced the quantity of alcohol allowed in residence hall rooms for students over 21. Medical amnesty policies for alcohol overdoses were also added to the existing policies. Additionally, the Faculty Senate approved the CCC's recommendation to implement a mandatory online alcohol education course for

incoming students along with course registration holds for non-completers. Finally, a policy communication plan was developed and its implementation is ongoing.

Beginning in 2007, the CCC worked to propose and implement important community level changes. First, two neighboring towns, Hadley and Amherst, reviewed the town by-laws related to alcohol consumption and related behaviors. In an effort to be consistent, the town of Hadley approved two new by-laws related to alcohol use: prohibiting Open containers of alcohol, and required registration of kegs. Both towns later recommended and subsequently increased the fines associated with violations of the alcohol by-laws from \$50 to \$300 per offense. Also in 2007, the Amherst police department and the UMass Amherst campus police implemented a mutual aid agreement that formally dedicates shared resources to assist in enforcing liquor laws, community disturbances, and emergency response services.

In 2008, Amherst and Hadley recommended and passed a nuisance house/social host noise bylaw which held tenants accountable for large gatherings in which alcohol use, noise, crowd and unsafe situations threatened the health and safety of the community. Additionally, landlords are notified after the first violation and after the second violation they must have started the process to evict the tenant. After the third violation, if the landlord did not start the eviction process, he/she is fined \$300.

Campus and Community Level Changes

Campus and community data reflect an increase in policy enforcement during this time period (see Figs. 3, 4, 5). As discussed previously, there was little communication and collaboration between campus police, local police and university staff responsible health, wellness and student conduct. Police were reluctant to refer students to campus judicial processes because of a perceived lack of follow through by campus officials. Because of this, the CCC chose to focus heavily on policy and enforcement of underage drinking both on campus and in the community. The results of increased enforcement can be seen in both the campus and community police statistics (see Figs. 3, 4, 5).

At the community level, except for community OUI arrests, all other areas of enforcement increased over the time period. It is worth noting that Amherst police won a state enforcement award for the work to reduce OUIs in 2009. These data indicate a substantial increase in community enforcement since the implementation of the CCC. Strong enforcement efforts began in the 2005–2006 academic year and have continued to be the focus of the CCC with community by-law changes occurring as recently as

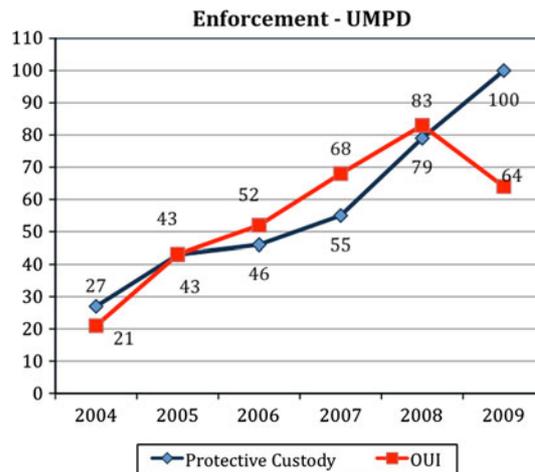


Fig. 3 Protective custody and operating under the influences cases: University of Massachusetts Police Department

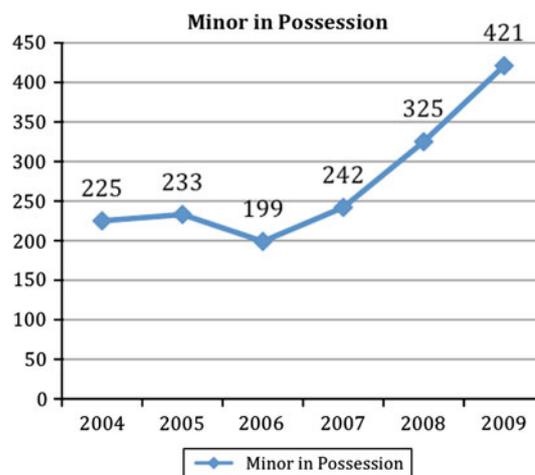


Fig. 4 Number of minor in possession cases: University of Massachusetts Police Department

2009. The most significant increases occurred between 2007 and 2009.

At the university level, the CCC supported efforts to increase enforcement of the alcohol policies especially in residence halls. The campus alcohol policy was changed in 2006 and all members of the campus community receive the policy in writing at the beginning of each academic year. Campus police citations for minor in possession increased significantly from 71 in 2003 to 421 in 2009. The number of students reported for an alcohol-related offences intervention (alcohol education workshop in 2004–2005 and BASICS program beginning in 2005–2006) increased from 650 in the 2004–2005 academic year to 1,149 in 2008–2009. These increases, along with the increases in citations and sanctions by University police indicate a significant increase in campus alcohol enforcement since the beginning of the CCC.

