

Substance Abuse Prevention Dollars and Cents in Arkansas: A Cost-Benefit Analysis

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Office of Alcohol and Drug Abuse Prevention

Division of Behavioral Health Services, Arkansas Department of Health and Human Services



How Serious is the Adolescent Substance Abuse Problem in Arkansas?

The Arkansas Prevention Needs Assessment is administered to participating public school students in grades 6, 8, 10, and 12. Figures below are based on the most recently published APNA data, collected in the fall of 2008, unless otherwise noted.

- 45.2% of Arkansas youth report using alcohol, with 1 in 5 reporting use in the past 30 days.
- 1 in 4 Arkansas 12th graders report binge drinking (having 5 or more drinks in a row).
- Arkansas youth who drink begin drinking at an average age of 12.6 years. This is younger than the national average of 13.2 years.
- The use of sedatives among Arkansas 12th graders is roughly triple that of the national rate.
- The CDC estimates that 72,630 Arkansas youth under the age of 18 could die prematurely from a smoking-related illness if current smoking rates continue and that tobacco-related illnesses kill an estimated 4,914 Arkansans annually. (University of Arkansas for Medical Sciences, 2008)
- 770 Arkansas youth under age 18 were admitted for substance abuse treatment in 2008. (SAMHSA , 2009).

How Much does Substance Abuse Cost Arkansas?

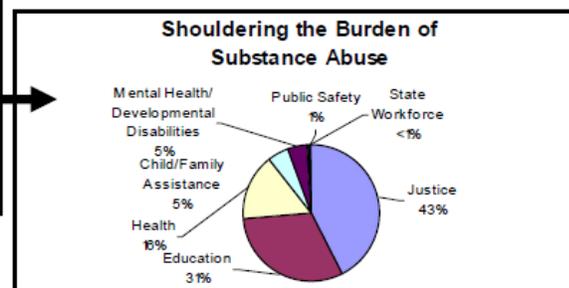
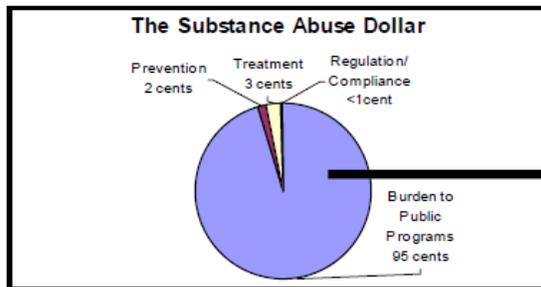
Substance abuse clearly is among the most costly health problems in the United States. Among national estimates of the costs of illness for 33 diseases and conditions, alcohol ranked second, tobacco ranked sixth, and drug disorders ranked seventh (National Institutes of Health [NIH], 2000). In Arkansas, costs are equally alarming.

- For every 100 dollars Arkansas spends on ATOD-related issues: \$4.31 goes to prevention, treatment, and research, 41 cents supports regulatory initiatives, and the remaining \$95.28 pays for the burden to public programs. (National Center on Addiction and Substance Abuse, 2009).
- In Arkansas, alcohol/drug-related "burden spending" of 846 million each year reflects 8.5% of the state's budget. This is \$300.85 per capita (National Center on Addiction and Substance Abuse, 2009). These funds reflect the burden placed on public systems such as education, justice, health care, and public safety (Note the summary provided on the following page.).

Arkansas

Summary of State Spending on Substance Abuse and Addiction (2005)*

	State Spending by Category (\$000)	Spending Related to Substance Abuse			
		Amount (\$000)	Percent	As Percent of State Budget	Per Capita
Burden Spending		\$845,655.6		8.5	\$300.85
Justice	447,941.6	359,717.5		3.6	127.97
Adult Corrections	296,924.1	237,674.3	80.0		
Juvenile Justice	45,747.8	35,920.7	78.5		
Judiciary	105,269.7	86,122.5	81.8		
Education (Elementary/Secondary)	2,327,569.2	263,992.9	11.3	2.6	93.92
Health	522,228.8	133,199.6	25.5	1.3	47.39
Child/Family Assistance	71,971.0	40,808.1		0.4	14.52
Child Welfare	48,931.8	35,658.7	72.9		
Income Assistance	23,039.1	5,149.4	22.4		
Mental Health/Developmental Disabilities	113,880.6	40,213.2		0.4	14.31
Mental Health	67,391.2	36,669.1	54.4		
Developmental Disabilities	46,489.3	3,544.0	7.6		
Public Safety	33,506.0	5,972.9	17.8	0.1	2.12
State Workforce	507,299.2	1,751.5	0.3	0.0	0.62
Regulation/Compliance	3,626.4	3,626.4	100.0	0.0	1.29
Licensing and Control	3,126.4	3,126.4			
Collection of Taxes	500.0	500.0			
Prevention, Treatment and Research	38,242.8	38,242.8	100.0	0.4	13.61
Prevention	9,774.3	9,774.3			
Treatment	17,072.7	17,072.7			
Research	NA	NA			
Unspecified	11,395.7	11,395.7			
Total		\$887,524.8		8.9	\$315.75



