Center for Substance Abuse Prevention

Prevention*WORKS!*

A Discussion Paper on Preventing Alcohol, Tobacco, and Other Drug Problems

September 1993

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Prevention

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About the Authors

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Slides

A set of slides illustrating many of the points in this paper has been prepared. For availability of these slides or additional copies of this document contact CSAP's:

National Clearinghouse for Alcohol and Drug Information
P.O. Box 2345
Rockville, MD 20847
1-800-729-6686
TDD 1-800-487-4889

In addition, the appendix contains full-size graphics with which the user may make overhead transparencies.

From the Acting Director of CSAP. . .

Prevention efforts are largely responsible for a downward trend in the use of alcohol, tobacco, and other drugs over the last decade. However, these efforts need to be sustained, as well as substantially strengthened if we are to continue to make prevention work better for everyone.

As you will see from this Discussion Paper, prevention and treatment efforts have made major gains in reversing the trend toward more and more alcohol, tobacco, and other drug use. The numbers are impressive: Nearly 25 million young adults are not using drugs who might have been if demand reduction efforts had not reached them.

Prevention has been especially effective for adolescents. In 1979, 18 percent of all 12- to 17-year-olds used illicit drugs and by 1991, **only 7 percent** were using illicit drugs. This decrease represents more than 2.5 million adolescents who would have been using illicit drugs if the 1979 level of drug use had continued. The decline holds true for alcohol use among adolescents as well—alcohol use among adolescents dropped from 37 percent in 1979 to under 20 percent in 1991.

This news is encouraging. However, there are three major reasons not to become complacent. First, there are always new young people coming into each age group; for example new elementary age youth who will be pressured to use alcohol, tobacco, and other drugs at even these very early ages. There could be a rapid reverse in previous prevention gains without continued and sustained efforts to persuade youth to *"Be Smart!" Don't Start"*; to teach them resistance, social, and other skills; and to provide community support and policies for their non-use choices.

Second, for those who are choosing at an early age to engage in the high-risk behavior of alcohol, tobacco, and other drug (ATOD) use, more intensive efforts are required to persuade them that they can make healthier and safer choices for themselves and those around them. They need to know that ATOD use is closely linked to juvenile delinquency, school failure, HIV/AIDS transmission, violence, injury, and death. Teens who are making such unhealthy and unsafe choices, the future employees of American business, jeopardize our future abilities to compete in the global marketplace.

And third, we know that some audiences are at less risk than others. These are people who live in communities that have comprehensive prevention programs and norms and practices sanctioning non-use of substances by youth; that discourage abuse; and provide treatment for those who are dependent.

As successful as prevention has become, there are still many people who have not yet benefitted from these messages. For instance:

- There are still over 4 million youngsters who drink illegally.
- There are more than 1.3 million adolescents, 4 million young adults, and 7 million older adults who use illicit drugs.
- Alcohol-related traffic fatalities and Alcohol and Other Drug (AOD)-related violence are still the leading causes of death for America's teenagers.

Therefore, to reach an even larger audience, we must redouble our prevention efforts. For the elementary-age students just beginning to be able to comprehend and integrate no-use messages and resistance skills, we must provide comprehensive prevention efforts. For the rebellious, high sensation-seeking teenager, we must increase our ability to offer healthy and safe alternatives to chemicals. And, in our neighborhoods we must enlist families, as well as the business community in helping provide prevention opportunities for all. This is just the beginning of many prevention strategies that can be implemented and sustained through community partnerships, where everyone gets involved with and is committed to preventing alcohol, tobacco, and other drug problems.

Our theme for the 1990's and into the new century must be: **Let's Make Prevention Work for Everyone!**

Vivian L. Smith, M.S.W.
Acting Director
Center for Substance Abuse Prevention

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A Discussion Paper on Preventing Alcohol, Tobacco, and Other Drug Problems

What Is Prevention?

Prevention is the sum of our actions to ensure healthy, safe, and productive lives for all Americans. All segments of society must be involved—health, family, labor, justice, social service, individual, education, commerce, media, and housing—to ensure that prevention works for everyone. In this paper, prevention is described as those efforts that keep alcohol, tobacco, and other drug (ATOD) problems from occurring by reducing risk factors. Some problems are prevented by ensuring that at-risk populations do not use these substances, while other problems are prevented when these substances are not consumed in conjunction with other behaviors, e.g., drinking and driving. Prevention also occurs when those who have developed ATOD problems stop using these substances. Not all problems, however, are related to dependence on these substances. ATOD problems are associated with fires, crimes, drownings, rape, school failure, child abuse, injury, disease, violence, lost productivity, and so forth. To reduce the risk of ATOD problems is to reduce the risk for many other of society's problems as well.

Prevention aims to foster a safe, healthy, and productive society.

Prevention, intervention, and treatment are partners in reducing ATOD problems. This paper focuses on prevention as the most effective of the three. A smoke detector in your home is important, but when it goes off, your house is already burning down. And though the firefighters will do a great job putting out the fire, you will still be left picking through the ruins. The best plan is to keep your child from playing with matches in the first place; install a smoke detector; and have the emergency numbers on hand.

What Are Prevention Strategies?

Prevention strategies are the sum of all the efforts of our society—public and private, professional and lay, environmental (community supported) and individual–over the past years. These strategies have a synergistic impact and the whole is greater than the parts. For instance, a crack down on alcohol-impaired drivers is not as effective as having a media campaign that sends the message that "you are likely to be caught if you drive after drinking" in conjunction with the crack down. These strategies include:

Information Dissemination

This strategy provides awareness and knowledge of the nature and extent of ATOD use, abuse, and addiction and their effects on individuals, families, and communities, as well as information to increase perceptions of risk associated with ATOD use. It also provides knowledge and awareness of prevention policies, programs, and services. It helps set and reinforce norms. Raising awareness is important in all prevention efforts.

Example: The latest information about alcohol, tobacco, and other drug problems and ideas for solving them are available through the National Clearinghouse for Alcohol and Drug Information, the information service of the Center for Substance Abuse Prevention.[1] CSAP also conducts public information and education media campaigns; outreach initiatives targeted to special populations; and training and technical assistance to help States and communities develop their own communications programs.

Prevention Education

This strategy aims to affect critical life and social skills, including decision making, refusal skills, critical analysis, and systematic and judgment abilities. Skill-building is fundamental for programs for youth.

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[1]In October 1992, the name of the Office for Substance Abuse Prevention (OSAP) was changed to the Center for Substance Abuse Prevention (CSAP). In this paper we use CSAP even when referring to OSAP programs of the past.

Example: Juegos Mentales is just one of the prevention programs offered by the Nacogdoches Community Coalition, a CSAP-funded community partnership in rural East Texas. This multicultural task force works with Hispanic youth to build their self-efficacy and help them attain educational goals. Or, the Indian Eagles Youth Prevention Program, a CSAP High Risk Youth project sponsored by the Red Lake Tribal Council of Red Lake, Minnesota, which offers educational and cultural events for youth (middle- and high-school age) and their families.

Alternatives

This strategy provides for the participation of targeted populations in activities that exclude ATOD use by youth. Constructive and healthy activities offset the attraction to, or otherwise meet the needs sometimes filled by, ATOD use. Alternative programs offer a healthy choice and mentoring and role modeling activities are often included as part of this effort.

Example: Orlando Fights Back, a CSAP Community Partnership grantee in Orange County, Florida, sponsors healthy activities for youth as alternatives to drugs, including a youth Shakespearean company. Or "Programma Shortstop," a CSAP High Risk Youth project sponsored by the Orange County Bar Association in Irvine, California which works closely with local legal entities to divert youth who are court-referred from incarceration and detention facilities.

Problem Identification and Referral

This strategy calls for identification, education, and counseling for those youth who have engaged in age-inappropriate use of alcohol, or who have engaged in the first use of tobacco products or illicit drugs. Activities under this strategy would include screening for tendencies toward substance abuse and referral for preemptive treatment to curb such tendencies.

Example: CSAP has worked with the American Academy of Pediatrics, the American Academy of Family Physicians, the American Medical Association, and the Society of

Teachers of Family Medicine to develop curricula that help doctors respond to their patients' ATOD problems. CSAP also has funded Pasos Adelante (Forward Steps) in La Frontera Center, Tucson, Arizona, which is an early intervention demonstration program for 3- to 5-year-olds, and their parents who have a history of ATOD dependency and, in many cases, are enrolled in treatment. A CSAP Pregnant and Postpartum Women and Their Infants demonstration project in Boise, Idaho, identifies infants of alcohol-abusing women and makes appropriate referrals to local agencies.

Community-Based Process

This strategy aims to enhance the ability of the community to provide effective prevention and treatment services for ATOD disorders. Activities include organizing, planning, enhancing efficiency and effectiveness of services implementation, interagency collaboration, coalition building, and networking. Building healthy communities encourages healthy lifestyle choices and results in communities planning their own combination of various strategies. Community mobilization builds commitment for prevention.

