

## **Four Year Update on the Development and Implementation of a Substance Abuse Prevention and Awareness Campaign at a State-Supported Regional University**

**Julie Lombardi and Mandi Dupain**

### **Abstract**

Areas of critical health concerns for colleges and universities across the nation focus on substance abuse including alcohol and other drugs. Our State-Supported Regional University (SSRU) continues to implement a substance abuse prevention and awareness campaign. The SSRU administered the American College Health Association National College Health Assessment Iib (ACHA-NCHA Iib) (2015) to its undergraduate population. Healthy Campus 2020 topic areas measured are under Student Objectives and included Substance Abuse (SA), Health Communication (HC), and Education and Community Based Programs (ECBP). Two areas of health concern under Healthy Campus 2020 Student Objectives in the Substance Abuse area were identified where progress is critical. The results supported the SSRU's goals as it continues emphasizing substance abuse prevention through early education and prevention strategies coupled with continued support from the university's collaborative efforts among multiple university and community programs.

*Keywords:* Substance abuse prevention, substance abuse awareness, prevention strategies

*Julie Lombardi, P.E.D., is an Associate Professor in the Wellness and Sport Sciences Department at Millersville University. She can be reached at [jlombardi@millersville.edu](mailto:jlombardi@millersville.edu). Mandi Dupain Ph.D. is an Assistant Professor in the Wellness and Sport Sciences Department at Millersville University. She can be reached at [mdupain@millersville.edu](mailto:mdupain@millersville.edu)*

The latest Monitoring the Future (MTF) survey results on alcohol and other drug use in the past three decades indicates college student use decreasing from 74.7% in 1991 to 62% in 2017 for alcohol use while marijuana/hashish percentages have increased from 46.3% in 1991 to 50.5% in 2017 (Schulenberg et al., 2017). Results of a 2014 study (Buu, et al.) found that males are at higher risk for being early-onset alcohol users, while females tend to be at higher risk for initiating marijuana use at younger ages. High-intensity drinking during the past two-weeks was shown to be associated with an increased risk of past-thirty day use of nonmedical use of prescription drugs (McCabe, Veliz, & Patrick, 2017).

The purpose of this study was to measure progress for five (5) Student Objectives from Healthy Campus 2020 (ACHA, 2016). Healthy Campus 2020 topic areas measured were under Student Objectives and included Substance Abuse (SA), Health Communication (HC), and Education and Community Based Programs (ECBP). The student objectives provided the occasions to recognize the characteristics of substance abuse and misuse at our State-Supported Regional University (SSRU). The equation used to measure progress for each student objective was:

$$\frac{(\text{Current Status} - \text{Baseline}) \times 100}{(\text{Year 2020 Target} - \text{Baseline})} = \text{Percentage of Target Achieved}$$

(Healthy People 2010 Toolkit: A Field Guide to Health Planning, 2002). Measuring progress for the five student objectives was used to determine whether our university's initiatives were effective in achieving the Healthy Campus 2020 student objectives.

Our SSRU is a public institution with an undergraduate enrollment of 6,778 students (Fall 2017 enrollment data). It is in a rural setting with approximately 73.31% white and 83.76% full-time students (Fall 2017 enrollment data). Since 2014, one academic department within the SSRU has made an intense effort to change a freshmen oriented course focusing on

health/wellness issues and move all alcohol and other drug prevention and educational messages into the first six weeks of each semester's curriculum. These changes have resulted in greater communication and collaboration with other university and community abuse prevention efforts.

### **Literature Review**

The proportion of students who report using marijuana (pot, weed, hashish, hash oil) is the first Student Objective area our study compared under the SA topic area of Healthy Campus 2020. It was predicted in 2016 that the price of marijuana would drop and use would increase (Hall & Lynskey, 2016). Miller, Rosenman, and Cowan (2017) found that recreational marijuana legalization was associated with a significant increase both in the proportion of undergraduate students who reported having recently used marijuana and in the average frequency of use. The Center for Behavioral Health Statistics and Quality has shown that marijuana use tends to peak in young adulthood (2016) and as legalization of both medical and recreational marijuana use has become more common across states, fewer young adults report that regular marijuana use has risk compared to data collected during the previous 10 years (Johnston et., 2015). Bolin, Pate, and McClintock (2017) recommend that prevention efforts include a focus on marijuana and alcohol use throughout the entirety of their college careers.

