

**COLLEGE STUDENT ALCOHOL USE: USING CURRENT RESEARCH TO GUIDE
PRACTICE**

by

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Alcohol abuse has been described as the biggest health problem on college campuses today. This single statement illustrates the public health relevance of addressing college student alcohol use. College student alcohol use affects everyone on a college campus, not only the student who uses or abuses alcohol. The author of this paper is currently an employee of the University of Pittsburgh's Student Health Services. As a graduate student assistant, she has facilitated the Personal Education Assistance and Referral (PEAR) program to over 250 students. The goals of this paper are to provide an understanding of background information surrounding college student alcohol use, to critically examine three major reports and two ongoing studies and to specifically elaborate on the goals created by the *Surgeon General's Call to Action to Prevent and Reduce Underage Drinking*. This paper concludes with recommendations consisting of prevention and intervention strategies as well as environmental changes that are evidence-based.

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1.0 INTRODUCTION

Underage drinking has been described as the biggest health problem facing American college campuses today. It is a public health problem that affects every person on campus from the freshman who engages in high-risk drinking three nights a week to the senior who has never consumed alcohol at all. Underage drinking affects college personnel and the community that surrounds a campus. Indeed, each of these groups are also important to solving this problem.

As students grow and mature, peer and family relationships can change dramatically. This time of intense change, referred to as adolescence or the second decade of life is often a time of experimentation. Especially in adolescents, alcohol use increases the chances of long-term negative consequences on the developing brain. After high school, many students enter the college environment. Underage alcohol use has obvious effects on students who drink excessively that are oftentimes depicted in popular culture such as hangovers, vomiting, injury to oneself or someone else, or engaging in unplanned sexual activity. In addition to these, college students who drink alcohol increase their risk of hurting themselves or someone else or engaging in unplanned sexual activity. Students who drink more also report their overall health as being worse than students who drink less (The National Center on Addiction and Substance Abuse, 2007). In addition to negative consequences to the individual student, college students who drink alcohol affect the entire campus and the surrounding community through what are called secondhand effects. This paper will further examine the background information important to understand underage drinking on college campuses. It will also detail other pertinent topics such as college drinking culture and examine the marketing strategies of the alcohol industry.

Prominent public health figures and university stakeholders have issued reports detailing the extent of the problem. Comprehensive surveys are being developed to give college administrators accurate depictions of the problem.

Drug and alcohol prevention and intervention strategies have been in practice for many years yet there is a lack of such efforts that are proven to be effective. More specifically, prevention strategies and interventions efforts that directly target the college population and have been proven effective are lacking. This paper will look at three reports that address these prevention and intervention strategies: *Healthy People 2010*, The Surgeon General's *Call to Action to Prevent and Reduce Underage Drinking*, and *Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities*. In addition, two prominent quantitative studies that have paved the way to facing the state of America's campuses: The Harvard School of Public Health *College Alcohol Study (CAS)* and the American College Health Association's *National College Health Assessment*.

This report concludes by using the author's experience as an alcohol education program facilitator at the University of Pittsburgh to make recommendations to the university in an effort to incorporate the common recommendations of each report.

2.0 BACKGROUND

Alcohol is a substance that is commonly used by Americans. In the United States, more than half of the adult population drank alcohol in the past thirty days, according to national surveys (Department of Health and Human Services & CDC, 2007). Excessive drinking can lead to both immediate and long-term harmful effects. In addition, excessive drinking is the third leading lifestyle-related cause of death for people in the United States (Department of Health and Human Services & CDC, 2007). According to the Centers for Disease Control's (CDC) latest estimates about 5% of the population drink heavily while 15% engage in binge drinking. For the large majority of adults in the United States, alcohol is not a problem in their lives. It can be customary, celebratory and often is of little to no concern.

Several terms used when describing the frequency of alcohol use need clarification. Heavy drinking is defined by the CDC as more than two drinks per day on average for men or more than one drink per day by women. Binge drinking is defined as having five or more drinks on one occasion for men or four or more drinks per occasion for women (Department of Health and Human Services & CDC, 2007). The term binge drinking has a negative connotation and therefore the term high risk drinking is sometimes used in its place. Excessive alcohol use is defined as heavy drinking or binge drinking. Moderation in reference to drinking quantity is defined as two drinks per day for men and one drink per day for women. Regardless of the term that is being used, consumption of large quantities of alcohol and the related consequences for

students, many of whom are under the legal drinking age, are harmful and warrant attention from communities around the nation.

2.1 ALCOHOL AND ADOLESCENT DEVELOPMENT

Adolescence is a time of physical, emotional and social change. As more conclusive research is being conducted about adolescent development and underage alcohol use, researchers are finding pertinent information regarding peer and family relationships and the adolescent brain. As brain research makes progress, researchers are finding out that an adolescent's brain is particularly susceptible to the long term negative affects of alcohol (U.S. Department of Health and Human Services, 2007). This section reviews this pertinent information in order to facilitate an basic understanding of adolescent development.

Normal maturational changes that all adolescents experience include both biological and cognitive changes. Adolescents undergo puberty which requires psychological and social adaptation (U.S. Department of Health and Human Services, 2007). Specific regions of the brain are also undergoing change with areas maturing at different times. Understanding these changes is essential for understanding the dangers of underage alcohol use. *The Surgeon General's Call to Action to Prevent and Reduce Underage Drinking* comments on the multiple influences that oftentimes come into play during adolescence. Daily life changes in many ways for adolescents. They often begin assuming responsibilities for daily life tasks and balancing academics with an after-school job or simply making decisions about when they will sleep or what they will eat. Again, these changes may occur at different times for different adolescents (Windle et al., 2008).

Oftentimes more influential than maturational changes are social and cultural changes in family life, peer situations and the school systems that frequently change adolescent daily lives.

2.1.1 Alcohol and the Adolescent Brain

As noted above, adolescence is a time when the human brain is in transition which adds another complex dimension to brain research (Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, April 2002). Specifically, new connections between nerve cells are being formed while existing synaptic connections are being fine tuned (Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, April 2002). The Surgeon General characterizes these types of changes to the brain during adolescence as “dramatic” (U.S. Department of Health and Human Services, 2007). These changes affect many of the essential daily functions of an adolescent brain including planning and decision making, impulse control, voluntary movement, memory, and speech production (Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, April 2002).

Each area of the brain begins and ends its phase of maturation at a different time. The timing and subsequent consequences of brain development is described in *The Surgeon General’s Call to Action to Prevent and Reduce Underage Drinking*: “the limbic areas of the brain, which are thought to regulate emotions and are associated with an adolescent’s lowered sensitivity to risk and propensity for novelty and sensation seeking, mature earlier than the frontal lobes, which are thought to be responsible for self-regulation, judgment, reasoning, problem solving, and impulse control” (p. 20). Therefore, these differences in development

across the adolescent brain can result in decisions or reactions that can put adolescents at serious risk (U.S. Department of Health and Human Services, 2007).

