

AMERICAN ACADEMY OF PEDIATRICS

Committee on Substance Abuse

Alcohol Use and Abuse: A Pediatric Concern

ABSTRACT. Alcohol use and abuse by children and adolescents continue to be a major problem. Pediatricians should interview their patients regularly about alcohol use within the family, by friends, and by themselves. A comprehensive substance abuse curriculum should be integrated into every pediatrician's training. Advertising of alcohol in the media, on the Internet, and during sporting events is a powerful force that must be addressed. Availability of alcohol to minors must be controlled, and interventions for the child and adolescent drinker and punitive action for the purveyor are encouraged.

INTRODUCTION

Since the beginning of recorded history, people have consumed alcoholic beverages for purposes of religious ceremony, celebration, medicinal therapy, pleasure, and recreation. Problem drinking in all age groups has also been recognized and reported for thousands of years.¹ Research continues to evaluate the wide range of alcohol effects, from its hazardous use during pregnancy to its possible beneficial use for adult health. Although there has been some difference of opinion as to whether adolescents should postpone the use of alcohol until the legal drinking age or should be encouraged to develop safe, responsible drinking patterns through progressive, controlled exposure in family or religious settings, it is clear that the minimum legal drinking age is 21 years in the United States.²

Use of alcohol or other drugs at an early age is an indicator of future alcohol or drug problems.³ People who begin drinking before age 15 are 4 times more likely to develop alcoholism than those who begin at age 21.⁴ Furthermore, children of alcoholic parents are at even greater risk of becoming problem drinkers.

ALCOHOL USE AND ABUSE AMONG YOUTH

Although the minimum legal drinking age is 21 years in all 50 states,⁵ the annual *Monitoring The Future Study* of alcohol and drug use by American students has shown consistently that alcohol is the drug most often used and abused by children and adolescents.⁶ In fact, nearly 90% of 10th graders and 75% of 8th graders think alcohol is very easy to get.⁶ The average age when 12- to 17-year-olds say they first used alcohol is 13.1,⁷ but use is increasingly seen in children as young as 9 years old.⁸ In 1999, 52% of

8th graders and 80% of high school seniors reported using alcohol, with 31% of 12th graders reporting heavy drinking (5 or more drinks in a row at least once during the previous 2 weeks). Nearly twice that many report having been drunk at least once.⁶ Alcohol use by school dropouts or chronically truant students is suspected to be significantly higher.

More than one third of high school seniors see no great risk in consuming 4 to 5 drinks daily, yet 1 in 6 have had "blackouts," defined as amnesia of the previous night's events, during the preceding 30 days (which is termed "episodic heavy drinking"). Nearly 4 in 10 reported that they were "binge" drinkers (defined as having consumed 5 or more drinks of alcohol [4 or more for females] on any 1 occasion).⁹

Approximately 9.5 million Americans between 12 and 20 years old reported having at least 1 drink during the last month, with about half reporting binge drinking and 20% being heavy drinkers (consuming 5 or more drinks on the same occasion on at least 5 different days).⁹ Among adolescents who binge drink, 39% say they drink alone; 58% drink when they are upset; 30% drink when they are bored; and 37% drink to feel high.¹⁰

There is a clear relationship between alcohol use and academic performance among college students. Students with grades of D or F drink 3 times as much as those who earn As.¹¹ The effects on less mature individuals may be even more significant.

HAZARDS OF ALCOHOL USE

The negative consequences of alcohol use include impaired relationships with family, peers, or teachers; problems with school performance; problems with persons in authority; and high-risk behaviors, such as alcohol use in association with driving, boating, diving, or swimming. Use of alcohol and other drugs is associated with the leading causes of death and injury (ie, motor-vehicle crashes, homicides, and suicides) among adolescents and young adults.⁶ In addition, thousands of seriously and often permanently injured passengers and drivers survive. After the legal drinking age was changed in all states, the number of motor-vehicle fatalities in the under 21 age group significantly decreased.¹²

Some data suggest that alcohol use or abuse is associated with other risk-taking behaviors, such as unsafe or increased sexual activity, which may lead to unintended pregnancy or acquisition of a sexually transmitted disease.¹³ Fourteen- and 15-year-olds who use alcohol are 4 and 7 times as likely, respectively, to have sexual intercourse as their peers who do not consume alcohol, and these 15-year-olds have

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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as many as 4 sexual partners.¹⁴ Alcohol use is also associated with an increased risk of physical or sexual abuse often by an acquaintance of the same age. Researchers estimate that alcohol use is implicated in one third to two thirds of sexual assault and acquaintance or date rape cases among adolescents and college students.¹⁵

Adolescents who use alcohol while pregnant increase their risk of having complications during pregnancy as well as giving birth to an infant with fetal alcohol syndrome.^{16,17} Some adolescents may be unaware they are pregnant or deny the possibility that they are pregnant, delaying prenatal care and continuing to drink. Seventeen percent of pregnant adolescents in 1 comprehensive adolescent pregnancy program tested positive for alcohol or other drug use.¹⁸ In another program, there was continued but decreased alcohol and drug use after pregnancy was confirmed.¹⁹

ATTITUDES, PERCEPTIONS, AND INFLUENCE

The use of alcohol commonly begins before the use of other mood altering substances. Most adolescents drink beer or wine before they begin drinking distilled spirits yet are unaware that a 12-oz can of beer or 5-oz glass of wine has the same amount of alcohol as a 1.5-oz shot of distilled spirits.¹⁰ Alcohol is often used in combination with other drugs, which may potentiate their effects.