The proportion of students who report engaging in high-risk drinking of alcoholic beverages within the last two weeks is the second student objective area our study compared under the SA topic area of Healthy Campus 2020. Schulenberg and Patrick (2011) have shown that going to college is associated with a significant increase in heavy episodic drinking and marijuana use between the ages of 18 and 21 years, and then a decline in use between ages 21 and 25 years. The research has also shown that the association between college attendance and increases in heavy drinking and marijuana use was conditional on the timing of enrollment into secondary education with students enrolling directly out of high school being the heaviest

drinkers (Thompson, Homel, & Leadbeater, 2015). Interestingly, it has been shown that although college students drink alcohol to cope with life stressors, avoid negative incidents, and make fun encounters, most drink alcohol to improve their mood and help them be social (LaBrie et al, 2012). Lanter et al. (2015) suggest the use of quality improvement methodologies and the creation of a national collaborative for reducing high-risk drinking successfully effected meaningful change in high-risk drinking behaviors on college campuses.

The proportion of students who report nonmedical use of prescription drugs within the last 12 months is the third student objective area our study compared under the SA topic area of Healthy Campus 2020. The nonmedical use of prescription drugs initiation rates are second only to marijuana in the United States. The nonmedical use of prescription drugs is known to increase the risk of developing a substance use disorder (SAMSHA, 2011). Studies have found that, in young adults, alcohol use and nonmedical use of prescription drugs are highly correlated (McCabe et al, 2007a, 2012, 2015; Schepis et al, 2016). McCabe, Veliz, and Patrick (2017) found that the 15+ drinks in a row threshold appears to be a critical indicator of drinking that substantially increases the likelihood of engaging in any type of nonmedical use of prescription drugs, especially among non-whites.

The proportion of students who report driving after consuming any alcohol is the fourth student objective area our study compared in the HC topic area of Healthy Campus 2020. Even with extensive prevention efforts, approximately 4.2 million adults in 2012 reported an estimated 121 million alcohol-impaired driving episodes (Jewett et al., 2015). Consumers of alcohol mixed with energy drinks have been shown to be more likely to be heavier-risky drinkers and more likely to drive after drinking when compared to alcohol alone consumers (Arria, et al., 2016; Martz, Patrick, & Schulenberg, 2015; Tucker, Troxel, Ewing, & D'Amico, 2016). Teeters et al. (2015) showed that counselor-administered brief motivational interventions that included

descriptive normative feedback were associated with significant reductions in alcohol-impaired driving.

The proportion of students who report receiving information on alcohol and other drug use from their institution is the fifth student objective our study compared in the Education and Community Based Programs (ECBP) topic area. Undergraduate students at our SSRU receive alcohol and other drug information from the following individuals and groups: First Six Weeks curricular infusion into a freshman health/wellness course, first year experience courses, workshops by prevention professionals, social norming messaging, peer education programming, special peer education programming for student-athletes and Greek organizations, residential hall programs, and professional counselors. The Office of Safe and Drug-Free Schools at the U.S. Department of Education published a document summarizing the essential parts of effective campus-based alcohol and other drug abuse prevention practices (2010) which guides our education and prevention efforts.

### **Methodology**

In the Spring of 2018, a random sample of SSRU students responded to an electronic invitation to fill out the ACHA-NCHA IIB online survey. An e-mail announcement was sent to all valid e-mail addresses (n= 6778) (Fall 2017 enrollment data) of currently registered full time undergraduate students. The survey required approximately 30 minutes to complete and was completely confidential (i.e., students email addresses or names are not attached to their responses). The email announcement included a link to the ACHA-NCHA IIB survey. The total university response was 11.93 % (students). Permission for conducting the research was granted by the University's Institutional Review Board (IRB# 392594891).

Demographic characteristics of the SSRU population are illustrated in Table 1:

Demographics of Sample. Out of the 809 students who responded to the survey, 52.1 % were 18-

20 years of age, 41.7% were 21-24 years of age, 3.4 % were 25-29 years of age, and 2.9 % were 30 years of age or older. Most participants were female (77.5%) (56.76% of SSRU are female [Fall 2017]) and white (88.0%) (73.31% of SSRU are white [Fall 2017]) and 93.4% were full-time students (83.76% of SSRU are full-time students [Fall 2017]). The majority of students reported being single (94.7%), 3.6% were married, and 1.7% were separated, divorced or other.