Additional research is being conducted to explore the possibility of long-term negative consequences on the adolescent brain as a result of alcohol use. Alcohol affects the adolescent and adult brains differently. Adolescents are more vulnerable to negative consequences as a result of alcohol use (Monti et al., 2005). It is also becoming increasingly accepted that adolescent binge drinking does cause permanent changes in adult brain structure and impair one's ability to form memories (Monti et al., 2005).

2.2 ALCOHOL AND PEER RELATIONSHIPS

Peer influences play a large role in alcohol use and abuse during adolescence. According to Windle et al. (2008), three types of peer influence occur during adolescence. First, direct peer influence or peer pressure can occur. An example of this type of would be the direct encouragement of alcohol use through verbal encouragement.

Second, peer influence can be self-sustaining, meaning that affiliation with friends who are similarly minded can encourage group members to act similarly and resist change. Adolescents who spend more time with peers who consume alcohol are more likely to drink (U.S. Department of Health and Human Services, 2007). Thus, adolescents who surround themselves with peers who consistently engage in deviant behavior put themselves at much greater risk for personally engaging in deviant behavior as well (Windle et al., 2008). This example of peer modeling can greatly influence a adolescent's behavior.

A third type of peer influence is when adolescents consistently and significantly overestimate the prevalence of their peers drinking. This is also very common among college students. According to Windle et al. (2008), overestimation encourages heavy drinking. Social norms campaigns that aim to bridge the gap between reported and perceived rates of use are being implemented on about 40 percent of college campuses (The National Center on Addiction and Substance Abuse, 2007). These campaigns have received mixed reports regarding their efficacy.

During adolescence, peer influences are possibly stronger than at any other time of development and differences between adult and adolescent decision making are most evident during situations that have heightened social or emotional overtones (U.S. Department of Health and Human Services, 2007). The three types of pressure, direct, self-sustaining and overestimating prevalence, lend support to the importance of increasing the protective framework around adolescents.

2.3 ALCOHOL AND FAMILY RELATIONSHIPS

Family relationships also play a role in adolescent development and vulnerability to potential underage alcohol use. Parental and sibling relationships can be both protective and risk factors. Parental relationships may facilitate alcohol use without ever intending to do so. For example, parents may look the other way as their children begin experimenting with alcohol or allow their children to participate in events such as spring break that oftentimes have a high occurrence of high risk drinking (The National Center on Addiction and Substance Abuse, 2007). On the other

hand, it is not unlikely for parents to indirectly pay for alcohol or directly supplying it to their children, "...between 1993 and 2001 there was a 34.5 percent increase in the number of underage students who reported acquiring alcohol from parents or relatives" (The National Center on Addiction and Substance Abuse, 2007, p. 6).

As adolescents leave the home and oftentimes pursue a secondary education, the time that adolescents spend interacting with and the frequency of interaction between the parent and adolescent decrease. The quality of the relationship, however, typically improves (Windle et al., 2008). Eighteen years of parental modeling and conversations regarding substance use or lack thereof may stick with an adolescent. In fact, a parent who drinks or who views drinking as favorable may have a child who drinks more than a parent who does not drink and does not view drinking as favorable (U.S. Department of Health & Human Services, National Institutes of Health, & National Institute on Alcohol Abuse and Alcoholism, January 2006). Parental influences continue to be important as children age and enter college in their late teens. A survey from Columbia University's Center on Addiction and Substance Abuse (CASA) of college students found that 70 percent say their parents' concerns or expectations either somewhat or very much influence if and how much they choose to drink (The National Center on Addiction and Substance Abuse, 2007). Those same students drink, binge drink, use marijuana, and smoke significantly less than those who report being less influenced by their parents' concerns and expectations (The National Center on Addiction and Substance Abuse, 2007).

In addition to parents, older siblings affect underage alcohol use by potentially modeling for their younger siblings. Windle et al. (2008) report that not only do older siblings' alcohol and drug use typically predict subsequent use by younger siblings but merely the perception that

older siblings are using drugs or alcohol predicts younger sibling use. This can be counteracted by brief discussions between parents and their children about expectations around alcohol use and the dangers associated with alcohol use and abuse before students enter college. Emerging research suggests that these brief conversations can make a difference in whether and how much a student engages in substance use once in college (The National Center on Addiction and Substance Abuse, 2007).

Children from families of alcoholics are at increased risk for problem use, abuse, or alcohol dependence throughout their lives (U.S. Department of Health and Human Services, 2007). A child's genetics account for more than half of her risk for alcohol dependence (U.S. Department of Health and Human Services, 2007). However, according to the U.S. Surgeon General's report it is important to take into account that although genes have a very strong influence on whether the development of problem alcohol use occurs, a drinker's environment seems to play a larger role in the initiation of alcohol use (U.S. Department of Health and Human Services, 2007).

2.4 ALCOHOL AND THE COLLEGE STUDENT POPULATION

Excessive alcohol use (high risk or binge drinking) is a problem among college students in the United States. Notably, the U.S. Surgeon General has called binge drinking the most serious public health problem on American college campuses today (Harvard School of Public Health, 2005). College student alcohol use has been widely studied in the past decade due to startling statistics. Not only do young adults have the highest rates of alcohol use but they also have the

greatest percentage of problem drinkers (Ham & Hope, 2003). Statements such as this draw attention to alcohol and the college student population and point out the need to pay close attention to this problem.

In 1992, the Harvard School of Public Health's College Alcohol Study (CAS) presented not only the first nationally representative picture of college student alcohol use but also information regarding college students who were drinking at high risk levels (Wechsler & Nelson, 2008). The study included new findings: about two in five college students attending four-year colleges in the United States are drinking at a high or greater risk level. This rate has remained consistent across the four times that the CAS has been administered. However, during this time period of about eight years the numbers of students who abstain from drinking alcohol and frequently engage in high risk drinking have both increased (Wechsler & Nelson, 2008).

Similarly, CASA agrees that students who drink or binge drink are more likely than ever to do so on a steady basis. These students are more likely to become intoxicated and drink just to get drunk (The National Center on Addiction and Substance Abuse, 2007). But even more alarming is the report of dangerously high drinking levels that some students are reporting. *Wasting the Best and the Brightest: Substance Abuse at American's College and Universities* is a report issued in March 2007 by The National Center on Addiction and Substance Abuse at Columbia University. According to this report, "one study of 10,424 college freshmen at 14 schools across the U.S. found that a considerable number of students drink at more extreme levels—significantly beyond the definition of binge drinking" (p. 17). This study found that about two in five males and one in three females admitted drinking at or above binge drinking levels. Students continued to report rates of binge drinking that are twice the threshold, meaning males drank 10 or more drinks on one occasion. The report also notes that students oftentimes

do not know what a standard drink is and they overpour and underreport (The National Center on Addiction and Substance Abuse, 2007).

2.5 EFFECTS OF ALCOHOL ABUSE ON COLLEGE STUDENT HEALTH

Alcohol abuse is the most common form of substance abuse on college campuses (The National Center on Addiction and Substance Abuse, 2007). Subsequently, it is also responsible for the most damaging secondhand effects. College student alcohol-related injuries are on the rise. *Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities* reports an increase of about 38% between 1993 and 2001 (The National Center on Addiction and Substance Abuse, 2007).

