
The Financial Burden of Substance Abuse in West Virginia:

The Education System



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Image obtained from <http://aspenacademyblog.com/images/school-notebook-prescription-drugs-de.jpg>

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The Financial Burden of Alcohol and Substance Abuse in West Virginia: The Education System



The cost of drug and alcohol use is astronomical in every societal sector. The present report, part of a larger Family Funding Study project, is the third in a series that examines the cost of drugs and alcohol use in the criminal justice, healthcare, education, child welfare, and workforce systems in West Virginia. A comprehensive report, incorporating estimates from all these sectors, will be produced at the end of the project. The present report attempts to capture the impact of drug and alcohol abuse on West Virginia's education sector, which includes elementary and secondary schools, and institutions of higher education (IHEs). Specifically, this report will examine the cost of providing drug and alcohol abuse prevention and treatment services at West Virginia's elementary and secondary schools in the first section and the cost at IHEs in the second section. This division is because West Virginia's Department of Education oversees K-12 grades whereas the West Virginia Higher Education Policy Commission oversees issues related to IHEs. For schools under both departments, the present report estimates that **over \$13 million was consumed to provide drug- and alcohol-related prevention and treatment services in 2009 to students in West Virginia's education system (Table 1)**. Of this estimate, it is not possible to distinguish between what is actually spent on prevention and treatment versus what is spent on shoveling up the mess of substance abuse from the available data. The cost of substance abuse to West Virginia's education system is definitely more than \$13 million when one includes the cost of additional staffing, special education programs for those with substance-related disorders or learning disabilities, student assistance programs, drug- and alcohol-related truancy, property damage and liability insurance costs driven by drugs and alcohol, higher health insurance costs for substance involved staff, legal expenses linked to drugs and alcohol, drug testing costs, employee assistance programs for substance abusers, employee training, policy and staff development to increase awareness of and cope with substance abuse, and capital outlays for special facilities needed for substance using students. Using the National Center on Addiction and Substance Abuse's (CASA) estimates, these additional services would result in substance abuse consuming approximately 11.5% of West Virginia education system's budget. That is, over \$265 million of West Virginia's education system's budget in 2008 could have been spent on all these categories.

The present study, however, only provides detailed breakdown of the cost of providing prevention and treatment services to students at West Virginia's elementary and secondary schools and IHEs, and found this to be \$13 million in 2009. To obtain these estimates, this report adopts a mix of methodologies from two previous studies that estimated the cost of drug and alcohol use. The first, "Shoveling Up: The Impact of Substance Abuse on State Budgets," was first released by the National Center on Addiction and Substance Abuse (CASA) at Columbia University in 2001 and was recently updated in 2009. The

second study, titled “Integrated Funding Analysis of Mental Health and Substance Use in West Virginia,” was released by the Public Consulting Group (PCG) in 2007.

The present study, however, makes some unique contributions to the two reports. First, it provides more recent estimates of the cost of drug and alcohol use to the state. Second, it provides cost trends over five years and, based on those trends, makes projections for costs in year 2017. This year was chosen to coincide with the estimation made about needs in other systems serving persons with substance abuse problems in the state. Unless otherwise noted, linear trend was assumed for these projections. Third, this report includes higher education, which is impacted by drugs and alcohol use but was excluded from both CASA’s and PCG’s reports. Finally, this report was initiated with the intent of producing annual updates; consequently, only data that are available annually were used.

Prior Studies Estimating the Cost of Substance Abuse in West Virginia

As mentioned earlier, two previous studies provided some guidance in estimating the cost of drug and alcohol use in the present study. The most recent by CASA estimated that West Virginia spent about \$196 million on drug- and alcohol-related problems in the elementary and secondary education system in 2005, this was up from \$132 million in 1998 (The National Center on Addiction and Substance Abuse (CASA) at Columbia University, 2009). CASA also estimated that, in 2005, the state spent about \$768 million on substance abuse-related issues in all sectors, an increase of \$430 million from 1998. CASA obtained the data for the two reports from surveys sent to state agency officials in September 1998 and July 2006. The survey asked state government officials working in eight main areas, including justice, healthcare, child and family welfare, education, workforce, public safety, mental health/developmentally disabled, and regulation/compliance, to provide their total budget and estimate the amount that goes directly or indirectly towards substance abuse-related programs in 1998 and 2005, respectively. CASA’s researchers also included data on prevention and research funds. A major critique of CASA’s reports was that they relied heavily on estimates from individual government officials who have the potential to introduce some level of error. They also relied on national attribution statistics in estimating the proportion of an agency’s budget that went towards substance abuse when the agency failed to report the exact amount. For example, CASA estimated that substance abuse issues consumed 11.5% of each state’s total education budget based on suggestions by a group of national experts on school finance and substance abuse. If this estimate were adopted for West Virginia, it will be estimated that substance abuse cost West Virginia’s education system \$265 million in 2008 based on that year’s budget data. While the cost might be this high, there is no way of confirming that the attribution statistics is valid for West Virginia because costs included in this estimate are rarely specifically collected. Hence, there is no way of breaking \$265 million down to specific categories. By contrast, the present report focuses on specific sectors in the education system and uses collected data to estimate the cost of substance abuse.

In addition, CASA differs from the present report because it included cost of providing substance abuse-related treatment services to department of education employees. Specifically, the present report examined only the direct cost of providing substance abuse related prevention and treatment to

students at elementary and secondary schools, and IHEs, in West Virginia. By contrast, CASA estimated additional costs related to lost productivity of staff and added costs for additional staffing, special education programs for those with substance-related disorders or learning disabilities, student assistance programs, alcohol- and drug-related truancy, property damage and liability insurance costs driven by alcohol and other drugs, higher health insurance costs for substance involved staff, legal expenses linked to alcohol and other drugs, drug testing costs, employee assistance programs for substance abusers, employee training, policy and staff development to increase awareness of and cope with substance abuse, and capital outlays for special facilities needed for substance using students. Another way in which CASA's reports are different is that they excluded federal government substance abuse related expenditures, which are included in the estimates here. In the first report, CASA focused only on state spending and, in the second report, it focused on both state and local spending. Another major way in which CASA's reports differ from the present report is that CASA included the cost of addressing tobacco abuse in its estimates whereas the present report focused only on the cost of addressing drug and alcohol abuse. And, while it is difficult to access data on what is spent on drugs and alcohol-related issues at IHEs, the present study provides some information on the cost, even if incomplete, whereas CASA did not include any IHE's cost.

The second study by PCG also did not include cost of drug- and alcohol-related issues in IHEs. It focused mainly on the cost of mental health in IHEs. PCG used mostly state-level statistics to estimate West Virginia's substance abuse related costs in fiscal year 2006, and estimated that the education sector accounted for \$3 million out of the \$1.9 billion spent on drugs and alcohol problems in the state (Public Consulting Group (PCG), 2007). As presented, PCG's education cost estimate is significantly lower than both the present report's and CASA's because certain important sectors were excluded from PCG's report. PCG's total cost attributable to drugs and alcohol in all sectors was more than twice CASA's.

The cost estimates reported herein were based on methodologies more similar to those used in the PCG report. However, there are some key differences from PCG's report. First, this study estimates the cost of drug- and alcohol-related issues in IHEs. Second, some of the data sources are different. Third, this study provides costs for more than one year and projects these costs out to 2017.

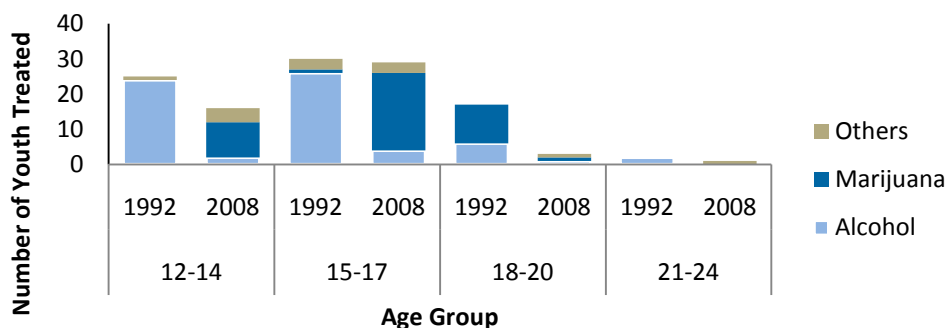
The Current Project to Estimate the Cost of Substance Abuse in West Virginia

Substance abuse is a serious problem in West Virginia. The Substance Abuse and Mental Health Services Administration (2009) estimates that 8% of the state’s population in 2006 was drug- or alcohol-dependent based on data from 2005 and 2006 National Survey on Drug Use and Health. The problem is even worse for the school-age population; 22% of this age group was classified as drug-dependent based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, 41% of 18-25 year-olds, and 19% of persons above age 12, reported binge drinking, which is defined as consuming five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Similarly, 10%, 23%, and 8% of persons 12-17 years, 18-25 years, and above 12 years, respectively, used illicit drugs in West Virginia in 2006 (SAMHSA, 2009).