## **Results**

### **Healthy Campus 2020 Topic – SA**

Student Objective: Reduce the proportion of students who report using marijuana (pot, weed, hashish, hash oil) within the last 30 days. The Healthy Campus 2020 target is set at 15.30% and our SSRU's students' results are at 20.6%. This is a 34.6% difference from the 2014 level (12.70%) and indicates that our SSRU results are above Campus 2020 target.

### **Healthy Campus 2020 Topic – SA**

Student Objective: Reduce the proportion of students who report engaging in high-risk drinking of alcoholic beverages within the last two weeks. The Healthy Campus 2020 target is set at 31.60% and our SSRU's students' results 31.5%. This is a .32% difference from the 2014 level (29.00%) and indicates we are very close to the 31.6% Healthy Campus 2020 goal.

### **Healthy Campus 2020 Topic – SA**

Student Objective: Reduce the proportion of students who report nonmedical use of prescription drugs within the last 12 months. The Healthy Campus 2020 target is set at 13.8% and our SSRU's students' results are at 16.6%. This is a 20.3% difference from the 2014 level (20.80%) and indicates we are above the Healthy Campus 2020 target.

### **Healthy Campus 2020 Topic – HC**

Student Objective: Reduce the proportion of students who report driving after consuming any alcohol within the last 30 days. The Healthy Campus 2020 target is set at 16.1% and our

SSRU's students' results are at 9.8%. This is a 39.1% difference from the 2014 level (10.70%) and indicates we are already below the Healthy Campus 2020 target.

### **Healthy Campus 2020 Topic – ECBP**

Student Objective: Increase the proportion of students who report receiving information on alcohol and other drug use from their institution. The Healthy Campus 2020 target is set at 71.3% and our SSRU's students' results are at 89.6%. This is a 25.6% difference from the 2014 level (87.70%) and indicates we are already above the Healthy Campus 2020 target.

### **Limitations**

The limitations for this descriptive study should be noted. The number of student respondents (809 students) was small. The demographic characteristics (Table 1) include a high proportion of respondents who identify as full-time, white, 18-24 years old, single, and female. Second, the study was limited by self-reporting and researchers must assume the respondent are reporting correctly. Third, the sample was limited to undergraduate students at one rural, SSRU, and therefore, the results should not be generalized to undergraduate students in other regions of the United States.

### **Discussion**

The results of the ACHA-NCHA IIb (Table 2) provided our SSRU with data for substance abuse and prevention behaviors for our undergraduate student population. We measured progress for five (5) Student Objectives from Healthy Campus 2020 (ACHA, 2016): three from the SA area, one from the HC area, and one from the ECBP area. We continue to utilize Healthy Campus 2020 to prioritize student health objectives for our students.

Healthy Campus 2020 Topic SA: Student Objective: Reduce the proportion of students who report using marijuana (pot, weed, hashish, hash oil) within the last 30 days. Our baseline survey in 2014 indicated that 12.7% of SSRU students reported using marijuana within the last

30 days. The Healthy Campus 2020 target is set at 15.30% and our 2018 survey results indicate we are at 20.6%. Our SSRU results indicate that the percentage of reported marijuana users is higher than the Healthy Campus 2020 target. There was a 3-fold regression away from the target for Healthy Campus 2020 SA Student Objective of 15.3% during this four-year time period. This large increase in the percentage of SSRU marijuana users is not a surprise to the authors, yet, disappointing given the prevention and education efforts during those four years. Substance abuse rates peak in early adulthood (Schulenberg et al., 2017). Although the federal government considers marijuana a Schedule I substance (having no medicinal uses and high risk for abuse), approximately three-quarters of the states in the nation have either legalized the recreational and/or medical use of cannabis and/or decriminalized it. Not surprisingly, adolescents have shown increases in positive attitudes about the use after recreational marijuana legalization and decreased perceptions of harm from marijuana (Cerdeira et al., 2017). In a large scale longitudinal study, Arria et al. (2013) found college students who used marijuana very frequently during all four years were twice as likely as minimal users to experience discontinuous enrollment.