Example: The DC Community Prevention Partnership, a CSAP-funded partnership of 27 public and private agencies, formed separate teams in each of the District's eight wards. Each team consists of volunteers of all ages and backgrounds who meet monthly to discuss ATOD issues and problems in their neighborhoods. The Asian American Drug Abuse Program of South Central Los Angeles is a CSAP High Risk Youth Project that is a model collaborative effort between the Korean Youth Center and the Search to Involve Philippine Americans. These three agencies provide ATOD programs and services to high-risk Asian Pacific Islander youth in the area. This project was especially visible during the 1992 South Central Los Angeles riots, working closely with other local organizations to stop the violence and restabilize the community.

Environmental Approach

This strategy sets up or changes written and unwritten community standards, codes, and attitudes that influence the incidence of ATOD problems in the general population. Included are laws to restrict availability and access, price increases, and community-wide actions. Advocacy and policy are central to this prevention strategy.

Example: In South Central Los Angeles, an entire CSAP-funded Communications and Community Partnership prevention effort is focusing on shifting social norms away from illicit drug use and excessive alcohol consumption and halting the rebuilding of liquor stores. Another CSAP Communications program seeks to change the norm of excessive alcohol consumption by Native Americans in Oklahoma by focusing on the strengths of Native American tradition and the strengths of the current culture.

What Are the Benefits of Prevention?

Prevention improves our quality of life. Just as the devastation and cost of alcohol, tobacco, and other drug use and abuse affects every aspect of our society, prevention benefits our Nation's productivity, health, economy, spiritual well-being, and cohesiveness.

Prevention Saves Lives

Over half a million Americans will die this year from alcohol- and other drug-related causes, including impaired driving crashes, suicides, drownings, and boating fatalities. *Every single one of those deaths is preventable!* Without prevention, there would be many more.

Over half a million Americans will die this year from ATOD causes. Every single one of those deaths is preventable!

"Suppose somebody goes into the hospital for a burn—a serious burn. With an underlying drug or alcohol problem, they stay in the hospital two to three times longer. [Substance abuse] is a problem that permeates the whole system. It increases our costs."[2]

[2] Hillary Rodham Clinton on Fox News (10 pm edition, March 16, 1993) explaining why alcohol, tobacco, and other drug programs need to be part of the new national health care plan.

Roughly 25 percent of all injuries are alcohol-related. A heavy drinker increases his or her risk of being burned by a factor of 10 and of dying in a fall by a factor of 16.[3] Firearms and alcohol are another dangerous, often fatal, combination.

Alcohol, tobacco, and other drug use affect virtually every organ of the body, including the skin, and are associated with a variety of diseases, including cancer and heart and liver disease.

Twenty-five to 40 percent of all Americans in general hospital beds are there for treatment of complications of alcoholism.

These deaths, injuries, and diseases represent years of productive lives lost. These are lives that could be contributing to our society and improving America's place in the new global economy.

Prevention Helps Contain Health Care and ATOD Problem Costs

A large part of the national health care bill is for alcohol, tobacco, and other drug-related medical expenses. For example, 25 to 40 percent of all Americans in general hospital beds (e.g., not in a maternity or ICU bed) are being treated for complications of alcoholism.[4]

Because so many more Americans drink than use illicit drugs, alcohol problems cost society considerably more than illicit drug problems. Alcohol-related injuries alone cost an estimated $47 billion annually.[5] This is $188 a year for every man, woman, and child in the country. It represents over $5 million every single minute—money that would be better devoted to reducing the national debt or funding health reform.

Every single minute our Nation pays over $5 million for alcohol-related injuries.

In 1993, Joseph Califano, former Secretary of the Department of Health, Education, and Welfare, estimated the cost

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[3] M. J. Eckhatdt et al., "Health Hazards Associated with Alcohol Consumption," *JAMA*, 246:648-666, 1981.

[4] American Medical Association, *Factors Contributing to the Health Care Cost Problem*, March 1993.

[5] Lewis D. Eigen, *Localizing the Cost of Alcohol-Related Injuries*, paper presented to The Secretary's National Conference on Alcohol-Related Injuries, March 1992.

ERRATUM

A DISCUSSION PAPER ON PREVENTING ALCOHOL, TOBACCO, AND OTHER DRUG PROBLEMS

The sentence beginning at the end of line five of paragraph five on page 14 should read:

It represents over $5 million every single hour—money that would be better devoted to reducing the national debt or funding health reform.

of alcohol, tobacco, and other drugs to our society at $400 billion.[6]

The health care bill is paid by not only those being treated for alcohol, tobacco, and other drug addictions and their direct health consequences, but also by non-using third parties. Fetal alcohol syndrome, for example, the single most preventable cause of mental retardation, costs an estimated $1.4 million over the lifetime of each innocent child. Between 20 and 30 percent of low-birthweight deliveries are caused by maternal cigarette smoking.[7] And about 10 percent of all fetal and infant deaths are attributed to the same cause.[8] We all pay these costs by loss of loved ones and through higher taxes, insurance rates, etc.

Ten percent of all fetal and infant deaths are attributed to maternal cigarette smoking.

No study has been done to look at all the costs of alcohol, tobacco, and other drug use and abuse to date; however, a study of intensive care units (ICUs) by Johns Hopkins University Hospital reveals the tip of the iceberg.

ICUs in American hospitals cost up to $3,000 per patient per day, somewhat less than $50 billion per year nationally.[9] Johns Hopkins studied how much of this cost is caused by alcohol, tobacco, or other drugs. The results:[10]

- Twenty-eight percent of all admissions (to general and specialty beds) are alcohol, tobacco, and other drug-related (9 percent alcohol, 14 percent tobacco, 5 percent other drugs).
- The ATOD-related admissions were much more severe than the other 72 percent of admissions, requiring 4.2 days in ICU versus 2.8 days.

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[6] Joseph Califano, Keynote Address, National Prevention Conference, Washington, DC, March 1993.

[7] Public Health Service, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, 1991.

[8] Ibid.

[9] T. Raffin et al., Intensive Care: Facing the Critical Choices, W. C. Freeman & Co., 1989.

[10] W. Andrew Baldwin et al., "Substance Abuse-Related Admissions to Adult Intensive Care," CHEST, Vol. 103, January 1993, pp. 21-25.

- The cost per ATOD admission averaged $9,610—about 63 percent greater than the average cost for other ICU admissions.

- Fully 39 percent of all the costs of the ICU went to treat ATOD-related diseases.

Hospital costs are higher for children of alcoholics.

Johns Hopkins University Hospital may not be typical, and replication of the study is needed in other parts of the country. Other researchers, however, have shown the higher cost of intensive care of ATOD-related disease and injury.[11]

There is no evidence that the Johns Hopkins' experience is extrapolatable to the Nation as a whole. However, if we were to extrapolate, ATOD-related ICU costs alone would account for over $19 billion annually. Allowing for the more expensive cost structure and possible larger proportion of ATOD-related admissions of Johns Hopkins compared to the average hospital, we can conservatively take half that figure and estimate ATOD-related costs for ICU admissions at $10 billion. That is more than the Nation spends annually for all home health care and almost as much as it spends for the construction of all medical facilities.[12]

A study of the health care costs of children of alcoholics (COAs) in comparison to children who did not live with this parental problem reveals the subtle, yet profound, affect of alcoholism and other drugs on our health costs.[13] The results included:

- A 62 percent greater hospital use rate for COAs than non-COAs.

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[11] For example, C. L. Taylor et al., "Prospective Study of Alcohol-Related Admissions in an Inner City Hospital," Lancet, 2:265-268, 1986. R. D. Moore et al., "Prevalence Detection and Treatment of Alcoholism in Hospitalized Patients, *JAMA*, 261:403-407, 1989. C. A. Soderstrom and R. A. Crowley, "A National Alcohol & Trauma Center Survey," *Arch Surg*, 122:1067-1071, 1987.

[12] The 1990 costs were $6.9 billion for home health care and $10.4 billion for construction of medical facilities. U.S. Health Care Financing Administration, Health Care Financing Review, Fall 1991.

[13] Children of Alcoholics Foundation, *Children of Alcoholics in the Medical System: Hidden Problems, Hidden Costs*, 1990.

- A 24 percent increase in inpatient hospital admissions.
- A 29 percent longer average stay in the hospital.
- A 36 percent increase in average hospital costs.

It is likely that a similar pattern exists for the children of illicit drug-dependent persons as well. We pay billions of dollars for the increased health care costs of the children of the over 10 million alcoholics and illicit drug-dependent persons across the Nation.

Prevention Lowers Social Costs of ATOD-Related Problems

Crime is inextricably related to alcohol and other drugs. The Department of Health and Human Services reported to Congress that "In both animal and human studies, alcohol, more than any other drug, has been linked with a high incidence of violence and aggression."[14] Table 1 shows the percentage of convicted offenders from the general population who had been drinking immediately before their violent crime.[15] These data are generally corroborated by various studies of the reports of victims' perceptions.[16]

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[14]NIAAA, *Seventh Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health and Human Services,* U.S. Department of Health and Human Services, 1989, p. 144.