Addiction to alcohol is underdiagnosed in adolescents. By definition, alcoholism is a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by impaired control over drinking, preoccupation with the drug alcohol, use of alcohol with adverse consequences, and distortion in thinking, most notably denial.²⁰

Alcoholism should be suspected in young people who are often intoxicated or experience withdrawal symptoms from chronic or recurrent alcohol use; those who tolerate large quantities of alcohol; those who attempt unsuccessfully to cut down or stop alcohol use; those who experience blackouts attributable to drinking; or those who continue drinking despite adverse social, educational, occupational, physical, or psychological consequences or alcohol-related injuries.²¹ In the adolescent substance use and abuse continuum, alcohol abuse may progress from experimentation to more regular use.^{22,23} Regular users are those individuals who continue a pattern of alcohol use throughout a period of 1 month or longer despite persistent or recurrent negative consequences or in situations in which such use is physically dangerous.²¹

FACTORS CONTRIBUTING TO ALCOHOL USE AND ABUSE

Genetic and Family Factors

A family history of alcoholism predisposes children to problem drinking, especially if 1 or both parents are heavy drinkers.²⁴ Sons of alcoholic men have a 1 in 4 risk of becoming alcoholics.^{25,26} Daugh-

ters of alcoholics are also at increased risk for alcoholism and are more likely to marry alcoholic men, thereby continuing the cycle of family problems with alcohol.²⁷

In the United States, 7 million children younger than 18 years have alcoholic parents. Adult alcohol abuse contributes to 50% of reported instances of marital violence and 35% to 70% of child abuse cases. Children of alcohol abusers are at increased risk for delinquent behavior, learning disorders, attention-deficit/hyperactivity disorder, psychosomatic complaints, and problem drinking or alcoholism as adults.²⁸ Additional research is required to validate the clinical impression that describes interpersonal problems encountered by children of alcoholics.²⁸

Parental attitudes and behavior regarding alcohol use play important roles in how children and adolescents view its use and whether they will drink. A family history of antisocial behavior and poor parenting skills increases the risk of having children who use alcohol and other drugs.²⁸ The home is the primary source of alcohol for adolescents; however, drinking customs and patterns differ among ethnic groups. In some families, children are introduced to alcohol as a beverage at an early age, but these families do not drink excessively, do not tolerate or condone excessive drinking in others, and experience low levels of problem drinking. Other families, however, may accept and encourage excessive drinking, especially among males of any age, reinforcing the image of alcohol use as an indicator of maturity, bravado, and masculinity. Older siblings often influence their younger brothers or sisters to initiate using alcohol or other drugs.²⁹

Adolescent Development

Drinking by adolescents is often perceived as normal behavior. Some adolescents report that they drink for enjoyment, for peer acceptance, to forget problems, or to reduce stress and anxiety in their lives. Not all drinking by adolescents results in observable negative consequences, and a significant number of individuals do not continue to use alcohol after their initial experience. Because of their limited experience with alcohol and smaller body size, however, adolescents may become intoxicated with less alcohol intake than adults. In addition, in susceptible adolescents, the time frame of progression to alcohol dependence is much shorter, compared with that for adults.²³ They are less able to recognize and compensate for the neuropsychiatric effects of alcohol use because of biological, cognitive, and psychological immaturity and may experience psychological arrest of development with continued abuse.³⁰ Those with early antisocial behavior, poor self-esteem, school failure, attention-deficit/hyperactivity disorder, learning disabilities, or drug-using friends and those who are alienated from their peers or families are at increased risk. Depressed adolescents or those who have been physically or sexually abused may use alcohol to attempt to cope with their psychological distress and have a higher incidence of alcohol or other drug addiction.^{31,32}

Peer Influence

Thirty percent of children in grades 4 through 6 report that they have received a lot of pressure from their classmates to drink beer.³³ During adolescence, drinking behavior, which often begins in a family setting, may continue with and be reinforced by peers. Because vulnerable adolescents generally seek out peer groups with similar attitudes and behaviors, pressure from this group can encourage alcohol and other drug use and other high-risk activities. Excessive drinking is more likely to occur outside the home with peers than within the family setting. Adolescents, like adults, may use alcohol to reduce social inhibitions and to accompany sexual activity.³⁴