Total State Budget	\$9,982 M
• Elementary and Secondary Education	\$2,328 M
• Substance Abuse and Addiction	\$888 M
• Medicaid	\$771 M
• Higher Education	\$2,129 M
• Transportation	\$586 M
Population	2.8 M

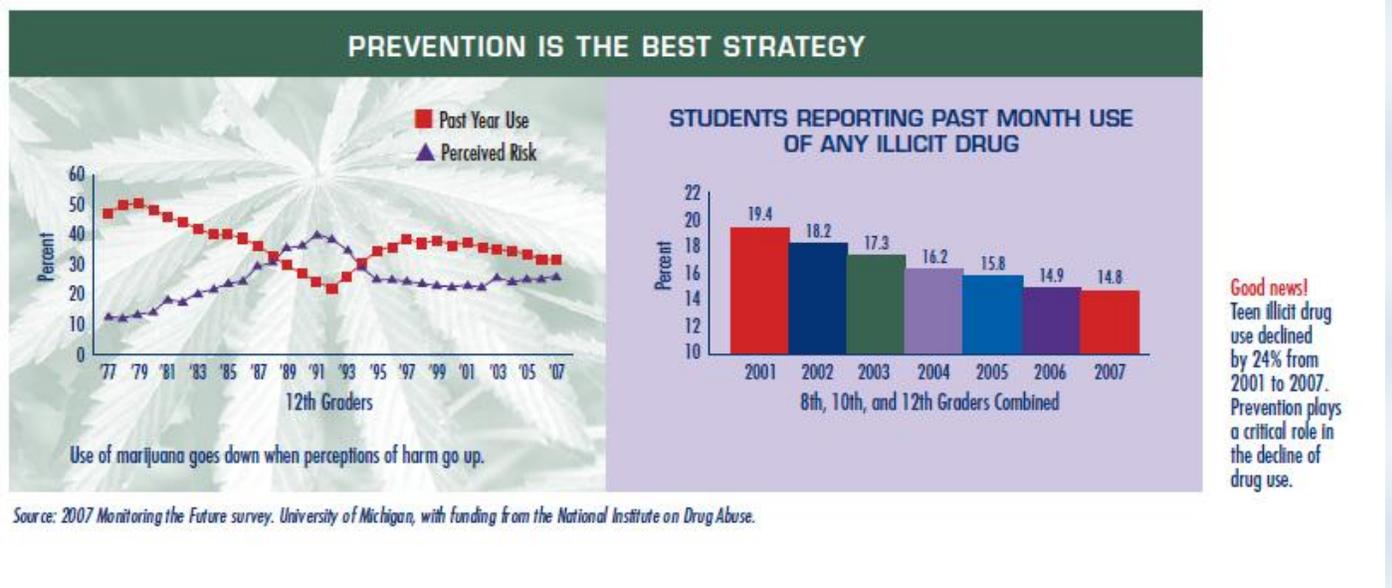
Tobacco and alcohol tax revenue total \$191,239,000; \$68.04 per capita.

* Numbers may not add due to rounding.

Source: National Center on Addiction and Substance Abuse, 2009

Can we Prevent Substance Abuse in Arkansas?

- Science-validated substance abuse prevention programs, if properly implemented by schools and communities, can reduce substance abuse (National Institute on Drug Abuse, 2008).
- These (science-validated) programs work to boost protective factors and eliminate or reduce risk factors for drug use. (National Institute on Drug Abuse, 2008)
- Also demonstrating success are *environmental strategies* - those prevention efforts aimed at changing or influencing community conditions, standards, institutions, structures, systems and policies. For example, research shows that sales to underage youth are higher in communities where a responsible beverage service training program is not in place (Alcohol Epidemiology, undated).



How is Prevention Currently Funded in Arkansas?