[15]NIAAA, *Alcohol and Health: Sixth Special Report to Congress,* Public Health Service, NIAAA, 1987, p. 13. The data are from 1983. It should be noted that some researchers argue that the relationship per se does not necessarily "prove" the causality. It is possible that the propensity to drink and the likelihood to commit crimes are characteristics of the same subpopulations.

[16]U.S. Department of Justice, Bureau of Justice Statistics, *Crime Victimization in City, Suburban, and Rural Areas*, 1992.

Table 1
% of Violent Crime Perpetrators Who Were Drinking

Crime	% of Perpetrators Impaired
Murder / Attempted Murder	54%
Manslaughter	68%
Rape / Sexual Assault	52%
Robbery	48%
Assault	62%
Burglary	44%

The impaired judgment and violence induced by alcohol contribute to alcohol-related crime. Rapes, fights, and assaults leading to injury, manslaughter, and homicide are often linked with alcohol because the perpetrator, the victim, or both, were drinking.

Many perpetrators of violent crime were also using illicit drugs. Some of these drugs, such as PCP and steroids, may induce violence or be a catalyst for aggressive-prone individuals who as a result of taking these drugs exhibit violent behavior.

The economics of illicit drugs often drive violent crime associated with "turf battles" over selling and distributing drugs.[17] Most of the illicit drug-associated crimes are crimes against property to get money to pay for the drugs.

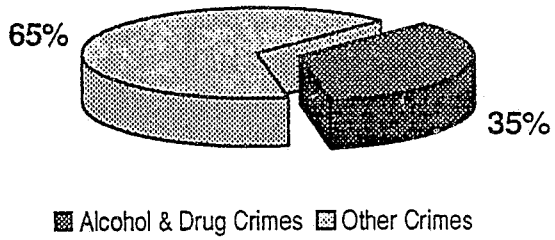
There are almost 800,000 annual arrests for illicit drug violations. Add to this figure 1.3 million arrests for driving while intoxicated, 427,000 arrests for liquor law violations, and 700,000 more arrests for drunkenness—an almost

[17]Lee Brown, Testimony before the Senate Judiciary Committee, Confirmation Hearing, June 1993.

incredible total of 3.2 million arrests for alcohol and other drug statutory crimes. As shown in Figure 1, this is fully one-third of all the arrests in the country.[18] Not included in this 35 percent are the arrests for alcohol- and other drug-related crimes such as those previously given in Table 1.

One third of all arrests in the U.S. are alcohol- and drug-related.

Figure 1
Arrests for Alcohol and Other Drug Offenses (1990)



We cannot put a monetary value on the human lives and the quality thereof that are affected by alcohol, tobacco, and other drugs. Nonetheless, we can imagine the child welfare and protective services and court costs needed to deal with the consequences of alcohol and other drug problems. The cost to arrest, try, sentence, and incarcerate the guilty people arrested for these 3.2 million alcohol- and other drug-related offenses is a tremendous drain on the Nation's resources.

Prevention Reduces Fear and Concern About ATOD Problems

Nearly 40 percent of parents feel that "drugs and alcohol" are the most worrisome risk for their children.

Alcohol and other drug use and abuse in our society cause fear, anxiety, and concern. Most of us are familiar with the fear of illicit drug-associated crime, but the concern about what to do about alcohol and other drugs presses on parents and children alike. Nearly 40 percent of parents feel that "drugs and alcohol" are the most worrisome risk for their children.[19] Young people are equally concerned. In over

[18] Federal Bureau of Investigation, *Crime in the United States*, 1990. The statistics include all arrests except for traffic offenses such as speeding or running a red light.

[19] National Safe Kids Campaign survey reported in USA Today, January 25, 1993.

11,000 letters written to Congress by young people, the most frequent concern was what to do about alcohol and other drugs.[20]

Prevention Involves Everyone

Every day, hundreds of Americans become involved in prevention activities—the middle-aged woman who starts a drug awareness program for the elderly in memory of her mother; the cancer-stricken football player who speaks out on steroids. Unfortunately, these people have learned the value of prevention through tragic, costly lessons.

Just as ATOD-related problems cut across every age, economic, and cultural group, from citizens in our largest cities to those in the most isolated areas of the Nation, so do prevention-related efforts. At the individual level, you can start with the belief that you can be part of the solution. At the community partnership level, strategies, programs, policies, and resources are required.

Prevention will be the most effective when everyone becomes involved in keeping alcohol, tobacco, and other drug problems from happening.

Drug Use

Drug use in this paper is measured by the percentage of a population using drugs during the last 30 days as measured by the National Household Survey on Drug Abuse. By reviewing this percentage, we can examine the effects of prevention over time even if the population decreases or increases because we are looking at the percent who have used or are using drugs. For example, if there are 1 million users in a population of 10 million, then 10 percent are users of drugs. If a decade later the population is 9 million and the number of users is reduced to 900,000, the percent of users is still 10 percent even though there are 100,000 fewer users. The number of users declined but the percentage of the using population did not change.

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[20]NIDA, Analysis for Senate Judiciary Committee, Prevention Pipeline Executive Edition, Vol. 2, No. 1, 1993.

In Figures 2 through 8 on the following pages, we use data from the National Household Survey on Drug Abuse conducted by the National Institute on Drug Abuse (NIDA)[21] from 1979 to 1991[22,23] to examine the percentage of the population who said they used alcohol, tobacco, and other drugs in a 30-day period. The latest published, full survey (1991) included a national probability sample of more than 30,000 households. There was no 1980 or 1981 study, so the closest interval, a decade or larger, is the 12-year period from 1979 to 1991. Preliminary findings from the 1992 Survey, conducted by the Substance Abuse and Mental Health Services Administration, suggests that the decreasing trends of the last decade are continuing.

Figures 2 through 8 are available as slides for presentations. For more information, contact the National Clearinghouse for Alcohol and Drug Information at 1-800-729-6686.

Who Are Prevention Beneficiaries?

If prevention is successful, alcohol, tobacco, and other drug use decreases. The people who do not become new users are prevention beneficiaries, as are those who do not misuse legal substances (for example, alcohol) in high-risk circumstances (e.g., prior to driving a car or a boat), and those who do not engage in excessive consumption. Because prevention stops alcohol, tobacco, and other drug problems from occurring, prevention beneficiaries are more often the young. As the group gets older, it benefits increasingly from intervention and treatment. In the following pages, we look at adolescent, young adult, and adult prevention beneficiaries.

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[21] Administrative responsibility for the National Household Survey was transferred from NIDA to the Substance Abuse and Mental Health Services Administration in October 1992 pursuant to the ADAMHA Reorganization Act of 1992.

[22] NIDA, *National Household Survey on Drug Abuse*: 1991, U.S. Department of Health and Human Services, Public Health Service.

[23] There are three general prevalence periods measured by the Household Survey: Lifetime prevalence, yearly prevalence, and 30-day prevalence. We selected the latter as our basic indicator. The data herein are given and/or derived from these surveys.

Figure 2
Adolescent Illicit Drug 30-Day Use
(Ages 12-17)

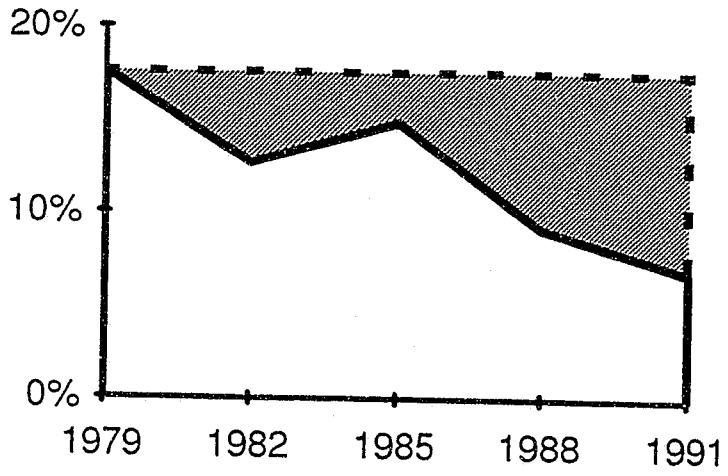

Figure 2 shows the actual adolescent illicit drug use data for 1979-1991.[24] The dark solid line shows the downward trend. In 1979, adolescent drug use was at 18 percent. It went down by 1982, rose slightly until 1985, and then declined constantly. The unshaded area of the graph represents illicit drug users. The straight dotted line at the top of the graph shows what the drug use level would have been if 1979 patterns prevailed through 1991.[25]

The shaded area represents prevention beneficiaries, those adolescents who did not use illicit drugs who would have if the percentage of the population using illicit drugs remained the same from 1979 to 1991.

Because the percentage of adolescent users decreased beginning in 1979, we should see a decrease in the 30-day use rates of these adolescents as they become young adults. As we see in the following figures, this is the case.

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[24]The data for 1979 to 1990 are found in: National Institute for Drug Abuse, *National Household Survey on Drug Abuse:* Main Findings 1990 & Population Estimates 1991, U.S. Department of Health and Human Services, Public Health Service.