College student deaths have also risen. In three years, from 1998 to 2001, the number of college students who died from unintentional alcohol-related injuries increased six percent. In 2001, 1,717 students died due to alcohol related injuries (The National Center on Addiction and Substance Abuse, 2007). According to *Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities*, young people who currently use alcohol also report “significantly lower ratings” of their health than do young people who do not drink or who report drinking in the past (The National Center on Addiction and Substance Abuse, 2007). In recent years students have increased use of mental health services (The National Center on Addiction and Substance Abuse, 2007). In the general population, fewer than one in 10 people meets the DSM-IV diagnostic criteria for alcohol and /or drug abuse or dependence (The National Center on Addiction and Substance Abuse, 2007). Twenty three percent or 1.8 million full-time college

students meet the DSM-IV criteria for alcohol and/or drug abuse or dependence (The National Center on Addiction and Substance Abuse, 2007). Alcohol use can also have effects on mental functioning. This impact is more pronounced in teens and young adults than in adults (The National Center on Addiction and Substance Abuse, 2007). In summary, alcohol use and abuse increases students' likelihood of being injured or killed and impacts their overall ratings of their own health as well as effects on mental health.

2.6 SECONDHAND EFFECTS ON THE UNIVERSITY

College students who engage in binge or high risk drinking are not living in a vacuum. The effects of college drinking reach far beyond the individual student and affect the community of students, who often live in very close proximity to one another. For example, residence life staff spend a large amount of time trying to prevent underage drinking. Broughton (2007) comments on the specific ways that student alcohol consumption affects the daily procedures of residence life staff. In a 30-year review and analysis of college drinking literature, Broughton writes, "Residence life staff regularly cope with students who have overconsumed alcohol directly, as well as with the secondary impact of those students returning to the residence halls and getting into fights, damaging property, or disturbing other residents on the floor" (p. 610). These occurrences negatively affect the quality of life for students (The National Center on Addiction and Substance Abuse, 2007).

Financially the university is greatly affected by alcohol use. Common alcohol related expenses for a university may include not only damage to property as mentioned earlier but also an increase in security and other staff such as counselors, judicial staff, and educators. Other

costs include lost tuition from students who drop out or are forced to leave due to alcohol-related occurrences and legal costs for liability suits against the university (The National Center on Addiction and Substance Abuse, 2007).

Heavy alcohol use also contributes to increased violence. Alcohol-related arrests per college campus increased by 21 percent between 2001 and 2005. In 2001, nearly 700,000 students were assaulted by a student who had been drinking. In 2005, 83 percent of arrests on college campuses were alcohol related (The National Center on Addiction and Substance Abuse, 2007). This could also increase costs on campus. An increase in violence resulting in an increase in arrests, as mentioned, may lead to increased security or police presence on campus.

2.7 ADDITIONAL CONSEQUENCES OF STUDENT ALCOHOL USE

Alcohol use also contributes to lower academic performance by students. Lower grade point averages are linked to student drinking (The National Center on Addiction and Substance Abuse, 2007). Students who report a high grade point average or an A equivalent grade point average report drinking less per week than students who report a very low or D to F grade point average. Of the students who report binge drinking, about 50 percent report getting behind in their schoolwork and 68 percent report missing classes (The National Center on Addiction and Substance Abuse, 2007). Most relevant for secondhand effects, is that students who do not binge drink experience similar consequences because of the disruption caused by their peers. With regard to students who do not engage in binge drinking, “sixty percent had their studying or sleep disrupted; 29.2 percent report having been insulted or humiliated; 19.5 percent experienced an unwanted sexual advance; 19 percent had a serious argument or quarrel; 15.2 percent had

their property damaged; and 8.7 percent had been pushed, hit or assaulted” (The National Center on Addiction and Substance Abuse, 2007, p. 38). These are all consequences of the alcohol use and abuse by college students.

Driving under the influence is an additional consequence of alcohol use that receives a large amount of attention. *Wasting the Best and the Brightest: Substance Abuse at America’s Colleges and Universities* compares rates of college students who drive under the influence in the United States to those of 22 other countries including England, France, Germany and Spain. United States college students have the highest rate of drinking and driving. In 2001, 29 percent of US college students report driving under the influence of alcohol (The National Center on Addiction and Substance Abuse, 2007).

Another common consequence of alcohol use is casual or risky sexual behavior. In 2001, approximately 21 percent of students reported engaging in unplanned sexual activity under the influence of alcohol (The National Center on Addiction and Substance Abuse, 2007). Unplanned sexual activity is risky; however, unprotected sex poses even greater risks to the health and wellbeing of students. About 15 percent of students had unprotected sex as a result of their own drinking (The National Center on Addiction and Substance Abuse, 2007).

2.8 THE ALCOHOL INDUSTRY

A policy briefing report from the American Medical Association (AMA) explores prevention messages and promotion strategies of the alcohol industry. This information is important for consumers, including parents, who strive to be knowledgeable about the messages they and their

children are digesting. Is the alcohol industry doing all it can to keep its products out of the reach of underage drinkers? Are prevention messages based on sound research and guided by those without a stake in the alcohol industry? Four components of the alcohol industry's marketing strategies can help parents or consumers make an educated decision about the merit of the alcohol industry and their messages. These are product, promotion, place and price (American Medical Association, 2002).

Product refers to the types of alcoholic beverages on the market. Several products that are very popular with teenagers are under fire from several agencies beyond the AMA. These drinks are referred to as "alcopops," sweet and fruity products that contain alcohol (American Medical Association, 2002). This trend began with lemonade flavored alcoholic beverages. According to the AMA, teenagers are more likely than adults to be familiar with the different types of alcopops as well as to consume them.

Promotion refers to the ways that the alcohol industry markets its products not only to but including underage drinkers, although this practice is illegal. According to the AMA, "The Federal Trade commission reported that eight of the largest alcohol companies had made product placements in 'PG' and 'PG-13' movies with youth-oriented themes and large youth audiences and on eight of the 15 television shows most popular with teenagers" (p. 6). Older adolescents, such as college age youth, are also subjected to "aggressive, creative marketing campaigns by producers, distributors, and retailers" (p. 6). Federal laws require that alcohol companies put a mandated warning on each label and display a prevention message during commercials. However, these messages are intentionally vague such as "Drink Responsibly" and "Know When to Say When." If college students have never discussed their drinking with an adult who

understands the effects that alcohol has on the brain and the body, they may not know what “Know When to Say When” actually means. The AMA believes that alcohol companies’ advertisements send the message that everyone’s drinking. This directly contradicts popular social marketing campaigns on campuses that try to send realistic messages to youth about exactly how many students are using alcohol. Advertising and marketing to college students both underage and of legal drinking age benefit the alcohol industry in two ways (The National Center on Addiction and Substance Abuse, 2007). The more obvious of the two is the profit from sales. In 2001, this profit was approximately \$22.5 billion (The National Center on Addiction and Substance Abuse, 2007). The less obvious way that college students who drink alcohol benefit the alcohol industry is to maintain the population of adults that abuse or use alcohol dependently. This may seem slightly far fetched; however the earlier that a young person begins to drink, the more likely he or she will become an abusive or dependent drinker (The National Center on Addiction and Substance Abuse, 2007). So, introducing alcohol to underage drinkers has positive effects on the alcohol industry.