The Treatment Episode Data Set (TEDS), an administrative data system providing descriptive information about the national flow of admissions to providers of substance abuse treatment, also revealed that 12-17 year olds constitute an increasing proportion of persons treated for drug and alcohol abuse in West Virginia. The percentage of 12-17 year olds treated for substance abuse in West Virginia increased from 5% to 8% between 1992 and 2008 (Office of Applied Studies, 2009). In the same period, the percentage for 18-24 year olds did not change. Although children less than 12 years old are part of the school-age population, they were excluded from the analysis because they constitute a negligible proportion of persons receiving substance abuse treatment. In fact, there were no 2008 TEDS data for this population.

TEDS data also revealed that schools are referring increasing proportions of children for treatment. Although, schools referred the least percentage of youth admitted for substance abuse in the state when compared to healthcare provider, employer, community, the criminal justice system, and self referrals, the percentage of youth referred by schools increased from 0.7% to 1% between 1992 and 2008 (Office of Applied Studies, 2009). Chart 1 shows the number of youth referred by schools by their age and the substance they abused.

Chart 1: Youth Referred by School for Substance Abuse Treatment in WV by Age Group

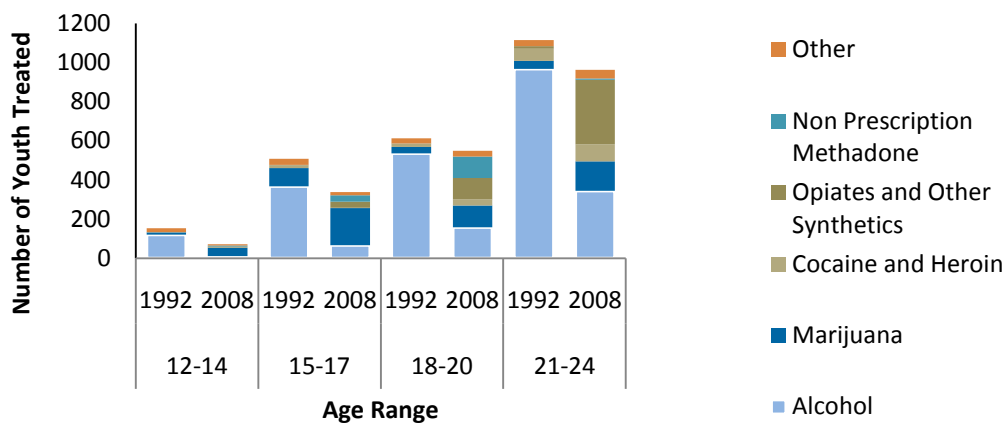


Additionally, the primary substance abused by 11-24 year olds changed between 1992 and 2008 (Table 1). When alcohol is excluded, the total number of youth admitted for different types of drug addiction doubled for each age group in 2008. Specifically, most 12-24 year olds were treated for alcohol abuse in 1992 whereas in 2008 most were admitted for marijuana and opiate abuse. Charts 1 and 2 illustrate this better. Specifically, marijuana was the predominant cause of admission for 12-17 year olds whereas opiates and other synthetics were the predominant cause of admission for 21-24 year olds (Charts 2). Alcohol, marijuana, opiates, and non-prescription methadone were equally represented as the cause of admission for 18-20 year olds (Chart 2 and Table 1).

Table 1: Number of Youth Referred for Substance Abuse Treatment in West Virginia by Age Group

	12-14		15-17		18-20		21-24	
	1992	2008	1992	2008	1992	2008	1992	2008
Alcohol	121	12	368	68	536	158	969	345
Marijuana	11	42	93	189	34	112	40	150
Cocaine and Heroin	2	1	15	1	16	31	62	88
Opiates and Other Synthetics	0	5	1	32	2	110	13	330
Non Prescription Methadone	0	5	0	32	0	110	0	6
Other	20	7	31	16	26	29	32	44
Total Including Alcohol	154	72	508	338	614	550	1116	963
Total Excluding Alcohol	33	60	140	270	78	392	147	618

Chart 2: Total Number of Youth Who Received Substance Abuse Treatment in WV by Age Group



Source: U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. TREATMENT EPISODE DATA SET (TEDS), 1992 [Computer file]. Prepared by Synectics, Incorporated. ICPSR02184-v8. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [producer and distributor], 2006-12-08. doi:10.3886/ICPSR02184

With school age population constituting an increasing proportion of persons admitted for substance abuse treatment, it was not surprising that the cost of drugs and alcohol use in West Virginia’s education system is high. In elementary and secondary school system, about \$11.8 million was spent on substance abuse prevention and treatment in 2009. This figure will increase to \$14 million in 2017 if no action is taken. Further, in the higher education system, about \$1.3 million was spent on substance abuse prevention and treatment in 2009. This figure will increase to over \$2 million in 2017 if current trend

persists. Overall, this report estimates that over \$13 million was consumed in 2007 to address alcohol and drug related issues in the education system. These costs could nearly double to \$16 million in less than a decade. The overall projections for the different sectors in West Virginia’s education system are illustrated in Table 2 and Chart 3.

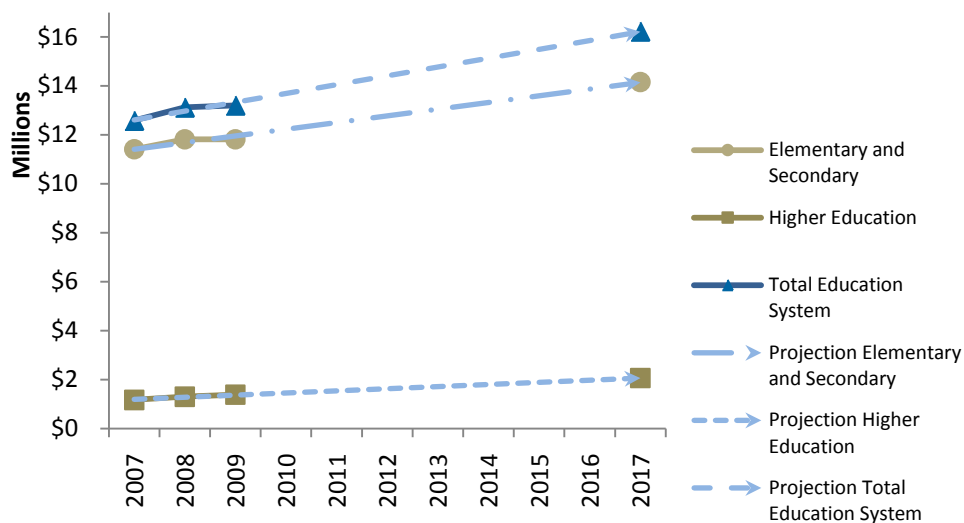
The pervasive nature of drug and alcohol consumption and its accompanying consequences are readily evident in West Virginia. The magnitude of these costs and the rate of increase suggest that the state needs to take urgent actions to address drug and alcohol use. The estimates provided by the present report also suggest that West Virginia cannot afford to adopt a “wait and see” approach. Rather, the state should direct urgent attention at preventing drug and alcohol use at all ages. The comprehensive approach to the problem of substance abuse advocated by the *Governor’s Comprehensive Strategic Plan to Address Substance Abuse in West Virginia* is the state’s only viable option to stemming this tide (West Virginia Partnership to Promote Community Well-being, 2008). This approach will certainly lessen the financial burden facing the education system and free up resources for other much-needed programs. The next sections present indepth discussion about each sector included in the estimates displayed in Table 2, as well as provide the methodology for arriving at the cost estimates.

Table 2: Financial Burden of Drugs on West Virginia Education System, FY 2007 to 2017

	2007	2008	2009	2017*
Elementary and secondary	\$11,410,078	\$11,815,764	\$11,817,393	\$14,161,339
Higher education	\$1,173,902	\$1,306,040	\$1,387,425	\$2,065,616
Total Education system cost	\$12,583,980	\$13,121,804	\$13,204,818	\$16,226,955

*Projection

Chart 3: Projected Drug- and Alcohol-Related Cost to West Virginia's Education System



The Present Study

The present study first present costs related to drug- and alcohol-related activities at the elementary and secondary school levels. Specifically, this involves the salaries of school personnel that provide drug

and alcohol prevention and treatment services, the cost of operating separate school-based health centers (SBHCs), some of which provide drug and alcohol prevention and treatment, and the cost of providing federally funded safe and drug free school activities at West Virginia's elementary and secondary schools. The second section provides the amount received and spent at IHEs for drug- and alcohol-related prevention and research activities.