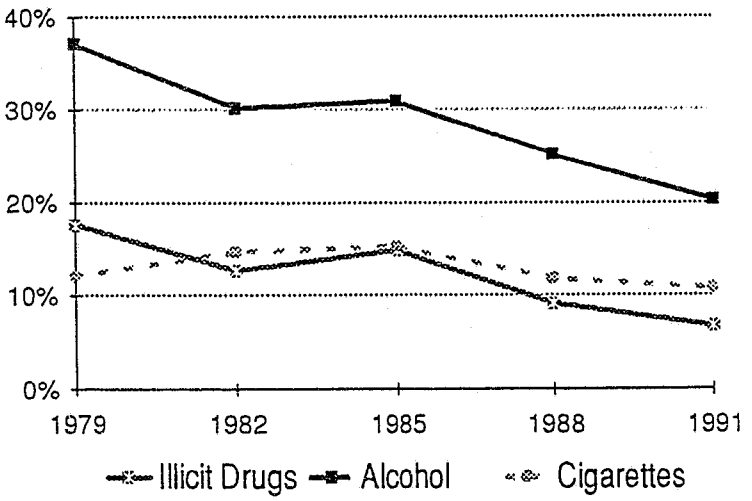
[25]This is considered to be a reasonably conservative assumption of what would have occurred because the availability and access to illicit drugs have not decreased. Illicit drugs are all too easy to obtain, yet the vast majority of our population do not use them.

Adolescent Prevention Beneficiaries

Over 2.5 million youngsters will not use illicit drugs who would have if the trends of 1979 still prevailed.

The Nation's children have been the focus of much of our prevention efforts. We believe these efforts made a significant contribution to the steady downward trend of adolescent illicit drug use as shown in Figure 3. In 1979, 18 percent of all 12- to 17-year-olds in the country used illicit drugs in any given month. By 1991, use was below 7 percent.[26] This represents an 11 percent decrease in drug use, representing over 2.5 million adolescents who would be using illicit drugs if the 1979 trends still prevailed.

Figure 3
Adolescent ATOD 30-Day Prevalence
(Ages 12-17)



Source: NIDA, 1991 Household Survey

The drug most frequently used by 12- to 17- year-olds—and the one that causes the most negative health consequences—is alcohol. In 1979, 37 percent of adolescents drank alcohol in any given month. By 1991 that percentage had been reduced to 20 percent—a statistically significant decrease. We do not know exactly why, but among the most likely causes are—changes in perceptions, attitudes, and norms, as well as changes in availability and access.

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[26] We emphasize that this benefit has not been uniform across all demographic segments of our population. Some have fared much better, while others have benefited little. This is a national average.

Almost 3 million adolescents who do not drink in any given month would have if the trends of 1979 still prevailed. Imagine a national ceremony with all American high school graduates of 1991 gathered in convocation in a single place. The total number of adolescent alcohol prevention beneficiaries is much larger.[27]

Although these numbers are encouraging, Figure 4 shows that much work remains to be done.

Figure 4
Result of Effort to Prevent Adolescent Drug Use
1979-1991
(Ages 12-17)

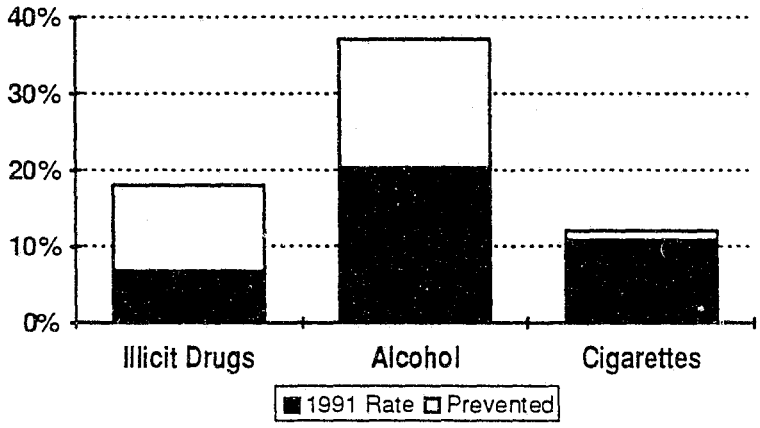

Figure 4 summarizes the prevention benefits for adolescents. The dark, rectangular portion of each bar shows the 1991 30-day prevalence. The entire bar, including the hollow portion, shows what the drug use rate would have been if 1979 norms and practices prevailed. The hollow portion, therefore, shows adolescent prevention beneficiaries.

Unfortunately, Figure 4 also shows that over 4 million adolescents still drink illegally in any given month. And, the striking success of prevention with illicit drugs and alcohol for adolescents is in marked contrast to the small prevention gains with cigarettes. These youth need more consistent, repetitive, and intensive prevention efforts.

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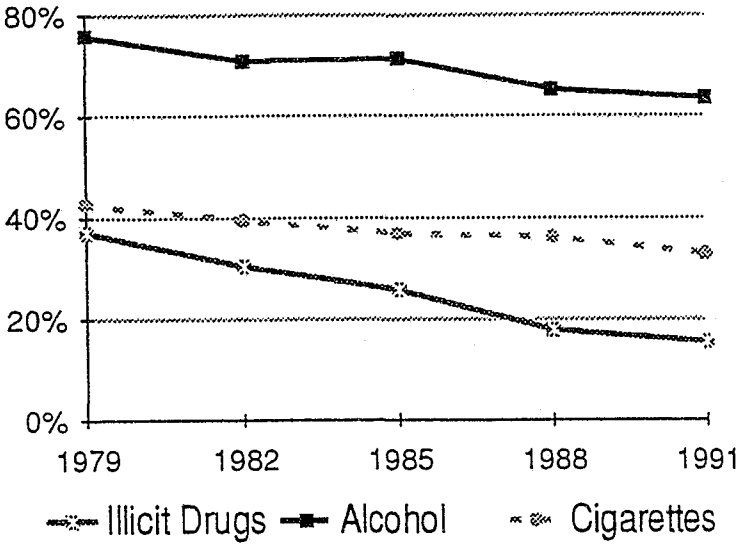
[27] About 2 million graduates. U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, annual.

Figure 5
Young Adult ATOD 30-Day Drug Use
(Ages 18-25)



Source: NIDA, 1991 Household Survey

Young Adult Prevention Beneficiaries

Figure 5 illustrates the steady decline in illicit drug, alcohol, and cigarette use by young adults (18 to 25) over time. In contrast to underage adolescents, alcohol and cigarettes are legal drugs for about half the young adult population.[28] And many 21-year-old drinking laws did not come into effect until the middle of the time period.

Prevention success with this age group is particularly important. Young adults between 18- and 25-years-old are more likely than other Americans to use illegal drugs, smoke cigarettes, and drink heavily. This age group has the most illicit drug overdose deaths, acute alcohol poisonings, and violence associated with alcohol and some illicit drugs.

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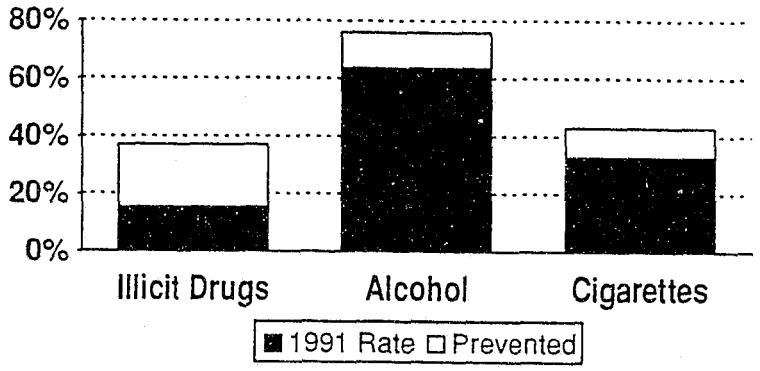
[28]The authors and the Center for Substance Abuse Prevention are not advocating a "no use of alcohol" policy for adults 21 and older. Rather, the U.S. Dietary Guidelines prepared by the Departments of Agriculture and Health and Human Services form the basis for advice on adult drinking. The Guidelines also are consistent with *Healthy People 2000*, the national health promotion and disease prevention plan prepared by the Department of Health and Human Services in consultation with groups nationwide.

24 million young adults do not use illicit drugs in any given month—more than the combined population of our 10 largest cities.

In 1979, in any given month, one out of every three young adults used an illicit drug. By 1991, drug use was down to one out of seven. The 15 percent 1991 drug use rate is still dangerously high. Over 4 million young adults still use illicit drugs in any given month, a number larger than the entire population of the greater Boston area. Yet, another 24 million do not—a population greater than America's 10 largest cities combined.[29]

If 1979 trends and patterns still prevailed, 6 million additional young adults would have been involved with illicit drugs in any given month in 1991. These 6 million young adults are prevention beneficiaries.