Third, **place** refers to the location and availability of alcohol. Particularly in college areas, bars are located amongst the popular coffee shops, restaurants, and other underage hang outs. These bars advertise cheap beer while bars boast drink specials, which both encourage heavy drinking.

Fourth, **price** refers to the cost of alcohol. The AMA notes that alcohol prices have steadily dropped over the last five decades and youth are sensitive to alcohol prices. “As relative prices decline, youth consumption increases” (p. 6). The Surgeon General’s Report and Healthy People 2010 encourage higher prices on alcohol as a means to decrease consumption.

2.9 COLLEGE DRINKING CULTURE

College campuses attract a large amount of interest among those who are studying high risk drinking and the surrounding culture and environment that seem to fuel it. Drinking alcohol in college, like many other things, began years ago and slowly evolved into a tradition. This tradition has snowballed into a culture with specific beliefs and customs (Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, April 2002). Robert D. Bickel and Peter F. Lake, authors of The Rights and Responsibilities of the Modern University (1999), discuss the role of alcohol on college campuses in a chapter titled “The Rise of the Bystander University.” The bystander university has evolved after decades of changing ideals and legal issues that have led universities to take a stance based on legalities rather than solely health and safety (Bickel & Lake, 1999). In the 1960’s student revolutions resulted in universities taking a distant stance on alcohol.

During the next few decades, universities continued to let students act as adults and assume risks associated with drinking alcohol. After years of passivity, the university was merely an “innocent bystander.” Bickel and Lake comment, “Over time, a sense of entitlement has been fostered that has led otherwise bright young people to argue for absurd things and take ridiculous and indefensible positions (some college students literally have written in college newspapers to justify aggressive protests over ‘beer rights’)” (p. 87). In 1998, students on several campuses rioted when their liquor privileges were revoked (Bickel & Lake, 1999). In addition to this and as a result of this history, “Campus and community anti-substance use policies and laws often are weak, ignored by students or unenforced by campus and local authorities” (The National Center on Addiction and Substance Abuse, 2007, p. 8).

Together, the bystander university and unenforced polices have resulted in a college drinking culture that fosters underage alcohol use. Henry Wechsler, director of the *College Alcohol Study* at the Harvard School of Public Health and comments, “For too long, schools have looked the other way as a beer blitz of television ads swirls around college sporting events, alcohol engulfs the neighborhoods surrounding colleges and alcohol-laden traditions such as tailgating take over campuses. Rather than set limits, the watchdogs [colleges] have helped legitimize alcohol as a necessary ingredient of sports by partnering with the industry” (The National Center on Addiction and Substance Abuse, 2007, p. 65).

Alumni play a large part in carrying their alma mater’s customs through generations of students. When the custom is alcohol it can be a dangerous tradition to uphold, especially when students consistently overestimate the excessive alcohol use around them. Alumni are part of a group that has the ability to pass on heavy drinking traditions passively by simply carrying on the alcohol tradition at sporting events or alumni dinners. In many cases, these types of events are focused around alcohol (Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, April 2002). Consistent overdrinking by alumni simply sets a bad example for young students.

Popular culture and media promote the use of alcohol to college age students by portraying the college environment as a place where students who are popular or part of the “in-crowd” drink underage. The National Institute on Alcohol Abuse supports the idea that environmental influences like media affect young people: “Today alcohol is widely available and aggressively promoted through television, radio, billboards, and the Internet” (U.S. Department of Health & Human Services et al., January 2006, p. 6). The alcohol industry spends millions of dollars every year advertising to college students on their campuses. In 2004, the

alcohol industry spent \$68 million in college sports television advertising, up from \$54 million the previous year (The National Center on Addiction and Substance Abuse, 2007). Bickel and Lake (1999) discuss the powerful images presented in the popular movie “Animal House.” They note, “There is a picture of John Belushi as Bluto Blutarski from Animal House where Bluto stands wearing his “College” sweater and has a dazed, confused, post-pre-alcohol visage and a vacant ‘why? And where is the next beer?’ look in his eyes. This type of vision has become an icon of post-secondary education” (p. 154). In recent years, several movies have been released that also depict underage drinking in a favorable light, including “American Pie,” “Varsity Blues” and “Superbad.”

The National Institute on Alcohol Abuse cites a study of 3rd, 6th, and 9th graders which found that those who rated alcohol ads as more desirable were more likely to view drinking in a positive light. These students were also found to be more likely to purchase products with alcohol logos (U.S. Department of Health & Human Services et al., January 2006). Similar to Big Tobacco marketing tactics many years ago, the alcohol industry has found a way to make children and young adults know and recognize their products.

The Surgeon General’s Call to Action to Prevent and Reduce Underage Drinking clearly conveys this concept and sums up the danger in a drinking culture: “A culture in which youth feel that underage drinking is accepted, acceptable, or even expected promotes underage drinking. Society as a whole needs to send the message that it strongly disapproves of underage alcohol use because of its potentially adverse consequences and that it will not condone or permit it” (p. 39).

3.0 REPORTS AND STUDIES

This section reviews and discusses relevant reports and studies. *Healthy People 2010* is a report that sets national health goals for the United States in 2000. Section 26 is dedicated to substance abuse and includes several alcohol-specific goals. This report is important for the nation as it provides a vision of where the Nation was and where it is going. *The Surgeon General's Call to Action to Prevent and Reduce Underage Drinking* was released in March 2007 and focuses specifically on underage drinking as a major problem in society today. It includes extensive information regarding maturation as well as a lengthy section dedicated to goals for the nation. Each goal is followed by recommendations specifically for the college setting. Also in 2007, Columbia University's Center for Addiction and Substance Abuse also issued its report, *Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities*. This report was included in this paper because it provides comprehensive information on all drug use, not just alcohol, and specifically addresses college students. The *College Alcohol Study* and the *National College Health Assessment* are both prominent quantitative studies that have paved the way to exposing the state of America's campuses. These two ongoing data collection efforts are major contributors to what is known about alcohol and college students. The *College Alcohol Study* was chosen because it was one of the first representative collections of data that is still ongoing. The *National College Health Assessment* is used on many college campuses today and

surveys college students on all of their health habits and concerns. Much of this information is available to the public simply by accessing the American College Health Association's website.

3.1 HEALTHY PEOPLE 2010

Healthy People 2010 is a national report that sets the nation's health agenda. This report calls for change among other things in the areas of substance use and abuse. If achieved, these goals have the ability to improve the quality of life for Americans in general and reduce the burden of substance abuse on healthcare services across the United States. Other goals are specifically aimed at reducing substance use and abuse for adolescents.