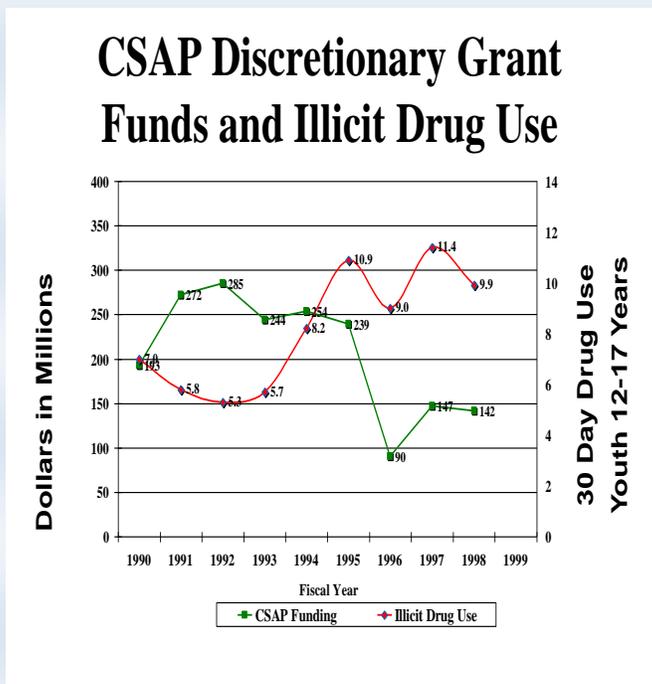
No funding is consistently allocated by the State for substance abuse prevention. In 2009, one-time General Improvement Funds (GIF) in the amount of approximately \$20,000 were awarded to the state's regional Prevention Resource Centers to begin the process of educating Arkansans on abuse of prescription drugs, with an initial emphasis on proper storage and disposal of those substances. While this effort is worthwhile, more consistent attention to the issue of preventing substance abuse, particularly among adolescents, is warranted.

Federal funds from the U.S. Department of Health and Human Services (US DHHS) and the U.S. Department of Education (US DOE) support the more significant prevention efforts in Arkansas. The Substance Abuse Prevention and Treatment Block Grant from the US DHHS provides funding for Arkansas' prevention infrastructure, including data collection and workforce development. US DHHS also provides funding for the Strategic Prevention Framework State Incentive Grant (SPF SIG), which allows selected Arkansas community coalitions to plan and implement prevention programs and environmental strategies in their communities. Funding for the SPF SIG project will end in June 2011.

The US DOE funds the Safe and Drug-Free Schools and Communities (SDFSC) program. The majority of SDFSC funds support in-school prevention programming, with 20% supporting community-based efforts. Unfortunately, the State Grants portion of the program is slated to be cut, as proposed by the President's FY 2011 budget. This change will result in a total loss of community-based programming currently supported by these funds. Further, Arkansas school districts will not be guaranteed funding for prevention efforts.

Is Prevention a Cost-Effective Effort?

The importance of government investment in prevention, treatment and research is difficult to overstate. Individuals who reach the age of 21 without smoking, abusing alcohol or using other drugs are far less likely ever to do so. The savings from cutting off substance problems before abuse or addiction sets in far outweigh the price of effective prevention programming (National Center on Addiction and Substance Abuse, 2009). The figure below demonstrates an inverse relationship between prevention funding and drug use.



Once addiction becomes a chronic condition, it requires a long-term care approach focused on disease management like asthma, diabetes and other chronic illnesses. While symptoms may recur as they do with other chronic illnesses (relapse), such recurrence signals the need for an increased level or alternate approach to care to achieve remission (National Center on Addiction and Substance Abuse, 2009).

What Would Result from Implementation of Effective, Statewide, School-Based Prevention Programming in Arkansas?

Declines and delays in substance use initiation. If effective prevention programs were implemented statewide for 6th, 7th, and 8th graders, substance abuse initiation would decline for thousands of Arkansas youth. It has been well established that a delay in onset reduces subsequent problems later in life (Grant & Dawson, 1997; Lynskey et al., 2003), thus reducing "burden spending."

A national report released in 2009 (*Substance Abuse Prevention Dollars and Sense: A Cost-Benefit Analysis*) provides the framework for the computations in the tables that follow. Estimates of youth use and costs of consequences and programs have been adjusted to reflect Arkansas' youth usage rates and prices. The effectiveness estimates were drawn from two meta-analyses on the effectiveness of school-based youth substance abuse prevention programs (Aos et al., 2004; Hansen et al., 2004).