Elementary and Secondary Schools

Elementary and secondary school students are impacted by drug and alcohol use in several ways. They can be affected directly when they use substance and have to receive treatment services. The TEDS data show that this population is increasing. To prevent them from using drug and alcohol, school personnel may also provide prevention curricula. They may also be impacted indirectly by their family members' drug use. They may need prevention, counseling, referral for therapy, and other services to reduce such an impact. This study focuses only on the cost of prevention and treatment services that directly impact West Virginia's elementary and secondary schools students' drug and alcohol use.

School Personnel Providing Drug- and Alcohol-Related Services

West Virginia Department of Education (2009a) provided data on school personnel in fiscal years 2005/06, 2006/07, and 2007/08, which were designated as years 2006, 2007, and 2008 in this report. Some of these school personnel—counselors, psychologists, and social workers—likely provide drug- and alcohol-related prevention and treatment services. However, some of these personnel are not full time; many spend only some proportion of their time providing services to students. WVDE (2009a, 2009b, 2009c) provided the full time equivalences and salaries for counselors and psychologists by county; the full time equivalences for social workers were provided but their salaries were not provided.

To obtain the total cost of having these personnel who provide drug- and alcohol-related services, the total salaries of all such personnel were first obtained and then the proportions attributable to drug and alcohol were then calculated. There were 671.92, 687.12, 694.10, and 704.15 full time equivalence counselors in West Virginia in 2006, 2007, 2008, and 2009, respectively (WVDE, 2009b). There were also about 107.42, 107.40, 108.70, and 104.5 fulltime equivalence psychologist positions in West Virginia Schools in 2006, 2007, 2008, and 2009, respectively. Table 3 shows the estimated cost of having these counselors and psychologists in West Virginia, based on their salaries.

To obtain the cost of having 27.30, 25.80, 29.80, and 32.3 full time equivalence social workers on WVDE staff in 2006, 2007, 2008, and 2009, respectively, salary estimates from the US Bureau of Labor Statistics were used. Median annual salaries of child, family, and school social workers in elementary and secondary schools in May 2006 and 2008 was \$48,360 and \$53,860, respectively (Bureau of Labor Statistics, 2009); BLS provides salary estimates for every other year. Hence, this study had to estimate the salary for social workers in 2007 and 2009. This median annual salary was estimated for 2007 as the average of the salaries in 2006 and 2008. The estimated median salary in 2007 was \$51,110. To obtain salary in 2009, the salaries for 2006, 2007, and 2008 were used as baseline data in a linear projection. The salary for 2009 was projected to be \$56,610. Table 3 shows the product of these salary and the FTEs

for social workers. These are total costs of the social workers employed by WVDE in 2006, 2007, 2008, and 2009.

Data from 31 WV school-based health centers (SBHCs) suggest that about 23% of the time of psychologists, counselors, and social workers in schools are dedicated to dealing with issues related to substance abuse (MU School-Based Health Technical Assistance and Evaluation Center, 2009). Although the SBHC and school are different work contexts, it is feasible that these personnel would address about the same proportion of students on issues directly and indirectly related to substance abuse. Consequently, this study estimates that drug- and alcohol-related issues consume 23% of the total salaries of counselors, psychologists, and social workers. The last column in Table 3 shows these costs for 2006 to 2009. These costs provided baseline data for estimating that \$13.5 million will be consumed by drug- and alcohol-related issues in 2017, if current trends persist.

Table 3: Estimated Cost of Counselors, Psychologists, and Social Workers in West Virginia Schools

	Counselors		Psychologists		Social Workers		Total Cost all Personnel*	Cost Attributable to receiving drug and alcohol services*
	FTE	Total Salary*	FTE	Total Salary*	FTE	Total Salary*		
2006	671.92	\$ 29,356,749	107.42	\$5,117,909	27.30	\$1,320,228	\$35,794,886	\$8,232,824
2007	687.12	\$30,737,811	107.40	\$5,237,603	25.80	\$1,318,638	\$37,294,052	\$8,577,632
2008	694.10	\$32,676,091	108.7	\$5,730,559	29.80	\$1,605,028	\$40,011,677	\$9,202,686
2009	704.15	\$34,399,678	104.5	\$5,702,058	32.30	\$1,828,503	\$41,930,239	\$9,643,955

Source: West Virginia Department of Education, U.S. Bureau of Labor Statistics

*Rounded up to nearest dollar

West Virginia School-Based Health Centers

Another way of addressing drug- and alcohol-related issues in West Virginia’s schools is by providing prevention and treatment services in school-based health centers (SBHCs). SBHCs play an integral role in providing drug- and alcohol-related prevention and treatment services. Balassone, Bell, et al. (1991) found that students with access to SBHCs were more than 10 times likely to receive mental health and substance abuse services than students that do not have access to SBHCs (Balassone, et al., 1991). In West Virginia, the SBHC initiative began in 1994, with funding from Claude Worthington Benedum Foundation and the West Virginia Bureau for Public Health (West Virginia School Health Technical Assistance and Evaluation Office, 2008). Other agencies providing financial and in-kind contributions to SBHCs are Prevent Child Abuse WV, West Virginia’s Association of School Nurses, Asthma Coalition, Community Voices, WV Department of Education, WV DHHR, Healthy Kids and Families Coalition, Primary Care Association, Marshall University’s School Health Technical Assistance and Evaluation Center, and WVU Institute for Health Policy Research (West Virginia School-based Health Assembly, 2009a). In addition, 27 community health centers and federally qualified health centers and one hospital operate 17 of the SBHCs as satellites (West Virginia School-based Health Assembly, 2009b).

The goal of the SBHC initiative was to increase access to primary and preventive care for West Virginia students. SBHCs provide primary and preventive care, including medical and mental health, health education, and dental services to students. SBHCs staff provide classroom, school wide, and community

educational presentations on substance abuse (WV School-Based Health Technical Assistance and Evaluation Center, 2008). They also provide both prevention and early intervention services (WV School-Based Health Technical Assistance and Evaluation Center, 2007).

In the 2008-09 school year, 48 school-based health centers in 24 counties served 60 schools and over 20,000 children in West Virginia (Table 4). Of these, 31 school-based mental health centers (SBMHCs) provided behavioral healthcare services in the 2008/09 school year (West Virginia School-based Health Assembly, 2009c). Based on the data from these 31 SBMHCs in 11 counties, \$485,000 was consumed to provide services for the 788 students that were diagnosed with mental health and substance abuse disorders in the 2008-2009 school year. Of these 788 total diagnoses, 31 and 150 students had alcohol- and drug-related diagnoses, respectively (MU School-Based Health Technical Assistance and Evaluation Center, 2009); thus, an estimated 23% of services provided in the SBMHCs were for drug- and alcohol-related disorders. In addition, there were 13 and 45 alcohol and general substance abuse prevention activities. Figure 1 shows a map of West Virginia with counties having a school-based health center in the 2008-09 school year shaded in dark blue.

Funding for the school-based health centers come from many sources. For example, 91% of the centers received state funding, 53% received funding from private foundations, 28% received federal funding, and 12% received funding from businesses in 2004-05. Some of the private foundations' funds are set to expire. For example, funding by the Sisters of Saint Joseph Health and Wellness Foundation is set to expire in 2010 (West Virginia School-based Health Assembly, 2007). Given that private foundations constitute a substantial source of funding for SBHCs, this loss of funding will have significant impact on the availability of services in West Virginia's schools. Efforts should be made to close this gap otherwise many West Virginia students will suffer the consequences.