Healthy Campus 2020 Topic – SA: Student Objective: Reduce the proportion of students who report engaging in high-risk drinking of alcoholic beverages within the last two weeks. Our baseline survey in 2014 indicated that 29.00% of SSRU students reported engaging in high-risk drinking within the last two weeks. The Healthy Campus 2020 target is set at 31.60% and our 2018 survey results indicate we are at 31.5%. Our SSRU results following this four-year time period indicate a 1-fold regression away from the Healthy Campus 2020 target of 31.6% indicating more students reported engaging in high-risk drinking. Although our 31.5% is less than the Healthy Campus 2020 goal of 31.60% the authors are disappointed in the increase in numbers.

As many as 90% of college students drink and experience academic, health, legal and social consequences (Johnston, O'Malley, Bachman, & Schulenberg, 2013). The pervasiveness of high-risk drinking is well recognized as an area of health risk on college campuses as college students have high rates of binge drinking (Center for Behavioral Health Statistics and Quality, 2016). Although more recent trends have shown that standard binge drinking and 10+ high intensity drinking have declined among high school seniors over the past several years, movements in 15+ high-intensity drinking have not significantly declined over the last ten years (Miech et al., 2016).

Healthy Campus 2020 Topic – SA: Student Objective: Reduce the proportion of students who report nonmedical use of prescription drugs within the last 12 months. Our baseline survey in 2014 indicated that 20.80% of SSRU students reported nonmedical use of prescription drugs within the last 12 months. The Healthy Campus 2020 target is set at 13.8% and our 2018 survey results indicate we are at 16.60%. Our SSRU results following this four year time period indicate a .6-fold improvement in progress toward the Healthy Campus 2020 SA Student Objective target of 13.8%. Rates of young adults (ages 18-24) alcohol-related overdoses have increased with a rise in hospitalization rates for combined alcohol and drug overdoses between 1999 and 2008 (White et al, 2008). Many of these hospitalizations among young adults involve nonmedical use of prescription drugs and many times involved simultaneous co-ingestion of alcohol and nonmedical use of prescription drugs (SAMHSA, 2013b, 2014). Given the national drug abuse crises and the fact that the National Fiscal Year 2017 Budget proposed the allocation of \$1.1 billion in an effort to reduce prescription drug misuse (Ali, et al., 2017), the authors are pleased with the small amount of progress toward the Healthy Campus Goal of 13.8%.

Healthy Campus 2020 Topic – HC: Student Objective: Reduce the proportion of students who report driving after consuming any alcohol within the last 30 days. Our baseline survey in

2014 indicated that 10.70% of SSRU students reported driving after consuming any alcohol within the last 30 days. The Healthy Campus 2020 target is set at 16.1% and our 2018 survey results indicate we are at 9.8%. Our SSRU results following this four-year time period indicate that the percentage of students reporting driving after consuming alcohol Healthy Campus 2020 HC Student Objective improved and has already been attained and surpassed. Alcohol impairment is involved in roughly one-third of all motor vehicle crashes (NHTSA & USDT; 2015). Data shows that males are more likely to be arrested for driving under the influence (Schwartz & Davaran, 2013) and those who reported binge-drinking behavior were more likely to engage in alcohol-impaired driving compared to drinkers who do not binge (Sunshine et al., 2018).

Healthy Campus 2020 Topic – ECBP: Student Objective: Increase the proportion of students who report receiving information on alcohol and other drug use from their institution. Our baseline survey in 2014 indicated that 87.70% of SSRU students reported receiving information on alcohol and other drug use from their institution. The Healthy Campus 2020 target is set at 71.3%. and our 2018 survey results indicate we are at 89.6%. Our SSRU results following this four-year time period indicate a .11-fold improvement in progress toward the Healthy Campus 2020 ECBP Student Objective target that has already been attained and surpassed. Universities and colleges throughout the United States provide alcohol and other drug education and abuse prevention information through a variety of methods. Healthy Campus 2020 provides a downloadable document with a list of campus and community departments/organizations that could be partners in college/universities' dissemination of information (ACHA, 2016).

The results from this Healthy Campus 2020 Student Objectives progress analysis supplied information that is useful in assessing and maintaining our substance abuse prevention

and awareness campaign and training programs. The results showed that we have made progress in a few areas and in other areas more intense interventions are necessary in order to effect change in the behaviors of our students. The results indicated our educational messages need to be changed and improved concerning the use of marijuana and nonmedical use of prescription medicine.