Figure 6
Young Adult 30-Day Drug Use
Prevention Gains, 1979-1991
(Ages 18-25)



In Figure 6, we added alcohol and tobacco prevention beneficiaries to illicit drug prevention beneficiaries. We estimate that the total number of young adult prevention beneficiaries is 5.4 million—more than one-fourth of the entire young adult population.[30] In addition, many millions

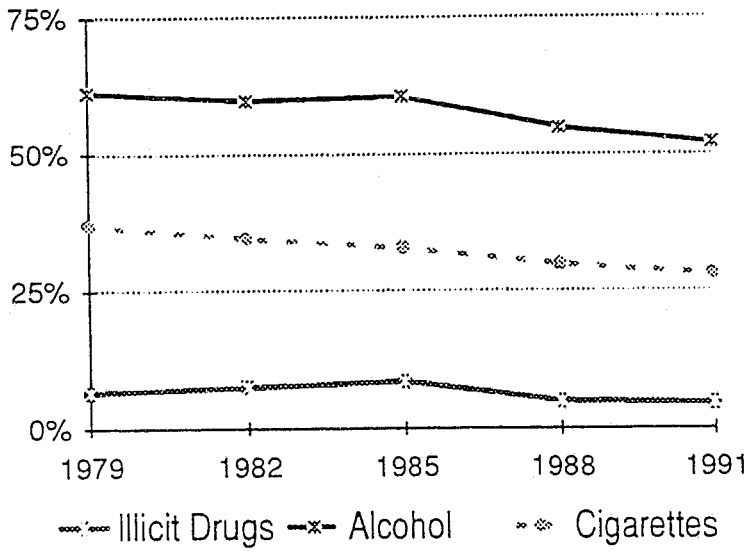
[29] New York City, Los Angeles, Chicago, Houston, Philadelphia, San Diego, Detroit, Dallas, Phoenix, and San Antonio. Bureau of the Census, U.S. Department of Commerce, 1990 Census.

[30] The exact number of prevention beneficiaries is not known because the 21 percent for illicit drugs, 12 percent for alcohol, and 10 percent for cigarettes include some of the same individuals (i.e., poly-substance users). If the percentages were independent, their sum would exceed 43 percent. If there were total overlap, the sum would be 21 percent. Therefore, the 25 percent estimate is conservative.

more are indirect beneficiaries. The crimes that were not committed to get money for illicit drugs, the educations that were completed, and the tax money that was not used to pay for the negative consequences of alcohol, tobacco, and other drug use—these all provide benefits to other Americans.

Young adults have the highest smoking rate of this paper's three age groups. That fact was true in 1979 and is still true. However, thanks to prevention, 2 million fewer young adults smoked in 1991 than in 1979.

Figure 7
Adult ATOD 30-Day Use
(Ages 26+)



Source: NIDA, 1991 Household Survey

Adult Prevention Beneficiaries

Although adult ATOD use steadily declined from 1979 to 1991, the rate was not as dramatic as the younger age groups' rate, as shown in Figure 7. Of the three age groups we examined, the adult population of America (age 26 and older[31]) has always had the highest alcohol and cigarette smoking use rates and the lowest illicit drug use rates.

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[31] The Household Survey divides the adult population into two age group subpopulations. We have combined them in this paper.

Prevention efforts are more efficacious for those under the age of 25 since few initiate alcohol, tobacco, or illicit drug use after this age (with some exceptions, e.g., cocaine, prescription drugs), and it is easier to shape the attitudes and influence the behavior of someone who has not started to use drugs than to change the behavior of those who already use/misuse. In addition, the age of first use is very important. Those who begin to use alcohol, tobacco, and other drugs at early ages also develop more problems associated with these substances. Further, few people start using drugs (especially alcohol and tobacco) past age 18, and additional delay in onset both protects individuals for the intervening years, as well as predicts fewer lifetime problems. Prevention programs aimed at those over the age of 25, such as drug-free workplaces, perinatal education programs for pregnant women, and well-baby clinics also have contributed greatly to decreasing the percentage of adults who use these substances.

Figure 8
Adult 30-Day Use Prevention
Gains, 1979-1991
(Ages 26+)

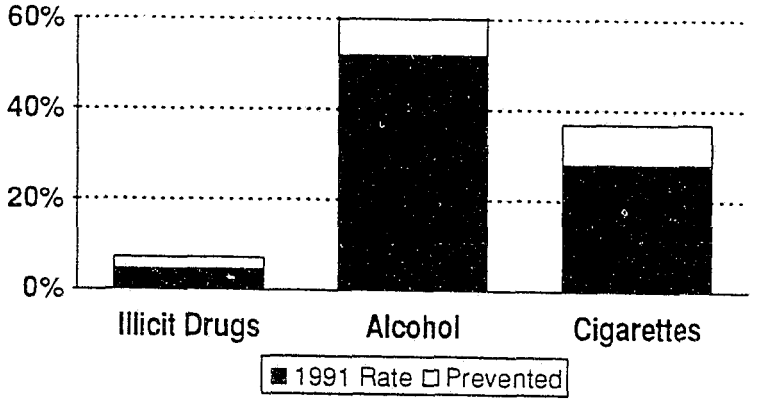

Figure 8 presents the prevention gain data for adults. Since the adult population is much larger than the other two age groups (more than 150 million adults were in the 1991 population), the number of adult prevention beneficiaries is very large.

In 1991 more than 3 million adults did not take illicit drugs in any given month who might have if the 1979 use rate

had prevailed; 14 million adults did not use alcohol who might have been expected to; and 14 million did not use tobacco products who might have been expected to.

Population Subgroups Beneficiaries

Drug use patterns vary among different population subgroups. Drug use rates are higher for males than females in all age groups, for all drugs, and within ethnic and regional subgroups.[32] Despite this disparity, prevention has worked for both males and females; the decade-long use trends for both sexes are down.[33]

The patterns are more complex for ethnic subgroups and are not as amenable to generalizations. Usage patterns vary by subgroup and drug. The National Household Survey obtains relatively small samples of specific Hispanic subgroups, American Indians, and Asian/Pacific Islanders. Other reports have presented Household Survey data for some of these subgroups. In this study, we did not attempt to do these various subanalyses because of data limitations.

Over the past decade, use rates went down for all populations. They did not go down quite as much for African and Hispanic Americans which is why we must target prevention programs toward these populations.

Other Indicators of Success

Besides the decrease in use of alcohol, tobacco, and other drugs, there are other indicators that prevention and treatment are working. Alcohol-related traffic fatalities have dropped from over 25,000 in 1982 to 17,700 in 1992, a decrease of almost 30 percent.[34] Prevention efforts have been so successful that the *HEALTHY PEOPLE 2000* objective

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[32] The National Household Survey divides the adult population into two subgroups, those from 26 to 35 years of age and those older than 35. We have combined these two adult groups in this paper so as to emphasize the youth population which in this paper are referred to as "adolescents" and "young adults." Thus, the "adult" category refers to ages 26 and older. NIDA, *National Household Survey on Drug Abuse:* Main Findings 1991, U.S. Department of Health and Human Services, Public Health Service.

[33] Ibid.

[34] Press release, National Highway Traffic Administration, June 22, 1993.

for decreasing alcohol-related traffic fatalities was achieved by 1993. Other indicators of less harm associated with alcohol, tobacco, and other drugs include:

- The near disappearance of "Angel Dust" (PCP) as a threat.
- The non-emergence of nationwide heroin and methamphetamine epidemics.
- The increased public awareness of the effects of alcohol and tobacco on the fetus; and the public awareness of the effects of passive smoke.
- The greater awareness of the relationship between alcohol and breast cancer among women, and the association between alcohol and other drug use and HIV/AIDS.
- The millions of Americans who have stopped smoking.

Another indicator of prevention's success is the reduction of the per capita consumption of alcohol. In the decade from 1980 to 1990, the death rate for chronic liver disease, often associated with alcohol consumption, decreased by 23 percent; from 13.5 per 100,000 persons to 10.4. Reductions occurred for women as well as men; African Americans as well as Whites.[35] Costly hospitalizations for chronic liver disease dropped by almost 40 percent. Prevention and treatment efforts are making a difference.

More high school seniors are stopping drug use than a decade ago.

Non-Continuation Rates

One of the indicators of prevention success is a concept called "non-continuation rates." It measures those individuals who are drug users and the percentage who stop using the drug in a given year. This percentage has been calculated for high school seniors every year throughout the decade from 1980 to 1990. The prevention, early intervention, and treatment efforts are paying off.

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[35] "Deaths and Hospitalizations from Chronic Liver Disease and Cirrhosis – United States, 1980-1989," *MMWR*, Vol. 41, Nos. 52 and 53, January 8, 1993.