Goal 26-9 aims to increase both the age of an adolescent's first experimentation with alcohol and the proportion of adolescents who remain alcohol-and drug-free. Specifically, this goal aims to increase the age of first use among adolescents from 13.1 years to 16.1 years. Goal 26-9c aims to increase the number of high school seniors who have never used alcoholic beverages from 19% at baseline in 1998 to the target of 29%. Goal 26-11 aims to reduce the proportion of persons engaging in binge drinking. Both the baseline data and target numbers are based on high school or college students reports of use in the past two weeks (U.S. Department of Health & Human Services, November 2000).

Healthy People 2010 recommends several policies and strategies to prevent and reduce underage drinking in the United States:

- tougher state restrictions and penalties for alcoholic beverages retailers to ensure compliance with the minimum purchase age

- restrictions on the sale of alcoholic beverages at recreation facilities and entertainment events where minors are present
- improved enforcement of state laws prohibiting distribution of alcoholic beverages to anyone under age 21 years and more severe penalties to discourage distribution to underaged persons
- implementation of server training and standards for responsible hospitality
- requirement that college students reporting to student health services following a binge drinking incident receive an alcohol screening that would identify the likelihood of health risk
- restrictions on marketing to underaged populations, including limiting advertisements and promotions
- higher prices for alcoholic beverages (U.S. Department of Health & Human Services, November 2000).

3.2 THE SURGEON GENERAL'S CALL TO ACTION TO PREVENT AND REDUCE UNDERAGE DRINKING

In March of 2007 the United States Surgeon General issued *The Surgeon General's Call to Action to Prevent and Reduce Underage Drinking*, hereafter referred to as *Call to Action*, which focuses on new, culturally sensitive and most notably comprehensive approaches to understanding and preventing underage drinking. It stresses the important role that each component of a community, including law enforcement, higher education, health care systems and government, has in preventing and reducing underage drinking.

The *Call to Action* has six goals:

- fostering change in American society
- engaging communities in a national effort to prevent and reduce underage drinking
- promoting understanding of underage alcohol consumption and the effects that it has on development and maturation
- conducting additional relevant research
- working to improve public health surveillance

- ensuring policies at all levels that are consistent with the *Call to Action*.

The Surgeon General also proposes several strategies that have the ability to influence the goals of the *Call to Action*. For example, preventing adolescents from starting to drink or even delaying the initiation of underage drinking will allow adolescents to develop to an age when their brains are able to function at a more mature level before they begin experimenting with alcohol.

This science-based report has an important take-home point. Underage alcohol use is not inevitable. It can be stopped and communities and parents are not powerless.

3.3 *WASTING THE BEST AND THE BRIGHTEST: SUBSTANCE ABUSE AT AMERICA’S COLLEGES AND UNIVERSITIES*

In 2007, The National Center on Addiction and Substance Use (CASA) at Columbia University published a comprehensive report called *Wasting the Best and the Brightest: Substance Abuse at America’s Colleges and Universities*. This report addresses drug- and alcohol-related problems at educational institutions around the United States and calls for action through leadership. Authors of this report believe that educational institutions are obligated to tackle substance abuse for three important reasons.

First, substance abuse compromises academic performance. Simply stated, “Continuing to pass such behavior off as a harmless rite of passage and subtly condoning it--for example, by canceling Friday classes or allowing on-campus student bars--place institutions of higher learning in jeopardy of failing to achieve desired standards of academic excellence” (p. 2). By

not having strict policies regarding substance abuse, America's educational institutions are not protecting their students.

Second, universities have an obligation to protect the health of the public that they serve (i.e., their students, faculty and administrators). CASA notes that an educational institution would undoubtedly protect its students, faculty and administrators from environmental toxins or other dangerous or unhealthy living conditions. If an educational institution knew that a campus building had asbestos, they would take the necessary steps to protect those who worked or lived in that building. Because evidence is only becoming more compelling that all types of substance abuse are detrimental to students, educational institutions must assume the responsibility to protect their students, faculty and administrators from its consequences.

Third, CASA points out the legal implications when educational institutions do not employ comprehensive evidence-based substance abuse prevention programs. CASA concludes its argument by explaining that its call for leadership does not only include administrators at institutions of higher education but also includes parents, students, alumni and policymakers.

3.4 THE COLLEGE ALCOHOL STUDY

In addition to the American College Health Association's National College Health Assessment, the Harvard School of Public Health has also been surveying college students. The College Alcohol Study (CAS) has been administered four times to date and has involved over 14,000 students and 120 four-year colleges in 40 states (Harvard School of Public Health, 2005).

Supported by The Robert Wood Johnson Foundation and conducted by the Harvard School of Public Health, the CAS endeavors to have a nationally representative sample in order for its findings to be most externally valid. Before the CAS report was published there were no generalizable nationally representative studies on underage alcohol use and abuse. The first report of the CAS results was published in 1994. Not only does the CAS examine typical drinking measures like quantity and frequency but it uses an in-depth survey to collect more specific information about secondhand effects and student sub-groups, which may influence drinking behaviors.

According to the Harvard School of Public Health, the CAS has led to several key accomplishments:

- The U.S. Surgeon General established a national goal to reduce college binge drinking by 50% as part of the "Goals for the Nation" for the year 2010.
- The National Institute of Alcoholism and Alcohol Abuse (NIAAA) established a Task Force on College Drinking to make recommendations about the problem.
- NIAAA adopted the 5/4 definition of binge drinking.
- The Centers for Disease Control and Prevention annually measures binge drinking in their state-by-state reports.
- The annual Behavioral Risk Factor Surveillance Survey coordinated by the CDC has recommended changing its measure of binge drinking from a five-drink standard to a gender-specific measure of five drinks for males and four drinks for females.
- The World Health Organization recommends using a five-drink measure for conducting surveillance research on alcohol use.
- The U.S. Senate and House of Representatives sponsored by Senator Joseph Biden, D-DE and Representative Joseph Kennedy, D-MA passed resolutions calling on college presidents to address college binge drinking.
- Senators Michael DeWine (R-OH) and Joseph Lieberman (D-CT) introduced legislation in February 2003 to combat underage drinking and drug use on college campuses by encouraging states to work together to create coalitions between colleges and surrounding communities.
- A U.S. House of Representative resolution was sponsored by Representative Thomas Osborne, R-NE to discourage alcohol use by underage students and other young fans by ending alcohol advertising during radio and television broadcasts of collegiate sporting events (Harvard School of Public Health, 2005).

3.5 *THE NATIONAL COLLEGE HEALTH ASSESSMENT*

The National College Health Association's American College Health Assessment is a survey designed to assist college health personnel in identifying the top health priorities for college students. The reference group is made up of 34 institutions that self-selected to participate. To collect data each university surveyed all students or used random sampling techniques to develop a sample. This resulted in 23, 863 student responses. This survey has been administered annually since 1998, resulting in the largest known comprehensive data set for the college population (American College Health Association, 2008). Among many other pertinent health topics, students are surveyed about alcohol, tobacco and other drug use, including measures of 30 day prevalence, reported use versus perceived use, and behaviors within the last 12 months. The following information was published regarding past 30-day use: 50% of students reported using alcohol one to nine days in the past month, 15% used 10-29 days and 13% used alcohol but not in the past 30 days (American College Health Association, 2008). Twenty one percent of students reported never using alcohol and less than 1% reported using all 30 days. Interestingly, students perceived that 37% of students used alcohol daily when 0.4% of students self-reported daily use. Related to marijuana, 69% of students reported never using, 18% reported use but not in the past 30 days, 9% reported using one to nine times in the past 30 days, 3% reported using 10-29 days and less than 1% reported using all 30 days. Students perceived that 22% of students never used marijuana, that 59% used on one or more days, and that 18% of students used marijuana daily (American College Health Association, 2008).