Table 4: Estimated Cost of SBHCs in West Virginia Schools

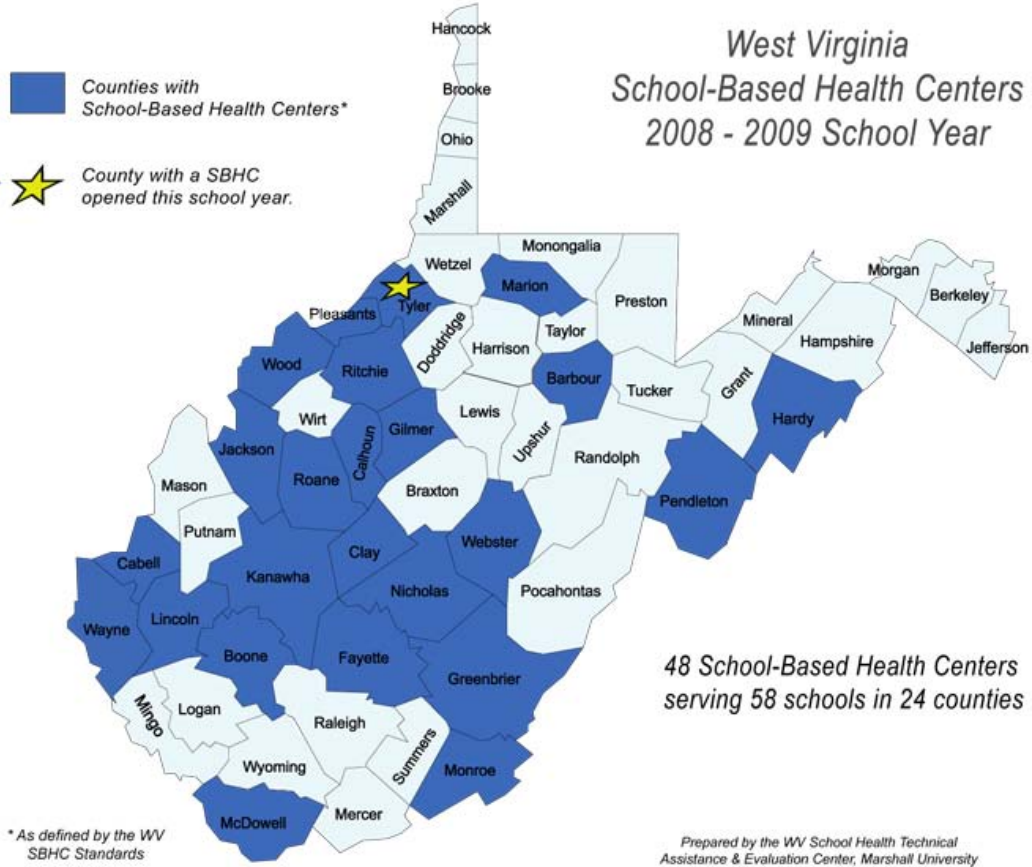
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2017**
Number of SBHCs	14	19	26	31	34	33	33	34	33	37	38	42	45	47	48	N/A	N/A
Number of Counties	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23	22	23	24	N/A	N/A
Number of Schools	17	24	32	38	42	42	43	43	42	47	48	54	56	56	60	N/A	N/A
Number of Students	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16,056	18,333	18,940	20,713	26,349	N/A
Number of Student Visits	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	45,630	52,587	69,525	62,795	N/A
Drug and Alcohol Prevention Services	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32	132	N/A
Total Cost *	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$3,788,825	\$3,262,148	\$4,514,041	\$4,315,164	N/A
Cost Attributable to Drug and Alcohol Services	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$600,318	\$494,875	\$670,523	\$640,982	\$854,667

Source: WV Division of Primary Care

*Rounded to the nearest dollar

** Projected

Figure 1



Federal Funding for Elementary and Secondary School Drug and Alcohol Prevention

The federal government also provides grants for programs preventing drugs and alcohol use in West Virginia’s schools. These grants are either competitive or formula grants. An example of the competitive grant is the Grant to Reduce Alcohol Abuse. According to available online data between 2002 and 2009, West Virginia did not receive this grant in this period. The grant assists local education agencies (LEAs) in the development and implementation of innovative and effective alcohol abuse prevention programs for secondary school students. However, West Virginia receives the formula based Safe and Drug-Free Schools (SDFS) and Communities (SDFC) grants. The portion for school goes to the West Virginia Department of Education whereas the portion for the community is passed through the Governor’s Office and administered by the West Virginia Division of Criminal Justice Services. When WVDE receives the grant, it distributes funds to counties or consortium of counties based on the number of students enrolled in schools in the counties.

Both the SDFS and SDFC funds will likely not exist as formula based grants after the 2009/10 school year because the Congress “zeroed” out the program from the passed FY 2010 budget on December 16, 2009. Thus, there will be no SDFS and SDFC formula grants after school year 2009-2010. Although the

Elementary and Secondary Education Act (SEA) will be reauthorized this year, the trend is toward discretionary grants and not formula grants (Quinlan, 2010). Thus, both the SDFS and SDFC grants will be changed into competitive grants by the 2010/2011 school year, with 5-7 SEA grants funded reducing award chances to West Virginia. If this funding is not replaced, based on data from 16 counties and 2 consortiums of counties, a total of 226 excess salary/ part-time positions will be affected. More positions will be affected when data for all 55 counties are available.

Currently, the Title IV, Safe and Drug-Free Schools Grant, plays a key role in funding prevention/ intervention activities in West Virginia’s schools. The program funds prevention activities to reduce substance use and violence. Generally, schools use the monies to fund research-based Alcohol, Tobacco, and Other Drugs (ATOD) and violence prevention programs, crisis management, peer mediation programs, character education, bullying prevention, crisis management and the development of student assistance teams who evaluate at-risk students and develop plans for needed interventions. The majority of the grant goes towards funding these activities. In the 2009/2010 school year, 3% went toward funding administrative activities and 4% funded special projects including technical assistance, staff development programs, conferences and monitoring. The grant has been received annually since the late 1980’s. Table 5 shows the amount received for the grant between 2004 and 2009. The grant amounts show a downward trend since 2006 when \$2.8 million was expended (Table 5). In 2008, the latest year with total expended amount, \$2.1 million was expended.

West Virginia’s schools also receive tobacco prevention grant, but this report does not include these funds because the focus here is on the monies spent on drug- and alcohol-related prevention and treatment programs. This report also does not provide future projections of this grant because it will likely no longer be available after this school year. This loss of funding will create a serious resource gap in West Virginia’s schools; this gap needs to be filled urgently.

Table 5: Safe and Drug-Free School Grant Expenditure by West Virginia Schools

	2004	2005	2006	2007	2008	2009
Expenditure	\$2,513,637	\$2,504,284	\$2,834,961	\$2,232,128	\$2,118,203	\$1,502,915.35*

Source: WVDE Official

*This is the amount currently expended, may differ from expenditure at the end of the school year.

Conclusion on Cost to Elementary and Secondary Schools

In all, this study estimates that about \$12 million went towards providing drug- and alcohol-related services in West Virginia elementary and secondary schools in 2009 (Table 6). This amount will become at least \$14 million in 2017 (Table 6). Most of these monies go towards treatment; few resources are available for evidence-based prevention programs.

Further, rather than improve, access to substance abuse prevention activities will only get worse in West Virginia’s elementary and secondary schools. The federal government has changed its previous allocation based Safe and Drug-Free grant into a competitive grant and little or no prevention monies exist outside this grant for West Virginia schools. The picture of treatment is only a shade better as private foundations who were previously a core part of funding SBHCs are slowly withdrawing their funds. Both of these situations do not bode well for West Virginia students, many of whom might not

have access to healthcare outside of the school system. This impending situation might result in much higher cost being shifted to other systems, as the students who do not receive needed prevention, early intervention, and treatment services will eventually show up in the healthcare and criminal justice systems later in life. By this time, it might be too late to successfully redirect their life trajectory to more positive development. West Virginia elementary and secondary school students are in a dire situation right now with regards to substance abuse prevention and treatment resources. Worse still, access to early intervention and recovery programs do not even exist in the education system. West Virginia’s policy makers need to be aware of the impending gaps in resources and fill the service gaps urgently.

Table 6: Cost of Drug- and Alcohol-Related Services in West Virginia’s Elementary and Secondary Schools

	2004	2005	2006	2007	2008	2009	2017
Cost of WVDE Personnel	N/A	N/A	\$8,232,824	\$8,577,632	\$9,202,686	\$9,643,955	\$13,520,357
Cost of SBHCs	N/A	N/A	N/A	\$600,318	\$494,875	\$670,523	\$640,982
Amount of Safe and Drug-Free Fund Expended	\$2,513,637	\$2,504,284	\$2,834,961	\$2,232,128	\$2,118,203	\$1,502,915*	\$0
Total	N/A	N/A	N/A	\$11,410,078	\$11,815,764	\$11,817,393*	\$14,161,339

*Monies for 2009 have been not fully expended hence the estimate for total cost to West Virginia elementary and secondary schools in 2009 is lower than it would be at the end of the school year.

Higher Institutions of Education

According to the National Institute of Alcohol Abuse and Alcoholism (NIAAA), approximately 1,400 college students between the ages of 18 and 24 die each year from alcohol-related injuries, including motor vehicle crashes. In addition, approximately 500,000 students between the ages of 18 and 24 were unintentionally injured under the influence of alcohol and more than 600,000 same-age students were assaulted by another student who had been drinking. As seen from previously discussed results from SAMHSA (2009), the story for drugs is similar. In fact, the TEDS (Office of Applied Studies, 2009) data revealed that drugs like methamphetamine and opiates are gaining popularity among this age group and were the principal cause of admission for substance abuse treatment in West Virginia.

There is little information on the cost accrued for drug and alcohol-related prevention and research activities in IHEs. Previously, IHEs addressed students’ drug and alcohol use with individually-focused education and intervention strategies. Most of such programs assumed that students simply do not have enough information on the consequences of alcohol use. Thus, they assumed providing information on the dangers of alcohol use was sufficient to prompt behavior change. Such information was typically presented during freshman orientation, Alcohol Awareness Week, or through peer education programs. Others adopted curriculum infusion, incorporating lessons about the dangers of alcohol use into course work. Evaluation data have, however, shown that such programs are ineffective by themselves, although they may be an integral part of a more comprehensive alcohol prevention strategy.