Table 2

High School Senior Drug Non-Continuation Percentage Rates
(Seniors who used drug more than 10 times)

Drug	1980	1990	Gain %
Marijuana	5.4	12.3	128%
Inhalants	25.2	24.0	-5%
Hallucinogens	8.4	16.5	96%
Cocaine	3.1	19.6	532%
Barbiturates	11.7	19.8	69%
Tranquilizers	14.3	19.3	35%
Opiates	10.8	15.9	47%
Alcohol	.8	1.9	138%

Table 2 provides these non-continuation rates for those high school seniors who used a particular drug more than 10 times. This category includes alcohol- and drug-dependent persons, but the vast majority of the youths have not been using long enough to become dependent. The last column of the table shows the percentage of improvement in the non-continuation rates over the decade. Note that twice as many seniors stopped using marijuana in 1990 as had in 1980. Five times as many 1990 seniors stopped using cocaine than 1980 seniors. Since these youths generally do not require treatment to stop use, we can see that prevention efforts are working. Indeed, the only substance that did not show dramatic improvement over the decade was inhalants whose use rate was generally very low.[36] Researchers attribute this change to many variables, but particularly to the fact that high school seniors now perceive greater risk associated with using drugs.

[36]Inhalants are more of a problem with younger children, and prevalence is much higher in certain parts of the country than others, for example, in the Southwest.

Perception of risk associated with using drugs has increased, leading to reduced use of drugs.

Perception of Risk

Table 3 summarizes the percentage of high school seniors perceiving "great risk" associated with drug use from 1980 to 1990. Perception of great risk increased substantially among high school seniors in most drug usage categories.[37] Changing perceptions of risk was one of the major objectives of almost all public health ATOD problem prevention programs ranging from those of the Center for Substance Abuse Prevention to those of the Partnership for a Drug-Free America.

Table 3
Percentage of High School Seniors Expressing "Great Risk" of Drug Use

Drug Use	1980	1990	Gain %
Try marijuana once or twice	10.0	23.1	131%
Smoke marijuana occasionally	14.7	36.9	151%
Smoke marijuana regularly	50.4	77.8	54%
Try cocaine once or twice	31.3	59.4	90%
Take cocaine regularly	69.2	91.1	32%
Try amphetamines once or twice	29.7	32.2	8%
Take amphetamines regularly	69.1	71.2	3%
Try barbiturates once or twice	30.9	32.4	5%
Take barbiturates regularly	72.2	70.2	-3%
Try one or two drinks (alcohol)	3.8	8.3	118%
Take one or two drinks nearly every day	20.3	31.3	54%
Take four or five drinks nearly every day	65.7	70.9	8%
Have 5+ drinks once or twice each weekend	35.9	47.1	31%
Smoke 1 or more packs of cigarettes per day	63.7	68.2	7%

[37]The only exceptions were LSD and regular use of barbiturates, both of which have had extremely low usage prevalence and, as a result, were not the target of most prevention programs. See L. D. Johnston et al., *Drug Use Among American High School Seniors, College Students and Young Adults, 1975-1990*, Volume II: *College Students and Young Adults*, National Institute on Drug Abuse, 1991.

In addition, the changes in perception were not limited to high school seniors. Similar changes in perception took place among young adults.[38] Other research methodologies have corroborated this finding across different age groupings.[39]

Disapproval of drug use is greater than disapproval of smoking.

Disapproval of Use

Increasing the accurate perception of risk is a classic health prevention strategy, but we need more attitudinal change to increase the number who disapprove of risky behavior. Has prevention worked in this respect? Yes. Between 1980 and 1990, the proportion of high school seniors and young adults who expressed disapproval of drug use increased.[40,41] For example, the percentage of high school seniors expressing disapproval of occasional marijuana use went from 50 percent to 80 percent. Trying cocaine disapproval went from 76 percent to 92 percent, and trying alcohol disapproval went from 16 percent to 29 percent.

Disapproval of smoking a pack a day, however, did not increase as much—from 71 percent to only 73 percent. This finding supports the earlier observation that smoking prevention with adolescents is not making the same gains as alcohol and other drug problem prevention.

These attitudinal gains corroborate the findings in reduced use patterns. And, since attitudes are formed over time, we need to remember that new age cohorts of children come along each year. Just as these prevention gains are the result of significant effort, they must be reapplied to each new generation, as well as reinforced still further within each generation.

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[38]L. D. Johnston et al., *Drug Use Among American High School Seniors, College Students and Young Adults, 1975-1990*, Volume II: *College Students and Young Adults*, National Institute on Drug Abuse, 1991.

[39]Gordon S. Black Corporation, *1991 Partnership for a Drug-Free America Survey.*

[40]Ibid., Volumes I and II.

[41]Again LSD was a notable exception. However, the disapproval level for LSD in 1980 was already very high–87 percent for once or twice and 97 percent for regular use.

High school seniors know drug use is down.

Peer Norms

Another indicator that prevention works is the reported perception of peer use of alcohol, tobacco, and other drugs. What percentage of youths believe that most of their friends use drugs?

In 1980, 33 percent of the high school seniors believed most of their friends used illicit drugs; 70 percent believed most of their friends drank alcohol; and 23 percent believed most of their friends smoked. By 1990, the percentage who believed their friends used illicit drugs dropped to 12 percent; believed their friends drank alcoholic beverages dropped to 61 percent; and believed their friends smoked dropped to 21 percent.[42] This is important because teens attempt to be like their peers. They want to fit in. Therefore, they may start or increase their use if they perceive that non-use would make them "out of it." In other words, we can use positive peer pressure by letting teens know that most of their friends are not using drugs. These findings are another indication that prevention works—most dramatically with illicit drugs, less so for alcohol, and only slightly for tobacco.

Exposure to Drugs

Only half as many high school seniors are exposed to other students using illicit drugs as a decade ago.

Exposure is another indicator. Can a youngster go through school and not be around others who use drugs?

In 1980, only 16 percent of the high school seniors reported that they were never exposed to other young people deliberately using drugs. In 1990, 32 percent reported not being exposed to other students using drugs.[43]

Age of First Use

From 1988 to 1991, age of first use for marijuana went up slightly, but for use of alcohol and cigarettes the age of first use has decreased.

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[42]L. D. Johnston et al., *Drug Use Among American High School Seniors, College Students and Young Adults, 1975-1990*, National Institute on Drug Abuse, 1991.

[43]Ibid.

Table 4
Average Age of First use

Average age of first use by adolescents aged 12 through 17				
	1988 Baseline	1990	1991	2000 Target
Cigarettes	11.6	11.5	11.5	12.6
Alcohol	13.1	12.8	12.6	14.1
Marijuana	13.4	13.4	13.5	14.4

Data Source: National Household Survey of Drug Abuse, SAMHSA, OAS. Rev. 4/7/93

One objective of many prevention programs is to delay first use, since early use is a significant factor in developing ATOD problems. According to a recent retrospective study of illicit drug use for three specific drugs, the age of first use has dropped since 1979.[44] Examining the 1979-1989 period, the researchers found that age of first use for marijuana had been reduced from 19.0 years to 18.4 years; for cocaine, from 22.3 years to 21.3; and for hallucinogens, from 19.1 to 18.2.

These findings show that with respect to the age of first use, prevention has not worked very well. While we are reducing use, children are using some drugs at an earlier and earlier age. Prevention efforts need strengthening if we are to reverse this trend of younger and younger drug use.

Corroborating Data

The 1992 National High School Senior Survey on Drug Abuse data show that among high school seniors 30-day use of illicit drugs continued to decline.[45] The 1991 rate of illicit drug use was 16.4 percent, while the 1992 rate was 14.4 percent; reported as statistically significant.[46] The

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[44] SAMHSA. Risk Reduction Objectives for *Healthy People 2000*, April 7, 1993.

[45] University of Michigan, National High School Senior Survey Press Release, April 9, 1993.

[46] The level of significance was beyond .01.

percent of 12th graders who drank alcohol decreased from 54.0 to 51.3 percent, also statistically significant.[47] This study, begun in 1991, measured whether the seniors had "been drunk." In 1991, 31.6 percent of the seniors reported that they had been drunk. In 1992, the proportion was 29.9 percent. Cigarette smoking by 12th graders declined slightly from 28.3 percent to 27.8 percent.

In spite of the declines among older students, eighth graders in 1992 reported higher rates of illicit drug use than did eighth graders in 1991. Increases were reported in their use of marijuana, cocaine, crack, LSD, other hallucinogens, stimulants, and inhalants. Eighth graders showed some modest but not statistically significant increases in alcohol use.

In a sense, these results are a microcosm of the major points of this study. Prevention has, and continues to, work for some populations. But tremendous risks remain. One out of seven seniors in high school, for example, continues to take illicit drugs. Over half our Nation's seniors drink illegally, and three out of every ten will engage in binge drinking. Almost an equal number of seniors smoke cigarettes. Drinking and smoking exposes them and others to a multitude of health risks.

The picture for eighth graders raises this concern: As this group enters their teen years, they will be at the vanguard of a reversal of previously improving conditions. Indeed, we face many prevention challenges for current and future teenagers.[48]

SAMHSA has recently released the preliminary estimates from the 1992 Household Survey. These results show the continuing decreasing use trend herein described.[49]

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[47] The level of significance was beyond .05.

[48] The challenge applies to all groups. In particular, the 1992 survey shows some small increases among the very young (eighth graders). If this pattern continues, there will be substantial backsliding by the time this cohort reaches the 12th grade.