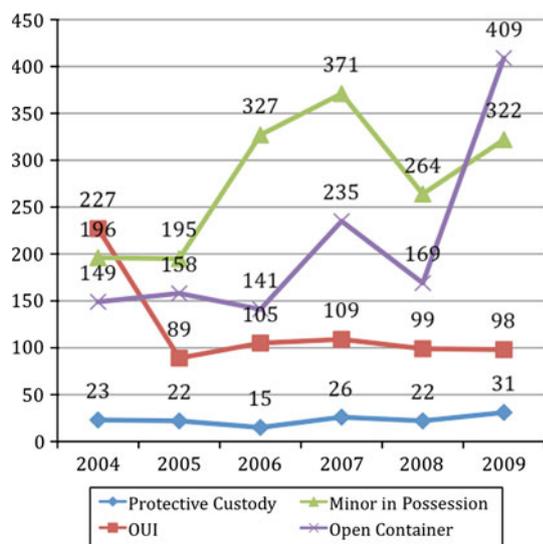


Fig. 5 Enforcement cases: Town of Amherst Police Department

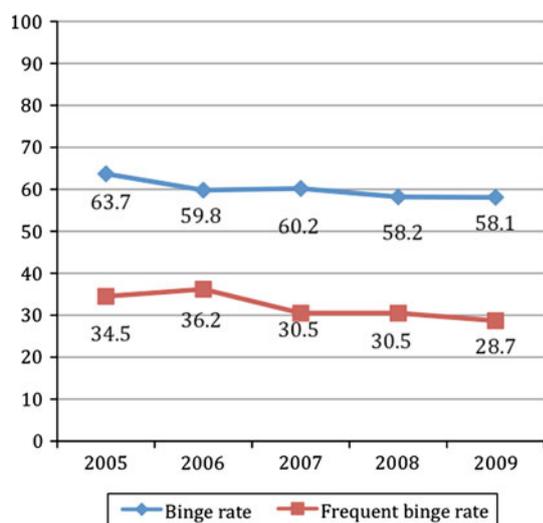


Fig. 6 Change in student binge drinking

Drinking Behaviors and Consequences

Data were analyzed to assess changes in behavior among underage drinkers—the primary focus of the coalition. Figure 6 shows the binge and overall frequent binge drinking rate (five or more drinks for men and four or more drinks for women per drinking session three or more times in a 2 week period) across all survey years. The percentage of UMass Amherst students who binged dropped from 63.7% in 2005 to 58.1% in 2009. The percentage who reported bingeing on three or more occasions in the past 2 weeks (frequent binge) dropped from 34.5% in 2005 to 28.7% in 2009. These changes were statistically significant. Data analysis by gender found that the binge rates changed for females, but not males (see Table 2) suggesting that

Table 2 Binge rates by gender

	Odds ratio (95% CI) reference is 05	P value
Binge		
Overall**	0.69 (0.54–0.89)	0.003
Male	0.82 (0.55–1.24)	0.350
Female**	0.62 (0.46–0.85)	0.003
Frequent binge		
Overall*	0.75 (0.58–0.96)	0.024
Male	0.90 (0.59–1.36)	0.612
Female*	0.67 (0.49–0.92)	0.013

* P < .05

** P < .01

females were more responsive to the environmental changes than males.

We then examined total number of drinks per drinking occasion. Table 3 shows an increase in the number of students (both males and females) who reported drinking four or fewer drinks in a typical drinking episode. Men who drank between 5 and 6 drinks also increased while those drinking more than 7 drinks per occasion decreased from 53% in 2005 and 45% in 2009. Females who reported drinking between 5 and 6 drinks per occasion decreased from 37.8% in 2005 to 28.1% in 2009 while those drinking more than 7 drinks per occasion remained the same. Although none of these changes reached statistical significance, it does suggest that reductions in binge drinking have occurred primarily by making moderate or borderline high-risk drinkers more moderate, rather than reducing drinking among the highest risk drinkers.