More recently, the U.S. Higher Education Center changed course and adopted a comprehensive approach to student alcohol use, their approach integrates the previous information dissemination strategy with environmental strategies involving change in social policies at the institutional, community, and state levels. This approach is grounded in the principle that people’s drug- and alcohol-related attitudes, decisions, and behavior are shaped by the physical, social, economic, and legal

environment. Research data have demonstrated that this new approach can effectively bring about lasting and positive change in IHEs. Specifically, the environmental strategies often included:

- Offering and promoting social, recreational, extracurricular, and public service alcohol-free options.
- Creating a social, academic, and residential environment that supports health-promoting norms.
- Restricting the marketing and promotion of alcoholic beverages both on and off campus.
- Limiting alcohol availability both on and off campus.
- Developing campus policies and enforcing laws at the campus, local, state, and federal levels.

The present study examines funding for prevention and research activities related to drug and alcohol use in West Virginia's IHEs. The report does not include data on the financial cost of deaths and injuries due to drug and alcohol use. It can be anticipated that the cost is high because present and future earning potentials are lost alongside material things such as cars, which are lost during motor vehicle crashes. The health cost component was covered in the previous report on the healthcare system. Further, this study will not examine the social and emotional cost accrued from such incidents. The present study also does not have the data needed for estimating the cost of treating IHE's students for drug- and alcohol-related issues. The following section provides information on the cost of substance abuse as it relates to prevention and research activities in West Virginia's IHEs. Specifically, the sections address cost accruing from creating a workforce to serve persons with substance abuse disorders, cost of prevention, research, and coalition building at IHEs, and prevention and research cost funded by federal grants.

Funding Cost for Workforce Development in West Virginia Institutions of Higher Education (IHEs)

One avenue in which substance abuse accrues cost in IHEs is through the cost of educating workforce to treat persons with substance abuse disorders. Several professionals provide services to individuals with substance abuse disorders. This includes psychiatrists, psychologists, counselors, social workers, other behavioral health providers, and other related professionals. This study focuses on only those who provide direct prevention and treatment services. Others like criminal justice professionals, attorneys, and advocates also serve persons with substance abuse problems in IHEs in other indirect ways.

Cost of Psychiatry Training

The Accreditation Council for Graduate Medical Education (2010) provides the number of psychiatry residents in West Virginia. Some of these residents become addiction psychiatrist who evaluate and treat individuals with drug- and alcohol-related disorders. The numbers of psychiatry residents in West Virginia between 2004 and 2008 are shown in Table 7. PCG (2007) provided the estimated annual average cost of the psychiatry residency program as \$63,918. This study also takes into account that these residents went through four years of college and four years of medical training prior to their psychiatry training. Average college tuition for WV residents in all West Virginia 4-year colleges and tuition for medical students in West Virginia University are shown in Table 7. These data were obtained from West Virginia Higher Education Policy Council (2010). The total cost of psychiatry training was obtained by summing the cost of psychiatry, college, and medical training and used to multiply the count of residents. This provided the cost of preparing students for a career in psychiatry.

Table 7: Cost of Training Psychiatrists in WV

	2004	2005	2006	2007	2008	2009	2017
Number of Psychiatry Residents	24	29	29	29	32	N/A	N/A
Cost of Psychiatry Residency	\$63,918	\$63,918	\$63,918	\$63,918	\$63,918	N/A	N/A
Average Cost of College		\$3,467	\$3,830	\$4,069	\$4,319	N/A	N/A
Cost of Medical Training	N/A	\$17650**	\$18728	\$19,204	\$20,164	N/A	N/A
College, medical Training, and Resident Cost per Resident	N/A	\$85,035	\$86,476	\$87,191	\$88,401	N/A	N/A
Total Cost	\$2,110,919*	\$2,507,804	\$2,507,804	\$2,528,539	\$2,828,832	\$2,839,200*	\$3,747,443*
Cost Attributable to SA	\$194,205*	\$226,873	\$230,718	\$232,626	\$260,253	\$263,129*	\$344,765*

*Projected not reported

** WVU medicine fee was not reported; WVU School of Osteopathic medicine was used instead

The cost of educating psychiatrists who serve persons with drug and alcohol-related issues, however, is only a fraction of these total amounts because not all psychiatrists are addiction psychiatrists and some psychiatrists may serve individuals with mental health and substance abuse disorders. The report on *Cost of Substance Abuse to the Healthcare System in West Virginia* estimated that 9.2% of the expenses of behavioral health providers were attributable to providing substance abuse care (West Virginia Partnership to Promote Community Well-being, 2009). Hence, the present report uses this as the proportion of time of the cost of training psychiatrists for serving persons with drug and alcohol disorders. Applying this proportion resulted in an estimated \$277,242 spent for training psychiatrists who treat persons with substance abuse in 2007/2008, the latest year of data. Projections were made for 2009 to 2017. If the current trend persists \$344,765 will be spent on training psychiatrists who treat drug- and alcohol-related disorders by 2017. It is important to note that the estimates are rather conservative since the estimated annual average cost of training a resident psychiatrist was kept constant even though it likely increased.

Cost of Training Other Professionals Serving Persons with Drug- and Alcohol Disorders

Apart from psychiatrists, there are a host of other professions serving West Virginia residents with drug- and alcohol-related disorders. Of relevance are students in counseling, psychology, social work, and other related programs in West Virginia colleges whose enrollment figures are reported in Table 8; the majority, over 80%, of these students study psychology. The average tuition and fees for colleges offering these programs were also included in the table. The product of the two is the estimated cost of training these professionals.

As mentioned earlier, these professionals also serve persons with mental health disorders and some, like social workers, also provide non-clinical services. Thus, only a proportion of their education cost should be attributable to preventing and treating substance abuse disorders. Using the percentage attributable to substance abuse of 9.2% obtained from the previous report, the present report obtained the cost of training these other professionals in West Virginia. In 2008, the year with the most recent data, approximately \$1 million was spent training this workforce to serve persons with drug- and alcohol-related disorders, about a 30% increase since 2005 (Table 8). The costs obtained were also

projected out for 2009 and 2017 and the result of the projection suggests that over \$1.6 million will be spent training this workforce in 2017 if current trend persists.

Table 8: Cost of College Training for Professionals Serving Persons with Drug- and Alcohol-related Disorders

	2004	2005	2006	2007	2008	2009	2017
Number of Students Enrolled in Careers Serving SA	2,558	2,481	2,444	2,453	2,569	N/A	N/A
Average Cost of College Per Student	N/A	\$3,467	\$3,830	\$4,069	\$4,319	N/A	N/A
Cost for All Students in Related Careers	\$7,733,139*	\$8,600,635	\$9,360,520	\$9,981,257	\$11,095,511	\$11,785,822*	\$18,270,115*
Cost Attributable to SA	\$711,449*	\$791,258	\$861,168	\$918,276	\$1,020,787	\$1,084,296*	\$1,680,851*

*Projected not reported

Three caveats should be considered when using these estimates. These professionals might not end up working in West Virginia and other professionals trained in other states might also end up working in West Virginia. Additionally, only tuition and fees were used in the estimation even though several other costs are incurred for college training. Further, the cost are conservative at best because other professionals such as advocates, law enforcement officers, lawyers, and others provide other indirect services to persons with drug and alcohol-related disorders.

Preventive and Research Programs

West Virginia Collegiate Initiative to Address High Risk Alcohol Use on College Campuses (WVCIA)

States differ in whether and how they fund programs addressing drug- and alcohol-related issues at IHEs. Although key members of West Virginia’s IHEs had been meeting as a consortium for close to two decades, it was not until 2003 that they received some form of systematic funding for addressing drug- and alcohol prevention at IHEs. The grant came from the West Virginia Alcohol Beverage Control Administration (WVABCA). The West Virginia Alcohol Beverage Control Administration (WVABCA) receives grant funding from the West Virginia Governor’s Highway Safety Program (WVGHSP). The WVGHSP is provided funding by the National Highway Traffic Safety Administration (NHTSA). This grant supports the consortium, which is now known as the West Virginia Collegiate Initiative to Address High Risk Alcohol Use on College Campuses (WVCIA). In 2008 the initiative adopted a charter and mission: “WVCIA is the West Virginia organization that proactively addresses collegiate alcohol, other drug, and associated violence issues through the use of evidence based strategies in order to promote healthy campus environments through self-regulatory initiatives, information dissemination, public policy influence, cooperation with prevention partners, and technical assistance.”

Apart from the financial contributions of the WVABCA and WVGHSP, there were in-kind contributions from West Virginia’s IHEs, the Network Addressing Collegiate Alcohol and Other Drug Issues, the US

Department of Education’s Higher Education Center for Alcohol and Other Drug Prevention, the College Center for Health and Safety, and the West Virginia Prevention and Resource Center. The in-kind contributions included technical assistance for implementing, analyzing, and disseminating surveys on IHE’s campuses, providing meeting spaces, and hosting the bi-annual summits. Although the level of participation varies by college/universities, nearly all IHEs in the state have been involved in WVCIA since 2003.