[49] Substance Abuse and Mental Health Services Administration Office of Applied Studies, Preliminary Estimates from the 1992 National Household Survey on Drug Abuse, 1993. (Excerpts available from NCADI)

Are Prevention Gains Just the Result of Natural Cycles?

Although there have been dramatic drug use changes in our country's history, there have been no patterns of change that would qualify as repetitive cycles. They have resulted instead from specific forces. For example, in a single decade, 1850-1860, the per capita alcohol consumption increased from 1.6 gallons to 3.8 gallons.[50] This phenomenon never occurred again and did not establish a pattern of use over time. German immigrants arriving in the St. Louis, New York, and Milwaukee areas opened the first large-scale, commercial beer breweries in America. They marketed their product widely. The combination of increased availability, effective marketing, and relative lack of prevention efforts is believed to have contributed to an increase in use rates.

Toward the end of the 19th century, cocaine use increased dramatically because cocaine was vigorously marketed in a variety of forms, including as a "wonder drug" with medicinal qualities. Use decreased after the Harrison Act, which controlled cocaine, was enforced.

The use of amphetamines increased in the 1950s due to increased availability and declined in the late 1960s and 1970s as people came to understand that these "uppers" were addictive and dangerous.

Throughout American history, availability and marketing appear to have worked to increase use rates, while prevention efforts have worked to decrease use patterns.

Another question often asked is whether use rates change because of secular changes among groups over time, e.g., youth become more conservative. Researchers looked at this across data on 17-year-old high school seniors and found it to be only a minor factor in the cause of drug use dropping, holding that perception of risk and (subsequent) peer disapproval are chief reasons for the decreased use.[51]

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[50] Babor, *Alcohol Customs and Rituals*, p. 53.

[51] L. D. Johnston et al. *Drug Use Among American High School Seniors and Young Adults, 1975-1990*, Volume I, High School Seniors, National Institute on Drug Abuse, 1991.

Could the Decade's Prevention Gains Be the Result of Interdiction?

This is not very likely. Interdiction is the process of curtailing the supply of drugs—usually via law enforcement methodologies. Interdiction efforts certainly help decrease availability. However, young people reported that alcohol and most other drugs were more readily and easily available at the end of the period (1990) than at the beginning (1980).[52] Prevention gains have taken place in an environment where alcohol and other drugs were more—not less—readily available.

For example, when high school students and young adults were asked how difficult it would be for them to obtain different types of drugs, more of the 1990 seniors reported that it was "fairly easy" or "very easy" to obtain cocaine, heroin, and opiates than did their 1980 counterparts. Slightly fewer reported easy availability for marijuana, amphetamines, and barbiturates. Although youth believe that getting marijuana is a little harder than in 1980, 84 percent of the 1990 high school seniors said that marijuana is easy to obtain. However, less than 10 percent of this same sample of high school seniors reported they would use the readily available marijuana in any given month. Where interdiction is contributing a great deal to prevention is when youth perceive that the perception of risk includes the chance of "being caught."

For every high school senior who smoked marijuana in a given month, there were seven others who did not use marijuana, although they said the drug was readily available.

For every high school senior who smoked marijuana in a given month, there were seven other seniors who did not use, although they said the drug was readily available. A similar situation prevails with alcohol and tobacco. Availability is widespread, even for minors. Decreasing availability, access to these substances, and driving down demand are major components of prevention efforts.

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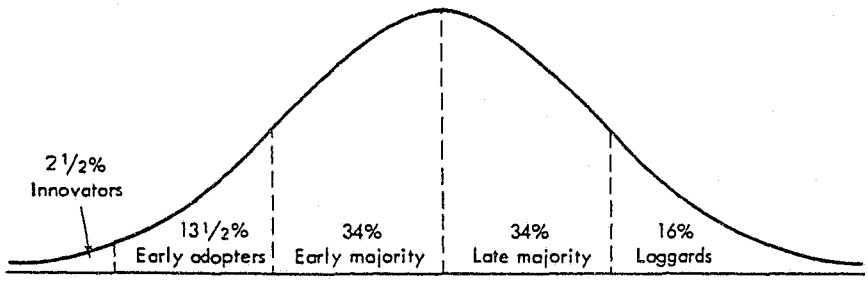
[52] L. D. Johnston et al., *Drug Use Among American High School Seniors, College Students and Young Adults, 1975-1990*, National Institute on Drug Abuse, 1991.

Why Does Prevention Become Harder As It Succeeds?

Consider the person with many risk factors for developing serious ATOD problems. The average time, cost, and effort for prevention to succeed with this person will be much greater than for someone with fewer risk factors. Most researchers agree that the greater the number of risk factors a person has, the more likely he or she is to develop an ATOD problem. The goal of prevention is to reduce ATOD problems by reducing individual, community, and societal risk factors. In addition, the easiest gains come first.

Figure 9 illustrates a classic diffusion model that describes change in a typical population. At first, a small percentage of innovators initiate the change. Then, there is the larger group, often called the "early" adopters. It is harder, takes longer, and is generally more expensive to convert the "late" adopters, and even moreso for the most resistant, known as "laggards." Our prevention methodologies of the last decade have succeeded with a substantial proportion of the population. But those unreached individuals and communities will need even more dramatic, persistent, innovative, and intensive targeted efforts for prevention to succeed in the future.

Figure 9
Classic Diffusion Model[53] Adopter Categorization of the Basis of Time of Adoption



[53] Adapted from Everett M. Rogers, *Diffusion of Innovations*, 3rd Edition, 1983.

If Prevention Is Working, Why Do We Still Have a Problem?

The only health problem ever wiped out—smallpox—had a single cause. But although vaccinations began in the early 1800s, the last case was reported in 1977. In contrast, there is no single cause of alcohol, tobacco, and other drug problems, and there is no vaccine. Our only "cure" is to involve everyone in a steady and continuous prevention effort.

In the late 1970s, alcohol, tobacco, and other drug problem prevention efforts were researched, conceptualized, and organized. In the 1980s, government and private agencies and organizations were formed, professionals and community leaders were trained, and prevention efforts began. We can speed up these efforts when we learn more about how to make prevention work and get this knowledge disseminated in a timely manner, gain a significant commitment from policy makers and the public to reduce ATOD problems, and persuade all segments of society to make prevention work for everyone.

Another factor is that our prevention efforts do not occur in a neutral environment. Our opponents—often well-funded, talented, and with pecuniary incentives—work strenuously to increase the use of alcohol, tobacco, and other drugs.

What if We Found a "Cure" for Addiction?

Those suffering from alcohol or other drug dependence cause more than their proportional share of alcohol- and other drug-related problems and are responsible for more than their proportional share of costs. However, the alcohol- and other drug-related costs to society are not caused by those who are dependent on alcohol or other drugs alone. The man who receives his Friday paycheck, goes with his friends to the local bar to "hoist a few," becomes impaired, and kills someone on the road home, may not be an alcoholic at all. A pregnant woman who smokes marijuana may not be addicted. A young student, injured while on a drug-induced high, may not be an addict. A coed who is raped may have been at her first college beer party. Even if all alcohol- and drug-dependent persons were instantly

"cured," we would still have an enormous prevention task because there are so many more users who are non-dependent but who suffer from—and cause—these problems.

This is not to say, however, that there is no need for treatment. Indeed, treatment makes an enormous contribution—both real and potential—for reducing ATOD problems. As the latest data show, this is particularly important since there are fewer casual users but more heavy (dependent) users. Unfortunately, there are still far too few resources for treatment.

What Is the Annual National Expenditure for Prevention?

It is difficult to measure exactly how much money the Nation spends for prevention because the resources are provided by both the public and private sectors and many efforts involve volunteers or voluntary contributions. Even when public sector financing is involved, funds flow from Federal to State to local organizations.

While it is impossible to sort out Federal, State, and local budgets precisely, we can make some estimates. The total Federal expenditure in 1993 for what's known popularly as the War on Drugs will be about $12.7 billion.[54] Most of this money will fund interdiction efforts—so called "supply reduction." Treatment and prevention will receive a smaller portion. And prevention expenditures will be small compared to treatment outlays.

A reasonable estimate of Federal expenditures for primary prevention is about $2.5 billion.[55]

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[54] Office of National Drug Control Policy, Presentation Graphics, February 1993.

[55] Essentially, the Federal outlays include CSAP, the prevention activities of the Department of Education, Department of Labor, CDC, NIAAA, NIDA, DEA, Indian Health Service, and myriad other Federal prevention components. It includes the estimate of 10 percent to 15 percent of SAMHSA block grants to the States that are earmarked for primary prevention. It also includes the NIAAA and NIDA efforts regarding prevention research. The AOD prevention activities of most of the Federal agencies are not budgeted in separate categories, and precise costs are not available. The $2.5 billion figure is a rough but reasonable estimate.

Also, there are the outlays of State and local government, not including the passthroughs of Federal funds. Ideally we will want to contrast the prevention expenditure figure with the costs of ATOD problems to society. Therefore, we include voluntary contributions to primary prevention efforts. "In kind" matching of State, Federal, and local grants, including volunteer services, should be included as well.