In addition to high-risk drinking behaviors, the CCC was also invested in reducing harms associated with drinking. There was a statistically significant decrease in the alcohol-related problems experienced by UMass Amherst students since the CCC began (see Table 4). Specifically, the data revealed decreases in the percentage of students who missed class, did something they later regretted, and forgot where they were. In looking at gender as a moderating factor, we found that the rates changed for females, but not for males across time. Additionally women were less likely to report getting into a fight than men (see Table 5).

Discussion

Despite literature that suggests campus and community coalitions may be effective vehicles for change, few campuses engage in a formal structure with key stakeholders who may influence larger systemic changes. The University of Massachusetts CCC has attracted national attention

Table 3 Reported number of drinks when party by gender

	2005 (n = 83)	2006 (n = 186)	2007 (n = 97)	2008 (n = 164)	2009 (n = 104)	OR (95% CI) 2009 versus 2005	P value (year)
Male							
1–4	25.3	21.5	27.8	29.3	23.1	Reference	0.502
5–6	21.7	23.1	22.7	22.0	31.7	1.61 (0.71–3.64)	
7+	53.0	55.4	49.5	48.8	45.2	0.94 (0.46–1.91)	
	(n = 151)	(n = 260)	(n = 186)	(n = 235)	(n = 164)		
Female							
1–4	43.7	52.3	59.1	53.2	54.9	Reference	0.208
5–6	37.8	30.0	24.7	26.4	28.1	0.59 (0.36–0.98)	
7+	18.5	17.7	16.1	20.4	17.1	0.73 (0.40–1.35)	

Table 4 Consequences reported by students who drank in the past year

	2005	2006	2007	2008	2009
Hangover	70.2	68.9	63.2	64.8	65.5
Missed class*	33.2	28.3	25.4	21.6	23.3
Did something later regretted*	47.8	39.3	37.0	35.2	31.6
Got into a fight	30.9	25.6	28.3	23.2	11.6
Damage property	4.5	6.8	3.0	3.2	5.9
Forget where you were**	44.4	32.8	36.2	37.5	27.2
Get into trouble with police	2.8	1.9	4.0	5.1	5.3
Get hurt	16.3	17.8	15.9	21.7	13.2
Percent reporting 5 or more consequences	14.6	15.5	14.4	14.1	8.6

* $P < .05$

** $P < .01$

for its ability to advance both campus-based and community-based strategic initiatives through a reciprocal process of information sharing, mutual aid agreements, and active promotion of policy and legislative changes that demonstrate a commitment to health and safety. Since implementation of the CCC, both campus and community partners have seen demonstrated changes at the community and individual level.

At its inception, the CCC at the University of Massachusetts benefited from buy-in from senior leadership. It has also had consistent leadership and membership over its tenure. All members share a commitment to use evidence-based practice, and create a data driven plan to change the campus environment. Engaging with a wide range of stakeholders was effective in gaining broad support for campus and community strategies to reduce dangerous drinking. It also helped sustain energy and commitment to reducing dangerous drinking and its effects on the individual and larger community. Coalition work can be challenging especially in terms of sustaining momentum over time. Strong coalition leadership was essential to the success of this coalition and can be especially important when turnover of senior campus leadership or town government officials occurs [25].

The data presented here provide evidence that a comprehensive approach to reducing high-risk drinking which engages key stakeholders from both the campus and community can have an impact on the campus and community environment, which in turn impacts student drinking and associated consequences. This CCC utilized a strategic and comprehensive approach to substance abuse prevention. This included using data to identify problems, consulting the literature regarding best practices, implementing strategic interventions based on the identified needs and consistent performance monitoring and evaluation. This strategic approach allowed all participants to have a shared understanding of the challenges and best practices. It relied upon an integration of strategies that target the individual, the campus, and the larger community [5]. Attention to such an ecological approach emphasizes a process and not necessarily specific strategies. The CCC remained flexible and adaptable in its strategic planning process and did not look at the best practice literature as a “one size fits all” solution. Other campuses interested in organizing a campus and community coalition may find benefit from this approach.