As shown in Table 9, grants to the WVCIA have ranged from \$20,000 to \$40,000. These funds support many important initiatives. One of the first things the consortium did in 2003 was to initiate a letter writing campaign that resulted in the ban of sales of grain alcohol as a beverage. In odd numbered years, WVCIA provides funds for West Virginia’s IHEs to conduct campus-wide surveys on attitudes, perceptions, and behaviors related to substance use. The data collected are used for strategic planning and inform regional trainings of campus personnel and interested community members. In even numbered years, WVCIA has held conferences where stakeholders throughout the state meet to learn ways to tackle the issue of substance abuse on college campuses and their surrounding communities. The summit brings in speakers with knowledge on drug and alcohol issues, trains college security personnel, counselors, and relevant personnel that come in contact with college students with drug and alcohol issues, and addresses other issues that might emanate from substance abuse such as date rape and mental health co-morbidity. In the same even numbered years, WVCIA also provides mini grants for IHEs to adopt effective environmental strategies for preventing drug and alcohol use.

Table 9: Grants from WVABCA to WVCIA

	2002	2003	2004	2005	2006	2007	2008	2009
WVABCA Grant Amount	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$25,000	\$40,000

Following the funding of the consortium in 2003, surveys were administered in 2004 and 2006, and one just finished recently in 2010. The data collected provide some indication of the effectiveness of WVCIA’s strategies overtime, in addition to other ongoing drug and alcohol prevention strategies in West Virginia’s IHEs. In 2004 and 2006, the consortium administered the Core Alcohol and Drug survey, whereas in 2010 the consortium used the National College Health Assessment. Although the 2010 data are not available for public use yet, results from the 2004 and 2006 indicate a positive trend in attitudes, norms, and behaviors related to substance use at West Virginia’s IHEs.

The survey results suggest that annual prevalence of marijuana or other illegal drug use may be declining in West Virginia’s IHEs. Approximately 47% of the students surveyed had used marijuana or other illegal drugs in 2004 compared to 40% in 2006. Additionally, the percentage of current users, defined as those who used in the 30 days before the survey, declined from 28.3% to 24.9%. Further, alcohol consumption by college students under age 21 declined from 62.7% to 59.7%. Binge drinking, which is consuming 5 or more drinks in one sitting, also declined from 43.4% to 42.8%.

Apart from demonstrating the effectiveness of the group’s initiatives, the survey results play an integral role in strategic planning to address drug- and alcohol-related issues at West Virginia’s IHEs and the

communities they occupy. For example, the consortium used the results of 2004 surveys to develop a strategic plan that directed WVABCA to conduct compliance checks on students' peak use nights, thus improving the efficiency of WVABCA and sending a clear message to campus communities that underage drinking was not tolerated.

WVCIA's success in reducing drug and alcohol use prevalence at West Virginia's IHEs and their communities is an important achievement particularly given that the TEDS data suggest drug use is rising among college-aged population. However, expanding the range of services to cover the full continuum of care, including prevention, early intervention, treatment, and recovery at West Virginia's IHEs will provide even more significant declines in these substance abuse prevalence indicators.

The Network Addressing Collegiate Alcohol and Other Drug Issues

Apart from the WVCIA consortium, West Virginia IHEs also participate in a regional-level consortium derived from the federal-level Network Addressing Collegiate Alcohol and Other Drug Issues. The Network was started in 1987 by the US Department of Education to "proactively address issues of alcohol, other drugs, and violence in order to promote healthy campus environments through self-regulatory initiatives, information dissemination, and technical assistance." It also "develops collaborative alcohol, other drug, and violence prevention efforts among colleges and universities through electronic information exchange, printed materials, and sponsorship of national, regional, and state activities and conferences." The Network has 18 regional Networks throughout the 50 US states and 4 territories. West Virginia along with Kentucky and Tennessee form one of the regional Networks. Although West Virginia has been involved in the Network for less than a decade, it has several active members. For example, the West Virginia-Kentucky-Tennessee regional director and state and territory coordinator are staff of Shepherd University and West Virginia University, respectively. And the chair of the national executive committee is also a staff of Marshall University, also in West Virginia.

In the past, the Network funded state-level trainings in West Virginia; however, information on the cost of these trainings was not available. However, federal funding for the network recently ended. Thus, the Network now only provides technical assistance, online training, and other in-kind support to IHEs.

Grant Funding

Apart from the costs affecting nearly all West Virginia's IHEs, there are other costs that have been incurred because certain IHE proposed innovative prevention and research programs. The U.S. Department of Education's Higher Education Center for Alcohol, Drug Abuse, and Violence Prevention (CADAVP) provided some of these grants funding drug and alcohol prevention and research of substance abuse disorders in IHEs. Currently, this study found the following five funding programs listed on the CADAVP's website that are relevant for drug and alcohol prevention programs in West Virginia's IHEs. These grant opportunities are presented on the next page.

Marshall University in West Virginia received the grant to prevent high-risk drinking or violent behavior among college students in both 2003 and 2003. The programs that Marshall University implemented with the funding in both years using the funding, *Freshmen Changing Campus* and *Comprehensive*

Environmental and Motivational/Educational Approach to High-Risk and Illegal Alcohol Use Prevention Among Freshmen, are featured next .It is hoped that other West Virginia universities will make the most of the amazing opportunities presented by these grants.

Marshall University's Grant Funded Alcohol Prevention Programs

Freshmen Changing Campus, FY 2000

This project proposes to work with students in the freshmen seminar to enhance their interpersonal, school, and community protective factors in order to bring about a reduction in high-risk drinking, and to change the campus environment toward one that is intolerant of high-risk drinking. The goal of this project is to move the campus toward one that offers abundant alcohol-free options, supports its students, expects positive contributions from first-year students, and expects a lower frequency of high risk behaviors.

Comprehensive Environmental and Motivational/Educational Approach to High-Risk and Illegal Alcohol Use Prevention among Freshmen, FY 2003

The goals of this project are to improve the visibility and persistence in alcohol law and policy enforcement; broaden faculty and staff knowledge about the scope of alcohol-related problems, environmental management, specific strategies they can implement, and available resources; and implement BASICS (Brief Alcohol Screening and Intervention for College Students) to more than half of the freshmen seminar classes, and as a mandatory session for students that violate the school's alcohol policy.

CADAVP Grants

Grant Competition to Prevent High-Risk Drinking or Violent Behavior among College Students

The goal of this grant competition is to provide funds to develop or enhance, implement, and evaluate campus- and/or community-based prevention and early intervention strategies to prevent high-risk drinking or violent behavior among college students. The grant funds individual IHEs, consortia thereof, public and private organizations, including faith-based organizations, and individuals to develop or enhance, implement, and evaluate campus- and/or community-based prevention and early intervention strategies. Grantees focus attention on and develop solutions to prevent and reduce high-risk drinking or violent behavior among college students. The grant was awarded in 1999, 2000, 2001, 2003, 2005, 2006, 2007, 2008, and 2009. However, in 1999, the grant was called the State and Regional Coalition Grant Competition to Prevent High-Risk Drinking among College Students. As featured in the preceding text box, Marshall University in West Virginia received this grant in 2000 and 2003.

<http://www.higheredcenter.org/grants/high-risk/awardees/>

Grants for Coalitions to Prevent and Reduce Alcohol Abuse at Institutions of Higher Education

Under this grant competition, the Department of Education funds IHEs, consortia thereof, state agencies, and non-profit entities to prevent and reduce the rate of under-age alcohol consumption, including binge drinking, among students at IHEs. Applicants propose programs to develop, expand, or enhance a statewide coalition to prevent and reduce alcohol abuse by targeting under-age students at IHEs throughout the State, both on campuses and in surrounding communities. The grant has only been awarded in FY 2009. However, funding is also available for FY 2010.

<http://www2.ed.gov/programs/stopact/index.html>

Models of Exemplary, Effective, and Promising Alcohol or Other Drug Abuse Prevention Programs

The goals of this grant competition are to identify and disseminate information about exemplary and effective drug and alcohol prevention programs implemented on college campuses. Through this grant competition, the Department of Education also will recognize colleges and universities whose programs, while not yet exemplary or effective, show evidence that they are promising. The grant was awarded in FY 2008 and FY 2009. <http://www.higheredcenter.org/grants/eep-models/awardees/>

Alcohol and Other Drug Prevention Models on College Campuses Grant Competition

The goals of this grant competition are to identify models of effective campus-based drug and alcohol prevention programs and disseminate information about these programs to other colleges and universities where similar efforts may be adopted. This grant was awarded in 1999, 2000, 2001, 2004, 2005, 2006, 2007, 2008, and 2009. Funding is also available for FY 2010.