The American College Health Assessment asks students to self-report their blood alcohol content (BAC) as well as the number of drinks last consumed when a student socialized or partied. Seventy-two percent of males and females estimated that last time they socialized their

BAC was less than .10 (American College Health Association, 2008). A large majority of students (79%) also reported having less than or equal to six drinks last time they socialized or partied (American College Health Association, 2008).

3.6 UNIVERSITIES CAN CHANGE

Despite the attention currently being paid to students who engage in high risk drinking and the consequences for the broader community, there has been no comprehensive approach to curtail this problem (Broughton & Molasso, 2006). Bickel and Lake (1999) comment, “Modern colleges can and should address the problems of alcohol danger and disorder directly. There are realistic, proactive steps that can be taken” (p. 207). One key aspect of preventing underage drinking is developing intervention strategies within a developmental framework (U.S. Department of Health and Human Services, 2007). A systems approach must be created that takes into account the many different influences on an adolescent’s behavior. Although two adolescents may be the same age, they may be experiencing very different daily lives and situations which can affect risk-taking and views of alcohol differently (U.S. Department of Health & Human Services et al., January 2006). This means that a “one-size-fits-all” intervention that is successful in one urban environment may fail in another urban environment. Another factor to consider is the timing of the intervention, which is crucial when implementing interventions, especially with adolescents who are undergoing rapid growth and change. This period of change “when social or cultural factors most strongly influence the biology and

behavior of the adolescent” (U.S. Department of Health & Human Services et al., January 2006, p. 4) is suggested to be an opportune time for intervention.

A common argument about crime prevention is that if we clean up one neighborhood, drug dealers will just move on to another (Bickel & Lake, 1999). This thinking is often applied to prevention of underage alcohol use. Many people believe that prevention in one community only leads to displacement and a new problem in a neighboring community (Bickel & Lake, 1999). So for example, in the Pittsburgh region, if Duquesne University or Carnegie Mellon University were to begin a strict new wave of enforcement of underage drinking laws, this thinking would lead to the conclusion that students would simply come to Oakland or find new places to consume alcohol. But as Bickel and Lake (1999) point out, “Strict community enforcement of underage drinking standards, with college involvement, can facilitate reducing the problem. And, the college is in the position to assess and discipline its problem drinkers, even those who drink off campus” (p. 208).

Adolescent interventions aimed at individuals can change the decision making path of young people, which ultimately affects their habits for the rest of their lives. The Surgeon General’s *Call to Action* comments on the need for developmentally appropriate comprehensive interventions: “To succeed, prevention and reduction efforts must take into account the dynamic developmental processes of adolescence, the influence of an adolescent’s environment, and the role of individual characteristics in the adolescent’s decision to drink” (p. 27). However, young people of all ages need interventions that do more than just target them as individuals.

In addition to individual interventions, environmental interventions are essential (U.S. Department of Health & Human Services et al., January 2006). Classic prevention efforts are described as two-fold with both an individual and an environmental focus. One key to enhancing

these types of interventions is adding a developmental approach. The objective of a developmental approach is to “ensure the emergence of a self-reliant, competent, and healthy adult at the end of the adolescent maturation process” (p. 28). This points to why developmental approaches that are tailored to students are so important. Interventions aim either to strengthen protective factors or diminish risk factors, but a developmental approach looks to both strategies.

A developmentally appropriate intervention will create opportunities for youth to be engaged. Research suggests that when youth are involved in opportunities such as after-school sports, music, volunteering or simply academics they may be less likely to take part in risky behaviors including alcohol use. In addition to the previously mentioned suggestions, programming must be culturally appropriate, comprehensive, integrated, and evolving, initiated early and carried out over the long-term (U.S. Department of Health and Human Services, 2007).

4.0 APPLYING THE GOALS SET BY THE SURGEON GENERAL’S CALL TO ACTION

The Surgeon General’s Call to Action to Prevent and Reduce Underage Drinking includes six goals to change the current status of underage drinking, discussed in this section. In the report, each goal includes specific recommendations for the college and university setting which are discussed below. The goals begin with a broad context and become more specific. This section details each goal followed by an explanation of how the goal relates to the university setting.

Goal 1: Foster changes in American society that facilitate healthy adolescent development and that help prevent and reduce underage drinking.

An adolescent lives in a society that is largely influenced by the beliefs and attitudes of the adults within that community. If adolescents are going to make healthy decisions regarding alcohol they must perceive that their community is against underage drinking in all circumstances and that the consequences of use are real. Obviously this goal involves changing the culture, which is neither short term nor easily accomplished. It will not be easy for adults to discard cultural beliefs or norms but this does not mean that it cannot be attained. The Surgeon General acknowledges these challenges: “The culture around drinking in the United States is especially difficult to change because alcohol use is embedded in American society, is legal and is acceptable for most adults, and is often regarded as a rite of passage for youth. Many young

people believe that drinking is not only acceptable but expected of them and a way for them to feel more grown-up” (p. 40).

Colleges and universities have cultures all their own. Because of this, they must take an unwavering stance against underage drinking and the culture on campuses that at times promotes it. Colleges and universities should strive to be well-informed as to what their students are doing in regards to underage drinking. This includes taking representative sample surveys to maintain accurate depictions of student behavior. Administrators should take a close look at university policies and practices in order to determine if anything they are doing is directly or indirectly encouraging a campus culture that accepts underage alcohol use. Policies need to be set and enforced with developmentally appropriate consequences. Alcohol companies should not be permitted to sponsor athletic events and alcohol advertisement in any campus publication should not be allowed. Every student group needs to be held accountable for underage drinking at any function in its facility or at which the group is present. No faculty member, staff person, or administrator should turn a blind eye. Parents, staff, faculty and administrators should all be educated on the dangers of underage drinking as well as the negative secondhand effects that occur on campus.

Goal 2: Engage parents and other caregivers, schools, communities, all levels of government, all social systems that interface with youth and youth themselves in a coordinated national effort to prevent and reduce underage drinking.

Goal 2 addresses the need for a national effort that is supported by all members and groups in every community. There are two additional strategies to address Goal 2 which are increasing the risk of adolescent use and raising the “cost” of underage drinking. Both of these strategies involve making the consequences of underage use more severe by involving and

educating parents about the campus policies as well as engaging other community groups in a national effort against underage drinking.

The university can do its part by engaging parents and students in this effort as they are critical to the success of a national effort. More specifically, universities are a place where students should feel comfortable learning as that is their primary reason for attending a college or university. Colleges and universities can be settings that facilitate the underage use of alcohol. This can change by educating parents and administrators who may not be aware of the dangers associated with underage drinking. In addition to education, parents and administrators need to be comfortable talking about underage alcohol use with students.