As the CCC has evolved, it has broadened its approach and continues to implement new strategic initiatives. With

Table 5 Consequences reported by gender

	Odds ratio (95% CI) reference is 2005	<i>P</i> value
Hangover		
Overall	0.92 (0.69–1.21)	0.530
Male	1.12 (0.70–1.80)	0.624
Female	0.82 (0.58–1.16)	0.266
Miss class		
Overall*	0.75 (0.57–0.99)	0.045
Male	0.90 (0.56–1.45)	0.673
Female*	0.67 (0.47–0.94)	0.022
Regret		
Overall*	0.75 (0.58–0.97)	0.030
Male	1.05 (0.67–1.66)	0.822
Female**	0.62 (0.45–0.86)	0.004
Fight		
Overall	0.77 (0.58–1.02)	0.067
Male	0.97 (0.60–1.57)	0.899
Female*	0.66 (0.46–0.94)	0.020
Damage property		
Overall	1.02 (0.66–1.59)	0.918
Male	0.87 (0.50–1.51)	0.615
Female	1.08 (0.50–2.33)	0.840
Forget		
Overall**	0.67 (0.52–0.87)	0.003
Male	0.70 (0.45–1.10)	0.123
Female**	0.63 (0.46–0.88)	0.006
Get into trouble		
Overall	1.45 (0.72–2.94)	0.299
Male	1.40 (0.49–4.04)	0.530
Female	1.40 (0.54–3.60)	0.490
Get hurt		
Overall	1.02 (0.73–1.43)	0.895
Male	0.89 (0.53–1.51)	0.663
Female	1.09 (0.71–1.68)	0.686
Five or more consequences		
Overall	0.93 (0.66–1.32)	0.691
Male	0.90 (0.53–1.54)	0.696
Female	0.91 (0.58–1.44)	0.693

* $P < .05$ ** $P < .01$

evidence suggesting that more interventions may lead to greater success in reducing alcohol-related problems [13, 15], the attention to implementing a broad range of strategies may be an important factor for the success of campus and community coalitions. Lessons learned from this coalition suggest that strategic partnerships are key and may build slowly over the course of time. The CCC leadership was deliberate in selecting the coalition membership at the start. After establishing a strong and functioning base,

other partnerships were created to expand the reach of the coalition. For example, the leadership team decided that work at the campus level was an important first step in gaining credibility and trust from community members in surrounding towns. Therefore, the CCC chose to first tighten campus policies before asking town government and town police to become involved and look at their own enforcement strategies. In fact, the early CCC membership did not initially include alcohol retail partners. In 2008, as data was shared and discussed, the group decided that a sub-committee to focus on alcohol availability was an important next step and retail partners were actively sought to join the CCC.

The CCC was formed with a small amount of initial funding that allowed for consistent data collection over time. During the initial 2 years, members underwent training, received individualized technical assistance from the BU Campus and Community Partnership Initiative. For the first academic year (2004–2005), the CCC spent time collecting and looking at data collaboratively and building a plan for implementation. For campuses to engage in such work, technical assistance with leadership development, strategic planning, data collection and updated information about bringing theory to practice may be useful in helping to build and maintain a strong and diverse campus and community coalition.

An interesting and unanticipated finding is that women were more likely to show reductions in dangerous drinking and some related consequences than men. To date, little research has examined the differential impact of environmental strategies for men and women. More research is needed to understand how and why men and women might respond differently to different types of interventions. Tailoring efforts to meet the unique needs of men and women may be an important component of environmental management.

Limitations

The data presented here represent the experiences of one campus. Consistent data collection has occurred since the planning stages of the CCC (2005) and we are able to document student level changes over time. More research is needed to more directly relate individual level change to the work of a coalition and to assess effectiveness of coalitions at multiple campuses.

Although this CCC has seen success over time, the exact strategies to employ are specific to the campus and community context. This makes it difficult to translate these findings to other settings. Therefore, other communities hoping to adopt such a coalition would do well to focus on a public health approach which includes data collection, strategic planning, commitment to evidence-based practice,

and monitoring and evaluation. More research is needed to identify components that may be most effective in development and sustainability of a campus and community effort.

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