<http://www.higheredcenter.org/grants/models/competition/>

Grants to States to Improve Management of Drug and Violence Prevention Programs

This program awarded 3-year grants to develop, expand, or enhance the capacity of State Education Agencies (SEAs) and local education agencies (LEAs), and other state agencies and community-based entities (CBOs), to collect, analyze, and use data to improve the management of drug-abuse- and violence-prevention programs administered in the states. This program was only available in FY 2004 and FY 2005.

West Virginia Department of Education was one of 6 state agencies that received an award in FY 2005. The award was for \$345,494. <http://www2.ed.gov/programs/dvpstatemanagement/awards.html>

Research Programs in West Virginia's Institutions of Higher Education

The following text box provides a detailed description of Marshall University's 2003 federally funded program, *Comprehensive Environmental and Motivational/Educational Approach to High-Risk and Illegal Alcohol Use Prevention among Freshmen*. Although the project did not achieve its intended significant decline in students' binge and illegal drinking, the results obtained were in that direction. In the absence of more comprehensive and sustainable state-level funding to address drug- and alcohol-related issues in West Virginia's IHE, West Virginia's IHEs should seek similar federal, state, or other funding and projects to advance comprehensive programs addressing early intervention, prevention, treatment, and recovery issues needed by their students. Such a comprehensive approach is needed for developing responsible and productive citizens as the state's IHEs seek to produce.

West Virginia IHEs can also contribute to early intervention, prevention, treatment, and recovery efforts addressing drug- and alcohol-related issues. For example, professors and graduate students at the Marshall University collaborated with local coalitions funded by other funding to implement a geographical information system (GIS) project. The Cabell County Substance Abuse Prevention Partnership received funding from the Governor's Drug Free West Virginia grants to implement this project but also received technical support from Marshall University. The project is a good example of West Virginia's IHEs giving back to their communities by providing services to prevent drug- and alcohol-use. Marshall University professors and graduate students provided the GIS expertise needed for the project featured in this report. Detailed description of the project is provided as presented on the US Department of Education's Higher Education Center. It is likely that there are other such projects in other West Virginia's IHEs.

Further, although most of the federal funding currently available now reflects the switch from individually focused programs to the public health model, they currently do not acknowledge the different components of the continuum. Prevention is critical but so also are early intervention, treatment, and recovery. Efforts need to be directed at providing other components of the public health continuum at IHEs.

Comprehensive Environmental and Motivational/Educational Approach to High-Risk and Illegal Alcohol Use Prevention Among Freshmen

After receiving \$140,088 in 2003, Marshall University conducted a two-year project to reduce illegal and high-risk alcohol use by freshmen using environmental management and motivational/educational strategies. Multiple spheres of influence were targeted: 1) At the community and campus level, increased visibility and persistence in alcohol law and policy enforcement included the collaboration of the Marshall University Police, the City of Huntington Police, and the Cabell County Sheriff's office. 2) On a campus-wide level, faculty and staff knowledge was enhanced via an online training program that provided appropriate, health-promoting messages aimed at reducing mixed messages about alcohol use. The training's scope included the scope of alcohol-related problems, environmental management, and available resources. 3) At the freshmen level, Brief Alcohol Screening and Intervention for College Students (BASICS) was presented to at least 50% of the UNI 101 freshmen seminar classes, and tested as a prevention method for the general freshmen population. 4) On the individual level, BASICS was mandated to students sanctioned for alcohol violations.

Specific long-term aims that the project began in this initial two-year period, were to decrease the percentage of freshmen who drank five or more drinks on one occasion in the past 30 days, and those who drank illegally. Antecedents to these drinking patterns were targeted as the realistic, short-term goals: increases in perceptions that Marshall and its surrounding community strictly enforce alcohol use law; that Marshall strictly enforces its policy of no drinking on campus; that the message from the off-campus community and faculty and staff is that alcohol use is "not OK"; and that Marshall is dedicated to preventing alcohol abuse on campus. The following outcomes were achieved:

- At baseline, 62% of surveyed freshmen held the perception that the Marshall community strictly enforces the laws on underage drinking and public intoxication; by the end of the project, 69% reported this perception.
- At baseline, 67% of surveyed freshmen held the perception that Marshall strictly enforces its policy of no drinking on campus; by the end of the project, 73% reported this perception.
- At baseline, 12% of surveyed freshmen held the perception that the message from the off-campus community is that alcohol use is "not OK" (unacceptable, unhealthy, and illegal); by the end of the project, 13.4% reported this perception.
- At baseline, 65% of surveyed freshmen held the perception that Marshall is dedicated to preventing alcohol abuse on campus. Surprisingly, this perception declined over the two years. By the end of the project, 61% reported this perception. This trend was unexpected. One possible explanation is that students do not perceive enforcement as prevention.
- At baseline, 49% of surveyed freshmen held the perception that the message from faculty and staff is that alcohol use is "not OK" (unacceptable, unhealthy, and illegal); by the end of the project, 56% reported this perception.
- At baseline 28% of surveyed freshmen reported drinking five or more drinks on one occasion in the previous 30 days; by the end of the project, 26% reported this rate.
- At baseline, 64% of surveyed freshmen reported drinking illegally (under age 21, past 30-day use); by the end of the project, 58% reported this rate.

While the long term goal was not achieved in its entirety, results show a positive trend for the project's intermediate and long-term goals. As a result of the highly visible campus-community enforcement partnership, two state agencies have partnered to secure funds to support similar efforts at campuses throughout the state. In addition, WVABCA has implemented new enforcement strategies to decrease underage alcohol purchase and consumption in bars. Because of the perceived effectiveness of the enforcement component, the Governor's Office of Highway Safety has agreed to fund continued enforcement efforts in the 2005-06 academic year. The Marshall project provides further evidence for the higher education community that environmental management strategies coupled with motivational/educational strategies can produce moderate changes in antecedents (perceptions about enforcement and consistent messages) for freshmen drinking behaviors and even small changes in the targeted drinking behaviors. The zero recidivism in judicial alcohol sanctions during the two-year period was an unexpected outcome that further confirms the effectiveness of the project's combined approach.

Marshall University's GIS Mapping for Prevention

The Cabell County Substance Abuse Prevention Partnership (CCSAPP)—a broad-based community prevention coalition—started in March 2006 when Marshall University and six other agencies applied for a sub-grant from the state under its federal SPF-SIG grant for implementing a strategic prevention framework. Housed in the United Way, the coalition has since grown to include 30 partners, including the Huntington Police Department, the local newspaper *The Herald Dispatch*, Girl Scouts, Boy Scouts, Highway Safety, the Housing Authority, the Health Department, the Cabell County Probation Department, several faith communities, the West Virginia Prevention Resource Center, and the local mental health services provider.

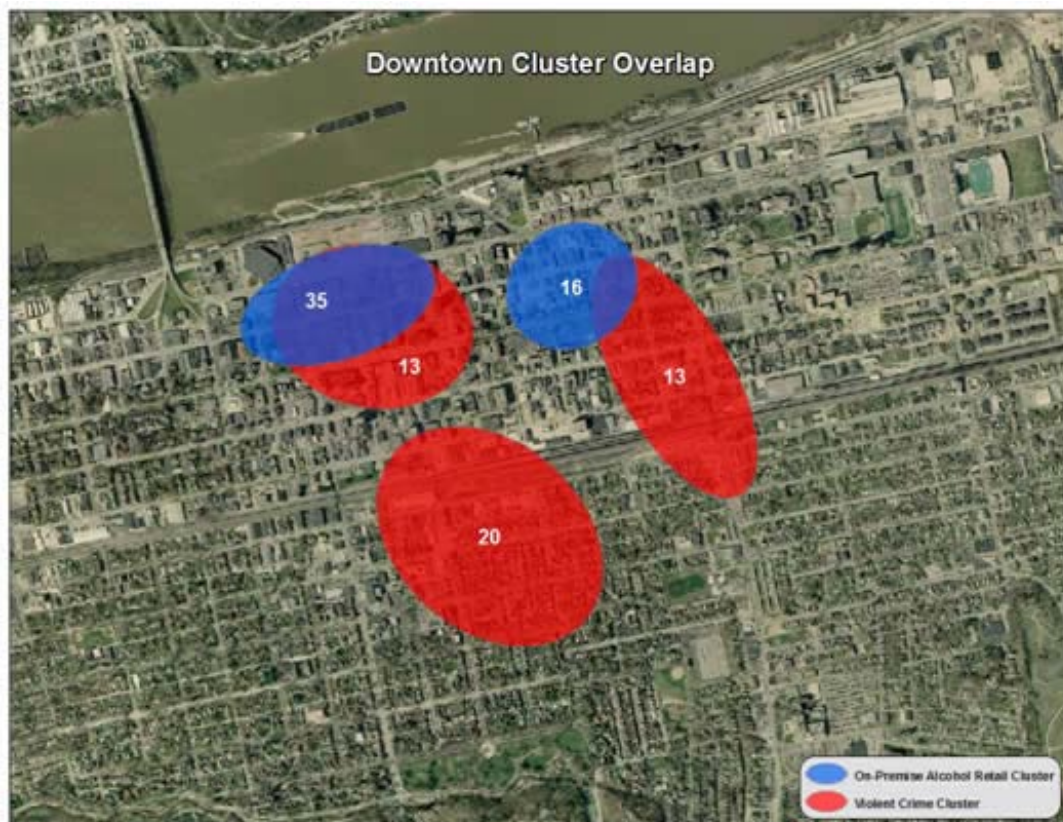
The partnership was focusing on environmental strategies to reduce underage drinking when Anne McGee, project director of CCSAPP and Amy Saunders, student health education specialist with Marshall University Student Health Education Programs, attended a workshop conducted in August 2007 by Harold Holder of the Pacific Institute for Research and Evaluation on how geospatial analysis can support prevention policy change. “We had also seen some information on geographic information system (GIS) mapping from the Higher Education Center, but at that workshop we really got to see how it works and thought it was very interesting to look at data in that way,” said Saunders.