Some schools are already educating and involving parents. One third of administrators report involving parents in their campus's alcohol prevention strategies (The National Center on Addiction and Substance Abuse, 2007). Although this goal involves the nation as a whole, college and universities must lead by example and no longer accept the college drinking culture. Colleges and universities can do this by recognizing the increased temptation for freshmen to engage in underage drinking and providing programs accordingly. This increases the protective framework that surrounds students, especially those who are experiencing high risk periods in their life such as freshman year (U.S. Department of Health and Human Services, 2007). Parents can continue to be a part of the equation when their child violates the alcohol policy that their campus has established. Currently, between 30 and 40 percent of colleges report that they notify parents of substance-related disciplinary action (The National Center on Addiction and Substance Abuse, 2007).

Goal 3: Promote an understanding of underage alcohol consumption in the context of human development and maturation that takes into account individual adolescent characteristics as well as ethnic, cultural and gender differences.

The *Call to Action* points out that just as there are considerable differences between young teens and older teens, perhaps 12 and 15 years of age, there are also considerable differences between adolescents of the same age (U.S. Department of Health and Human Services, 2007). To ensure the effectiveness of programs and strategies to protect youth from the consequences of underage drinking, developmental and maturation differences need to be accounted for in addition to ethnic, cultural, and gender differences. All levels of the school system should also examine the penalties associated with underage alcohol use because these also should be developmentally appropriate.

The university can contribute to this goal by ensuring that programs are developmentally appropriate for college age students. For freshman students who are known to be at high risk or students who have violated policies related to alcohol, programs may educate students about human development in order to increase awareness among students themselves. In addition to educating students, universities should engage and educate parents of incoming students about the risks of alcohol use in the context of development and maturation. University penalties must also be appropriate and aim to achieve a balance between educational based sanctions as well as stiffer penalties such as probation or suspension.

Goal 4: Conduct additional research on adolescent alcohol use and its relationship to development.

This goal strives to encourage research on adolescents that is specific. Specificity is important in order to understand the unique factors that influence adolescents of different ages, socioeconomic statuses, genders, affiliations in Greek organizations, and other factors. This goal also includes evaluating any strategy to reduce or prevent underage drinking that is currently being used by a university. Evaluation is important to ensure that students are participating in programs that do show positive, significant change.

Although there is a fair amount of research on alcohol's effects on the human body, more research regarding adolescents and alcohol's effect on development is needed. In addition to this, interventions based on this research are needed. These interventions should be based on the latest scientific findings. The more avenues through which an intervention can saturate the world of adolescents, the greater the likelihood that it will facilitate change in the drinking culture. However, there is no clear standard to guide administrators at universities. Thus, Goal 4 aims to encourage those involved with developing and implementing interventions to also begin to evaluate their interventions. In the event that universities were able to share resources, evaluation of their individual programs would allow them to fund only programs that show significant results among the population that is being targeted.

Goal 5: Work to improve public health surveillance on underage drinking and on population-based risk factors for this behavior.

If surveillance data are not accurate, the picture of underage drinking is blurry. Better surveillance means a clearer picture of the problem, which ultimately leads to better interventions and the prevention and reduction of underage drinking.

Schools and universities can collect information on quantity and frequency among pre-adolescents, adolescents and college students drinking behaviors, as well as collect secondhand

effect information, and when appropriate engage youth in data collection. By teaming up and creating coalitions, universities can use their combined resources to improve surveillance and create an accurate picture of student life.

Goal 6: Work to ensure that policies at all levels are consistent with the national goal of preventing and reducing underage alcohol consumption.

Goal 6 faces several challenges because policies around underage alcohol use are created to reduce underage demand for alcohol, prevent underage access to alcohol, or ensure that adolescents who need intervention receive it (U.S. Department of Health and Human Services, 2007). However, these policies must be carefully created in order to not be too harsh to enforce or too lax to be useless or ineffective. Achieving this balance will require collaboration and increased education among policymakers.

Schools should enforce their policies strictly and use only interventions that have been shown to be effective. By implementing these two straightforward strategies and beginning to provide a framework from which universities can begin to prevent and reduce underage drinking, schools can make a difference.

5.0 COMBINING COMPONENTS TO CREATE A MORE EFFECTIVE FRAMEWORK FOR STUDENTS AT THE UNIVERSITY OF PITTSBURGH

As the Surgeon General's goals illustrate, there is no single or simple way to prevent and reduce underage drinking. Rather, there are several ways to begin providing a framework to protect students from the risk factors that oftentimes influence their decision making. Below, the author details her experience working with college students and elaborates on ways the University of Pittsburgh can continue to work toward effectively preventing and reducing underage drinking.

5.1 UNIVERSITY OF PITTSBURGH'S ALCOHOL EDUCATION

The author is currently an employee of the University of Pittsburgh's Student Health Services. Student Health Services is divided into three departments: the student clinic, the pharmacy and the Office of Health Education and Promotion. As a graduate student assistant, she has facilitated the Personal Education Assistance and Referral (PEAR) program, an alcohol education program that takes place over four weekly sessions. The first three sessions are held with groups of 12 or fewer individuals and educate students in an hour and a half about personal decision-making, high-risk vs. low-risk drinking, advertising and marketing from the alcohol industry, and alcohol emergencies. The last of the four sessions is a one-on-one assessment during which the facilitator uses a motivational interviewing approach to talk with students about

their personal choices. In a year and half, the author has facilitated the PEAR program for over twenty groups and spoken with approximately 150-200 students about the part that alcohol plays in their life as a student at the University of Pittsburgh. In addition to facilitating the PEAR program, she has spoken on behalf of the Office of Health Education and Promotion, participated in health fairs, and worked to improve the services offered by the Office of Health Education and Promotion.

Based on this experience, the author makes recommendations based on both the *Call to Action* and *Wasting the Best and the Brightest: Substance Abuse at America's Colleges and Universities* to improve and target interventions to individuals at risk, the student population, and university environment.

5.2 COMBINING EFFECTIVE INTERVENTION COMPONENTS TO CREATE A SYSTEMS APPROACH

There continues to be an intense disconnect between what the evidence suggests and what actually happens on a college campus (The National Center on Addiction and Substance Abuse, 2007). Changing the culture from multiple avenues is essential to providing comprehensive prevention and intervention frameworks that surround students. Doing this requires a strong commitment from the entire campus community as well as an unwavering implementation of strictly evidence-based approaches that have been rigorously evaluated (The National Center on Addiction and Substance Abuse, 2007). However, there is also a lack of research being dedicated to developing evidence-based programs specifically for both college students who are engaging in high risk drinking and those who are not. Due to this gap, many of the proposed

strategies are environmental or policy-related (The National Center on Addiction and Substance Abuse, 2007).