There are organizations such as the National Council on Alcohol and Drug Dependence, the National Association for Native American Children of Alcoholics, National Foundation for Children of Alcoholics, PRIDE, Mothers Against Drunk Driving, and countless others. While these organizations receive occasional Federal grants and contracts, the bulk of their efforts is privately financed or performed by volunteers. The Partnership for a Drug-Free America, one of the most extensive private prevention efforts, estimates that it receives $1 million a day in the value of contributed advertising services and media time and space for public service announcements.[56]

America spends about $7.5 billion annually for primary prevention—about $30 for every man, woman, and child.

There is no sound scientific or economic way to measure these private contributions. But, in discussions with many leaders in the field, a reasonable estimate is that the States, localities, and nonprofit organizations spend (or contribute labor equivalents of) $2 for every $1 spent by the Federal Government. Therefore, an estimate of the total national expenditure for primary prevention of ATOD problems is $7.5 billion. This totals approximately $30 for each man, woman, and child in our population. Of that estimate the average taxpayer cost for primary prevention is about $12.

If Prevention Is Working, Why Do ATOD Costs Seem to Be Increasing?

Many factors cause ATOD costs to increase.

New Users as the Population Increases

While use is decreasing markedly, there are many more new users of alcohol, tobacco, and other drugs because the

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[56] Partnership for a Drug Free America, Fact Sheet, May 1993.

population is increasing. In 1979, the U.S. population was 225 million; in 1991 it was just under 253 million—a 12.4 percent increase. Growth in population generally means growth in utilization of all services, health-related and otherwise. In addition, the biggest use of alcohol, tobacco, and other drugs occurs among young adults. As this group ages, ATOD problems tend to emerge.

Population increases tend to increase the number of ATOD problems.

Lag Time and Benefit Schedules

Different prevention programs have different economic benefit schedules. If we reduce the alcohol- and drug-taking behavior of pregnant women, the economic benefit will begin to occur within a year. There will be fewer birth complications, fewer low-birthweight babies, and fewer alcohol-affected children. In contrast, the benefits of a successful preschool program will not begin to accrue to the society for another decade. However, the benefit will continue for years. Both the pregnant women and preschool programs are needed; both will pay off; both will save money. However, they will do so on different benefit schedules and meanwhile they must compete for resources.

Some prevention programs pay off faster than others.

What More Needs to Be Done?

The dramatic success of the Nation's alcohol, tobacco, and other drug problem prevention efforts could be easily misinterpreted. We cannot conclude that the problem is solved, and that additional prevention efforts are not needed. Millions of Americans are still at risk because they use alcohol, tobacco, or other drugs, and some are drug dependent. Table 5 shows the number still at risk for illicit drugs, alcohol, and cigarettes.

Table 5
Americans Still at Risk (millions)

	Adolescents	Young Adults	Adults	**Total**
Illicit Drugs	1.4	4.4	6.9	**12.7**
Alcohol	4.1	18.1	81.0	**103.2**
Cigarettes	2.2	9.2	43.5	**54.9**

The number of adolescents still at risk for ATOD problems is almost twice the number of youth who will graduate from high school this year.

The numbers in each category are not independent. Many, indeed most, of the 12.7 million Americans at risk for illicit drugs also are drinkers, and many also use tobacco.

Among adolescents, over 1 million use illicit drugs in any given month; over 4 million illegally drink alcohol; and almost 2 million smoke cigarettes. As with the general population, there is much overlap. It is not easy to estimate the adolescents at risk for any one or more of the drug categories. However, we know that the number is over 4 million–almost twice the number of adolescents who will graduate from high school this year.[57] And, as reported earlier, in spite of the declines among older students, eighth graders in 1992 reported higher rates of illicit drug use than did eighth graders in 1991.

These 4 million plus adolescents must be targeted for current and future alcohol, tobacco, and other drug prevention efforts. If we do not maintain a national prevention effort, we could have a relapse. Our success could be undone in a few short years. The Nation's investment in prevention would be lost; no dividends would be paid.

Despite our accomplishments, we still have an enormous prevention job ahead of us. We need to move forward and build on the momentum of our success.

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[57] 2,193,000 high school graduates are projected for 1992. U.S. National Center for Education Statistics, *Projections of Education Statistics to 2002*, U.S. Department of Education.

The prevention of ATOD problems is working. Far more needs to be done, especially among those with numerous risk factors. The Center for Substance Abuse Prevention welcomes your involvement to sustain and enhance the Nation's prevention progress toward the HEALTHY PEOPLE 2000 objectives.

To assist those who want to help prevent alcohol, tobacco, and other drug (ATOD) problems, the following materials are available from CSAP's National Clearinghouse for Alcohol and Drug Information (NCADI):

What You Can Do About Drug Use in America (#PHD587)

Turning Awareness Into Action: What Your Community Can Do About Drug Use in America (#PHD519)

Signs of Effectiveness: The CSAP High Risk Youth Demonstration Grant Program (#PHD612)

Prevention Plus II: Tools for Creating and Sustaining a Drug-Free Community (#BK159)

Prevention Plus III: Assessing Alcohol and Other Drug Prevention Programs at the School and Community Level (#BK188)

Prevention Primer: An Encyclopedia of Alcohol and Other Drug Prevention Issues

ATOD Resource Guides on the following topics:

Prevention Resource Guide: Pregnant/Postpartum Women and Their Infants (#MS420)

Prevention Resource Guide: Older Americans (#MS443)

Prevention Resource Guide: Youth in Low-Income Urban Environments (#MS446)

Prevention Resource Guide: Prevention in the Workplace (#MS453)

Prevention Resource Guide: College Youth (#MS418)

You may also want to subscribe to *Prevention Pipeline* by contacting NCADI.

National Clearinghouse
for Alcohol and Drug Information
P.O. Box 2345
Rockville, MD 20847
1-800-729-6686
TDD 1-800-487-4889

For procedures to request technical assistance or training, write to:

Center for Substance Abuse Prevention
Rockwall II, 9th Floor
5600 Fishers Lane
Rockville, MD 20857

APPENDIX

Limitations of the Prevalence Data and Analysis

The National Household Survey on Drug Abuse, upon which much of this analysis is based, has certain limitations important in the conclusions and implications of the results herein. These limitations lie in the fact that the Household Survey is just that—a survey of households. It was never intended to be a survey of the homeless, of prison inmates, or of people otherwise institutionalized. And, surveys of households typically undercount and underrepresent particular subpopulations, such as recent immigrants, illegal residents, or those who are not sure of their legal status. These people tend to avoid surveys.

Anecdotal evidence and reports suggest that these underrepresented populations probably have not been proportional beneficiaries of the Nation's alcohol, tobacco, and other drug prevention efforts. Indeed, in some cases they have been impervious to them. Recent initiatives have targeted these undercounted populations; however, such programs are too new to have a substantial impact.

Further, the Household Survey depends on self reporting, and some critics question the validity of any method where admission of illegal activity is implicit in affirmative answers. Our analysis involves trends; therefore, any error of underreporting would not invalidate the decreasing trend finding since the same potential problem operates each year of the survey.

Theoretically, the 1979-1991 changes for each of the age groups could be random sampling errors and not represent real reductions in use. The generally constant direction of the data and the 12-year difference magnitudes relative to the standard errors make this possibility unlikely.[58,59]

Prevention success apparent in today's young adults is largely due to the prevention efforts with adolescents of yesterday.

[58] Calculating the probabilities is mathematically possible. However, we leave others to pursue this line of analysis.

[59] There is a theoretical possibility that some part of the decrease can be attributed to a statistical phenomenon called "regression to the mean." However, it is very unlikely that this phenomenon could explain the large decrease in prevalence, especially given the monotonic decreasing nature of the trend.

There is no guarantee that the prevention successes of the past will continue in the future for the same age groups. Over the 12-year period of the data, individuals moved from one category to another as they aged. In part, the prevention success apparent in today's young adults is due to the prevention efforts with adolescents of yesterday. **The prevention gains made today with youth may evaporate as they age if there is no consistent and continuous prevention effort throughout the society.** Measles and tuberculosis, for example, recurred because prevention efforts decreased.

As a partial check on the approach taken herein, we made a similar use rate analysis using data from a different survey, the National High School Senior Survey.[60] We observed similar ranges of prevalence decrease.

However, it could be argued that the National High School Senior Survey, by definition, underrepresents the poor and some ethnic/racial populations where the school dropout rates are larger. Many of these populations cannot be surveyed because they do not attend school.

Also, we could have chosen a different time period for this analysis. We might have started in 1983 instead of 1979. If we had done so, all the individual numbers such as average yearly reduction would change, but the basic thrust—that 30-day prevalence has gone down—that prevention works—would not be altered.

For full copies of the National Household Survey 1991 data used in this paper or the preliminary results of the 1992 data, call CSAP's National Clearinghouse for Alcohol and Drug Information at 1-800-729-6686.

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[60]L. D. Johnston et al., *Drug Use Among American High School Seniors, College Students and Young Adults, 1975-1991*, National Institute on Drug Abuse, 1992.

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