In January 2008 CCSAPP received \$3000 in Governor’s Drug Free West Virginia grant money that allowed it to fund an environmental strategy with regard to underage and high-risk drinking. In summer 2007, there had been some shootings in downtown Huntington and it seemed that violence was escalating. In addition, CCSAPP was concerned about the problem of Huntington’s alcohol retailers whose licenses had been revoked being able to reopen under a new name. Thus, it was decided to use the Drug Free West Virginia grant to conduct a GIS mapping project related to location of alcohol-related incidents. Saunders asked some professors in the geography department if any of their students would be interested in working on the project. That’s how Andrew Lowe, a first-year master’s student, and Chad Pyles, a junior, both majoring in geography and GIS mapping, became involved in the project.

Lowe and Pyles used crime data from the Huntington Police Department (HPD) and 2008 licensing data from the West Virginia Alcohol Beverage Control Administration (WVABCA) to conduct the project. According to Lowe the alcohol data were readily available from a Web site. Pyles said that getting the data from HPD took a few weeks. It was just a matter of the police printing out the data in a paper format, then manually entering it into the computer. After completing the analysis they wrote their report, *A Spatial Analysis of the Relationship between Alcohol Consumption Points and Crime Frequency in Huntington, WV* (April 15, 2009), and presented the findings to CCSAPP.

Alcohol Outlets and Crime in Huntington

Low and Pyles examined the relationship between on-premise alcohol retail locations and crime locations in Huntington. They wanted to determine whether more alcohol retailers in an area would correlate to more crime around that area. They used the data from HPD and WVABCA to conduct a spatial analysis method of cluster analysis and found that areas with high densities of on-premise alcohol retailers (blue clusters) in the downtown area correlated with areas of high density crime, more specifically violent crime (red clusters). Their report concluded that the results support the need for new licensing laws to prohibit problem alcohol retailers whose license has been revoked from reopening under a new name and new license.



Conclusion for IHEs

This list of resources provided in this report is not exhaustive. Table 10 shows the few quantifiable known costs. However, there are several other non-financial and in-kind resources that are available to fund a full continuum of care related to substance abuse in West Virginia's IHEs. For example, the National Collegiate Athletic Association (NCAA), through the support of the NCAA Foundation and Anheuser-Busch Companies, Inc., has the CHOICES grant program providing funds for alcohol education. The grant provides funding for NCAA member institutions and conferences to integrate athletics into campus-wide efforts to reduce alcohol abuse. Online data suggest that none of West Virginia's IHEs have benefitted from this grant.

This report presents a portrait of the cost of substance abuse in West Virginia's IHEs. Although funding information is decentralized and sporadic, it is obvious that there is interest from officials at West Virginia's IHEs for funding for substance abuse prevention initiatives. However, much more than prevention is needed. A full continuum of care is advocated. It appears that the little resources available have been put to good use. This report provides an awareness of resources that are currently not tapped into by West Virginia's IHEs. There is a need for increased investment in prevention, early intervention, treatment, and recovery at West Virginia's IHEs. This is the only way to generate productive and contributing citizens in the state.

The first step was to present the study findings to CCSAPP. In addition to the report, Lowe and Pyles presented the data in a series of slides, with over half of them being maps showing the different layers of their findings. According to Pyles, having those visuals helps people to understand more clearly the linkages uncovered in the analysis. The following is one of the maps showing the overall findings of the study.

According to Saunders, the coalition members were really excited about the presentation, asking a lot of questions. Many of them had not seen information presented in that way. Lowe and Pyles provided clear explanations on how the analysis was conducted, what it showed, and what it meant in terms of policy changes.

CCSAPP's preliminary thinking on the kind of policy changes it would like to see to reduce violence related to these bad outlets is a moratorium on new licenses in the geographic area where most of the violence takes place, especially on new licenses for establishments that have been shut down because of compliance problems.

According to McGee, such a moratorium could be imposed by a special zoning committee operating through the City Council or through the city planning department, which issues the special permit necessary to open an on-premise outlet in Huntington. "Such a moratorium would help to reduce the alcohol-selling establishment density downtown, which gives underage students the impression that downtown Huntington is the place to go to have fun. It also increases that perception of acceptance by the community. We would like to see density reduced."

The next step is for McGee and Saunders is to meet individually with a couple of key people, such as the mayor and some city council members, and then move forward from there. They are optimistic that the quality of the information from this study will be compelling enough to affect policy change.

In addition, Lowe and Pyles have presented their study to the director of a U.S. Department of Justice Weed and Seed grant in Huntington. He was very interested in using their methods to evaluate his project. For example, in the cluster analysis of the data three areas really "pop up." Two overlay with the alcohol density, but the third area is in the Fairfield area, which experiences high levels of crime and drug arrests. "We are interested in looking at that with the Weed and Seed data," said Pyles. And Lowe has plans to meet with HPD to talk about how the study provides 25 opportunities for more analysis and more data collection to gain a better understanding of environmental factors surrounding crime and violence.

Table 10: Cost of Drug and Alcohol-Related Initiatives in West Virginia’s Institutions of Higher Education

	2004	2005	2006	2007	2008	2009	2017
Cost of Psychiatry Training for Providing SA Services	\$194,205	\$226,873	\$230,718	\$232,626	\$260,253	\$263,129	\$344,765**
Cost of Training for Other Professions Providing SA Services	\$711,449	\$791,258	\$861,168	\$918,276	\$1,020,787	\$1,084,296	\$1,680,851**
WVCIA	\$20,000	\$20,000	\$20,000	\$20,000	\$25,000	\$40,000	\$40,000*
Marshall University Research Funded Research	\$140,088	\$0	\$0	\$3000	\$0	\$0	\$0
Total	\$1,065,742	\$1,038,131	\$1,111,886	\$1,173,902	\$1,306,040	\$1,387,425	\$2,065,616

*Assumed

** Projected

Overall Conclusion of Cost to Education System in West Virginia

The picture of the financial burden of substance abuse to the WV education system is indeed quite grim. This report estimates that drug and alcohol prevention and treatment abuse cost West Virginia over \$13 million in 2009. If urgent actions are not taken, the cost could easily increase to over \$16 million in 2017. These estimated costs of drug and alcohol use to the education sector are quite conservative because this report focuses only on direct cost. Indirect cost of injuries to innocent parties by substance users and illness not directly due to substance use but that are complicated or extended due to substance use were not estimated. In addition, although this report attempted to include every drug and alcohol abuse program in West Virginia’s education system, it is likely that some were excluded. Specifically, the cost of treating students who have co-occurring health issues that may have resulted from using drugs or alcohol was not available. Other costs excluded by the present report because of unavailable data but included by reports such as CASA’s include lost productivity of staff and added costs for additional staffing, special education programs for those with substance-related retardation or learning disabilities, alcohol- and drug-related truancy, property damage and liability insurance costs driven by alcohol and other drugs, higher health insurance costs for substance involved staff, legal expenses linked to alcohol and other drugs, drug testing costs, employee assistance programs for substance abusers, employee training, and capital outlays for special facilities needed for substance using students. According to CASA, including these costs could easily result in around \$265 million being spent on providing drug and alcohol abuse related services in the education system.

In spite of the conservativeness of the estimates in the current report, it is apparent that drug and alcohol use place a huge financial burden on West Virginia. More importantly, a comprehensive approach including prevention, early intervention, treatment, and recovery, is needed, as advocated by the *Governor’s Comprehensive Strategic Plan to Address Substance Abuse in West Virginia*. This comprehensive approach can significantly reduce the future burden and cost of substance abuse in West Virginia’s education system.

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