5.2.1 Interventions for At Risk Individuals

As previously mentioned, evidence-based interventions targeted toward at-risk college students are lacking on many college campuses. Several types of interventions have been implemented through the years including the most popular, education-based programs. Education-based programs are found on many campuses today. In 2005, CASA surveyed college administrators and 64.4% responded that they use education-based interventions to change student attitudes, correct misperceptions or clarify expectations. This type of programming is the most popular followed by social norms marketing campaigns (39.6%) and PSA or media campaigns (38.3%) (The National Center on Addiction and Substance Abuse, 2007). Some evaluation research does show that educational interventions are ineffective, especially for long-term behavior change (The National Center on Addiction and Substance Abuse, 2007). As a whole, the benefits of education-based interventions are generally unknown because quality, comprehensive evaluations have not been done.

Brief interventions are receiving attention from researchers who are finding that they do yield positive results when attempting to reduce alcohol use and related harmful consequences. The Brief Alcohol Screening and Intervention of College Students (BASICS) program has been named a model program by the Substance Abuse and Mental Health Services Administration (SAMHSA). This intervention shows reductions in alcohol use up to four years after the intervention has taken place.

Currently, the University of Pittsburgh uses the education-based P.E.A.R. program for at-risk students who have broken the university alcohol policy. In addition, when students violate the University Alcohol Policy, it is also important to note that their parents are notified by a letter. The P.E.A.R. program has not been rigorously evaluated. There is a lack of knowledge regarding the effectiveness of this program. Thus, it would be within the best interest of administrators to begin implementing an evidence based program such as BASICS for at-risk students or evaluate the P.E.A.R. program to determine the program's effects.

5.2.2 Interventions for the Student Body

Although not all students at a college or university engage in underage drinking, they do live in an environment that oftentimes encourages high risk drinking. For this reason, all students need to be educated about alcohol use, abuse and the negative effects and consequences that oftentimes accompany alcohol use. The University of Pittsburgh implements several strategies to reach the entire student population.

A positive strategy employed by the University of Pittsburgh is the alcohol task force that meets on campus. This group includes staff and students; however, it does not include other stakeholders such as local bar owners, health education staff from neighboring universities or community members. The involvement of several additional groups may require the development of an additional task force that focuses on the greater community and impact of student alcohol use. It is of utmost importance that students become engaged in the mission of the task force. The CASA college administrator survey reported that only 38.5% of schools had formed a task force that included college representatives and community members. However, less than one third of schools reported having alliances with local alcohol establishments, about

one quarter of schools had partnerships with neighborhoods and one fifth of schools reported having partnerships with landlords. These oftentimes forgotten partners are essential and should know their possible role in either enabling or preventing underage drinking and the alcohol culture which exists on campus. All partners and community residents are experts in their own right. In order to engage people in these types of conversations, it is essential that they know this and feel empowered to produce change.

Holding classes Monday through Friday is a strategy that reduces the opportunity for students to drink. In addition the University holds early morning and Friday classes. Friday classes are essential to curtailing student alcohol use on Thursday evenings. To fully utilize this strategy, required classes (especially for at-risk freshmen) should be held on Fridays. The PantherWell group comprised of undergraduate students selected by Health Education staff is an asset to the Office of Health Education and Promotion. PantherWell create health programs based on requests from their peers. Peer education is an important component of a comprehensive strategy to reduce substance abuse (The National Center on Addiction and Substance Abuse, 2007). The university does have its Alcohol Policy published in the Student Code of Conduct which is distributed to every student. However, the penalties for breaking this code are not stated. In addition to these, the university hosts recovery meetings on campus.

The University offers alcohol-free events on a regular basis, often in residence halls. The reason for offering alcohol-free activities and late night facility hours is to convey the idea that alcohol does not have to be an essential part of weekend social activities. A common complaint of students at the University of Pittsburgh is the criticism of student center and athletic facility hours which are generally closed during late night hours. Expanding these hours could give students the opportunity to make “spontaneous social choices that do not include alcohol” (U.S.

Department of Health and Human Services, 2007, p. 53). The biggest gym facility on campus, Baierl Fitness Center is open until 10:00pm on Friday, Saturday and Sunday evenings.

One last strategy that could strengthen the University's plan to prevent and reduce underage drinking on campus is involving freshman and transfer students and their parents before they set foot on campus to ensure that the alcohol policy is well promoted and understood. This could be done by simply sending information home, asking parents and students to sign copies of the alcohol policy, or requiring an interactive online module.

5.2.3 Environmental Interventions

Many of the environmental interventions suggested by CASA are similar to the Surgeon General's suggestions to prevent and reduce underage drinking. This overlap is encouraging and suggests that multiple groups agree that environmental interventions are critical to comprehensive plans. Few evaluations have been done on comprehensive environmental interventions (The National Center on Addiction and Substance Abuse, 2007). In fact, only one program to date has been evaluated, the "A Matter of Degree" program. The evaluation of this college-based environmental intervention showed minor but yet still significant changes in student knowledge and behavior (The National Center on Addiction and Substance Abuse, 2007).

The University of Pittsburgh implements many strategies to prevent and reduce underage drinking. If one more strategy could be employed, the University of Pittsburgh could benefit greatly from engaging in college and community partnerships to target the off-campus environment. The perception of students regarding the off-campus environment is generally that any place of residence outside of the residence halls is a safe place to consume alcohol.

Countless students have expressed their belief that off-campus alcohol use is even an accepted form of recreation by the local police force. Commonly, students in the P.E.A.R. program say that rarely do police officers cite them for underage drinking while they are attending parties off-campus. Rather police officers tend to cite the tenant with a noise or other violation with less accountability than an underage drinking citation. Local magistrates, often the first person of contact after an off-campus citation, usually assign students to two days of community service. This practice of not fully enforcing the law only perpetuates unsafe student perceptions.

In addition to a lack of off-campus enforcement, only a few blocks away from any residence halls are several bars that frequently host low cost drink specials. Offering alcohol at low prices encourages students to drink in high risk ways. It is highly recommended that the University partner with these local establishments to create a safer drinking environment. Again, the owners and employees of these establishments are experts in their own right. They regularly experience how college students. This makes them valuable partners.

Finally, sporting events are popular among students and alumni at The University of Pittsburgh. While the University does not accept alcohol company sponsorships for these events, it does, allow tailgating and alcohol consumption at these events. Partnering with alumni may be an effective way to change the culture around these kinds of events.

6.0 CONCLUSION

Young adolescents do not have to be unconsciously manipulated by alcohol marketing. Alcohol culture does not have to exist on college campuses today. Universities can lead the fight against underage alcohol use.

This paper has discussed in detail background information important to understanding underage drinking on college campuses. It also explored other pertinent topics such as college drinking culture and examine the marketing strategies of the alcohol industry. Then by using each goal suggested by *The Surgeon General's Call to Action to Prevent and Reduce Underage Drinking* in collaboration with other evidence-based reports, solutions to this problem were proposed. With this information, The University of Pittsburgh and other universities can ground each of their prevention, intervention and policy efforts in scientific evidence.

In summary, underage alcohol use is not inevitable. Much like other strategies to bring an end to public health problems, the environment around underage alcohol use must change. These changes can not happen overnight but they can happen. The University of Pittsburgh contains a wealth of resources that allows it to be not only a leader in this fight but also a place where learning along with student health and safety are paramount.

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