Table 1: Low, Medium, and High Estimates of the Percentage of Arkansas Youth in Grades 6-8 whose Initiation of Substance Use Would Be Delayed or Prevented Through Participation in Effective Statewide School-Based Prevention Programming

<i>Substance</i>	<i>Low Estimate</i>	<i>Medium Estimate</i>	<i>High Estimate</i>
Alcohol	0.99	4.63	10.74
Marijuana	1.73	3.72	6.18
Cocaine	2.43	2.85	5.49
Cigarettes	2.37	5.46	10.44

Arkansas population data has been applied to the percentages in Table 1 above to arrive at an estimate of the *number* of Arkansas youth who would delay initiation or never initiate drug use. These estimates are shown in Table 2.

Table 2: Low, Medium, and High Estimates of the Number of Arkansas Youth to Delay Initiation or Never Initiating Substance Use Through Participation in Effective Statewide School-Based Prevention Programming

<i>Substance</i>	<i>Low Estimate</i>	<i>Medium Estimate</i>	<i>High Estimate</i>
Alcohol	1054	4931	11,438
Marijuana	1842	3961	6581
Cocaine	2588	3035	5847
Cigarettes	2524	5815	11,118

Cost savings to the State of Arkansas. Table 3 shows that the potential monetary cost savings from implementing effective school-based substance abuse prevention programming in Arkansas would total between \$144,400,000 and \$663,600,000, with a best estimate (i.e., medium estimate) of \$327,500,000. Similar savings would result from each year of universal implementation in Arkansas.

The impact of substance abuse prevention may extend over a lifetime and is most obvious when prevention fails to deter an individual from substance abuse and the abuse results in premature death. Substance abuse may last many years and often entails periods of recovery and relapse. Furthermore, the effects of substance abuse may continue well beyond the period of time when an individual is actively abusing substances. When prevention programs delay the onset of substance use, the number of future dependent users also decreases (Grant & Dawson, 1997), but the analysis considered here does not estimate that further saving.

Table 3: Low, Medium, and High Estimates of Potential Lifetime Monetary Cost Savings to Society from Implementing Effective Statewide School-Based Prevention Programming in 2002 for Youth Ages 12–14, by Type of Substance (in billions)

Substance	Low Estimate	Medium Estimate	High Estimate
Alcohol	19.3 Million	88.3 Million	206.4 Million
Marijuana	2.4 Million	4.8 Million	8.1 Million
Cocaine	46.1 Million	64.7 Million	125 Million
Cigarettes	76.6 Million	169.7 Million	324.1 Million
Total	144.4 Million	327.5 Million	663.6 Million

To achieve the savings presented above, school-based prevention programming would cost an estimated \$185 per Arkansas pupil. This cost represents the average across the 11 school-based prevention programs analyzed in the "Dollars and Sense" publication, and has been adjusted to reflect Arkansas prices.

The return on investment in school-based prevention services would range from \$7.33 to \$33.68 for each dollar invested, with a medium estimate of \$16.62 per dollar, as presented in Table 4 below.

Since expected medical and other resource cost savings exceed program costs, the program would yield net cost savings to society. School-based substance abuse prevention programming that effectively addresses substance abuse appears to be an excellent investment and is likely to pay for itself in resource cost savings alone. Resource costs include treatment and prevention, medical care, police, fire department, adjudication, and sanctioning expenses, as well as property damage and related expenses associated with crime, motor vehicle crashes, and fires involving alcohol (Harwood & Bouchery, 2001).

Table 4: Low, Medium, and High Estimates of Savings per Pupil, Cost-Benefit Ratio, and Net Cost Savings from Implementing Nationwide School-Based Prevention Programming in 2002 for Youth Ages 12-14

Cost Category	Low Estimate	Medium Estimate	High Estimate
Cost Savings Per Pupil	\$1356	\$3075	\$6231
Cost-Benefit Ratio	\$7.33: \$1	\$16.62:\$1.00	\$33.68: \$1.00
Net Savings Per Pupil	\$1171	\$2890	\$6046
Total Net Savings for AR	\$124.7 Million	\$307.8 Million	\$643.9 Million

Conclusion

Research demonstrates that substance abuse prevention programs work. They can reduce rates of substance use and can delay the age of first use. Studies also have shown that prevention programs not only prevent substance abuse; they can contribute to cost savings (Aos et al., 2004; Caulkins et al., 2002; Miller & Hendrie, 2005; Swisher et al., 2003).

The cost of substance abuse could be offset by a statewide implementation of effective prevention policies and programs. Communities should consider a comprehensive prevention strategy based on their unique needs and characteristics and use cost-benefit ratios to help guide their decisions.

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