Since 2014, a stronger effort was made by our SSRU to educate students about the risks involved with the misuse of alcohol and other drug issues. Our prevention work has been guided by a social ecological framework, which recognizes that any health-related behavior, including college student substance abuse, is affected through multiple levels of influence: intrapersonal factors, interpersonal processes, institutional factors, community factors and public policies (Stokols, 1996). Prevention efforts concentrated on intrapersonal 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 when substance use has put them in danger. Among these efforts are freshmen orientation and alcohol awareness first six weeks' curriculum infusion. The assumption behind this approach is that once students are presented with the facts about alcohol's dangers they will make better informed and healthier decisions about drinking and use risk reduction techniques. Activities focused on interpersonal 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 Center for Health Promotion and Education (CHEP), trains student leaders to implement a variety of awareness and educational programs and to serve as role models. Social norms campaigns are another prevention strategy implemented to affect interpersonal processes. Our social norms campaign attempts to provide more accurate information about actual levels of alcohol and other drug use on campus by using campus-based mass media (i.e. newspaper, stall talks, posters and email

messages). Social norms campaigns are grounded in the observation that college students greatly overestimate the number of their peers who drink heavily (Perkins and Wechsler, 1996). A broader focus on institutional prevention factors have included implementation of an alcohol and other drug task force. The objective of the task force is to identify ways in which the environment can be changed to clarify the college's expectations for its students, better integrate students into college life, change student norms away from alcohol and other drug misuse and make it easier to identify students in trouble with substance use. In addition, a campus and community coalition has been implemented to curtail youth access to alcohol and to eliminate irresponsible marketing practices and alcohol sales by local bars, restaurants and liquor outlets. Finally, college officials are working for policy change by following the effective campus-based alcohol and other drug abuse prevention practices published by Office of Safe and Drug-Free Schools at the U.S. Department of Education (2010). Addressing substance abuse awareness and prevention campaign from an ecological model framework should remain a priority for universities emphasizing protective factors and risk/harm reducing factors. Our SSRU is utilizing our data to design and implement programs that employ collaboration among students, faculty, health services and prevention specialists.

Table 1  
Demographics of Sample Population (N= 809)

Student demographics	n	%
<b>Age</b>		
18-20	421	52.1
21-24	337	41.7
25-29	28	3.4
30+	23	2.9
<b>Sex</b>		
Females	627	77.5
Males	164	20.3
Non binary	18	2.2
<b>Full –time student status</b>		
Yes	756	93.4
No	46	5.7
Other	7	0.9
<b>Ethnicity</b>		
White	711	88.0
Black or African American	35	4.4
Hispanic or Latino	46	5.7
Asian or Pacific Islander	24	3.0
American Indian or Alaskan Native	6	0.6
Biracial or Multiracial	21	2.6
Other	16	2.0
<b>Relationships status</b>		
Single	766	94.7
Married/Partnered	29	3.6
Separated/Divorced/Other	14	1.7

Table 2  
Results of the ACHA-NCHA IIb Survey

Topic Area: Substance Abuse	Data Source	Baseline 2018	Target 2020	% Difference	Baseline 2014	Measuring Progress	Percent Difference
Reduce the proportion of students who report using marijuana (pot, weed, hashish, hash oil) within the last 30 days.	American College Health Association – National College Health Assessment II (ACHA-NCHA II), Question 8A6	20.60%	15.30%	0.34640523	12.70%	303.846154	-62.204724
Reduce the proportion of students who report engaging in high-risk drinking of alcoholic beverages within the last two weeks.	American College Health Association- National College Health Assessment II (ACHA-NCHA II), Question 13	31.50%	31.60%	-0.0031646	29.00%	96.1538462	-8.6206897
Reduce the proportion of students who report nonmedical use of prescription drugs within the last 12 months.	American College Health Association- National College Health Assessment II (ACHA-NCHA II), Question 18A-E	16.60%	13.80%	0.20289855	20.80%	60	20.1923077
Reduce the proportion of students who report driving after consuming any alcohol within the last 30 days.	American College Health Association- National College Health Assessment II (ACHA-NCHA II), Question 14A	9.80%	16.10%	-0.3913043	10.70%	-16.666667	8.41121495
Increase the proportion of students who report receiving information on alcohol and other drug use from their institution.	American College Health Association- National College Health Assessment II (ACHA-NCHA II), Question 2A1	89.60%	71.30%	0.25666199	87.70%	-11.585366	-2.1664766

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