Media Influence

Alcohol use permeates western society. Alcohol is advertised widely and is often seen by adolescents on television and in movies. Content analyses of alcohol advertisements on television show that the ads link drinking with highly valued personal attributes, such as sociability, elegance, and physical attractiveness, and with desirable outcomes, such as success, relaxation, romance, and adventure.³⁵ Fifty-six percent of students in grades 5 through 12 say that alcohol advertising encourages them to drink.³⁶ Studies show that with greater exposure to beer advertising, children have higher recall of brands or brand characters, are more likely to expect to drink as adults, and hold more positive beliefs about the social and ritual uses of beer.³⁵ Econometric studies to date suggest that new restrictions on alcohol advertising or more counteradvertising could help reduce levels of alcohol abuse.³⁷

A recent study of more than 300 Web sites found that 25 major alcoholic beverage companies are using the Internet to advertise, promote, and sell their products through a variety of marketing techniques that capitalize on the Internet's strong attraction of young people. Such techniques include sponsorship of musical and sporting events, interactive games and contests, and chat and message boards. Overall, there are now hundreds of Web sites that promote alcohol, drinking, and specific products.³⁸

Community Attitudes

Alcoholic beverages are repeatedly seen as a reward at the end of a normal day's work or a sports victory or for any relaxing moment.^{39,40} A conflicting message about the hazards of drinking and driving is clearly present with the emergence of the mini-market, where beer, recreational items, and gasoline are sold at the same site. The risk of excessive alcohol use is never stated or even implied.

THE ROLE OF THE PEDIATRICIAN

To properly cope with this serious problem, pediatricians must have comprehensive and integrated substance abuse training. They will then be able to properly screen, identify, evaluate, manage, and refer these patients to competent and qualified health professionals for further assessment and treatment as indicated. A 1995 periodic survey of fellows of the

American Academy of Pediatrics showed that only 45% routinely screen their patients for alcohol use and that many pediatricians feel inadequately trained in this area.⁴¹ Respondents felt a need for further information and skills in the area of pediatric substance abuse. Most pediatricians (84%) do not use written questionnaires to inquire about adolescent patients' substance use. Brief screens for adolescent substance abuse are available. One such screening tool, CRAFFT, has been proposed to identify patients with alcohol abuse problems (Table 1).⁴²

When health care providers for children and adolescents assess their patients' use of alcohol as a routine part of risk behavior assessment and discuss alcohol refusal skills with their patients, they may reinforce nonuse behaviors, especially when risk factors for problem drinking, such as a family history of alcoholism, are present. This assessment is most effective when done in a nonjudgmental manner. As parents and communities work together to develop alcohol-free activities, pediatricians have an opportunity to use their unique knowledge, perspective, and training by supporting and participating in such activities and educational programs.

Specific recommendations as to the best management tools and techniques, such as contracts and designated driver programs, are not being made, because the data for such management options, although often used, are not yet conclusive. However, specific information on management and treatment considerations can be found in the recent American Academy of Pediatrics policy statement "Indications for Management and Referral of Patients Involved in Substance Abuse"⁴³ and manual *Substance Abuse: A Guide for Health Professionals*⁴⁴ and the "Adolescent Crosswalk" developed by the American Society of Addiction Medicine.⁴⁵

RECOMMENDATIONS

1. Pediatricians should strongly advise against the use of alcohol and illicit drugs as well as the nontherapeutic use of approved psychoactive drugs by children and adolescents.
2. Pediatricians should discuss the hazards of alcohol and other drug use with their patients as a routine part of risk behavior assessment, with special attention when there are risk factors for

TABLE 1. CRAFFT—Questions to Identify Adolescents With Alcohol Abuse Problems*⁴²

C	Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs?
R	Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
A	Do you ever use alcohol or drugs while you are by yourself, or ALONE?
F	Do you ever FORGET things you did while using alcohol or drugs?
F	Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?
T	Have you ever gotten into TROUBLE while you were using alcohol or drugs?

* Two or more "yes" answers suggest that the adolescent has a serious problem with alcohol abuse.

problem drinking, such as a family history of alcoholism.

3. Pediatricians should assess their patients' current use of alcohol and other drugs using a non-judgmental approach.
4. Pediatricians should be able to recognize early signs and symptoms of alcohol abuse so they can properly evaluate, manage, and refer patients for further assessment and treatment as indicated.
5. Pediatricians should use prenatal and preventive child health care visits as an ideal opportunity to explore the family history and attitudes regarding alcohol use and discuss with parents the effects of positive and negative role modeling on their children.
6. Pediatricians should discuss the issue of adolescent parties with alcohol and discourage parents from allowing underage drinking at home or other locations.
7. A comprehensive substance abuse education curriculum should be an integral and integrated part of every training program for medical students and pediatric residents.
8. Pediatricians are encouraged to participate in school, community, and state efforts to promote alcohol-abuse prevention programs.
9. Alcohol consumption should be modeled responsibly in all media, with particular attention to its impact on youth.
10. There should be continued legislative efforts at the federal and state level to mandate a maximum legal blood alcohol level of 0.02% for those under 21 with appropriate penalties for those convicted of exceeding the legal level.
11. Pediatricians are encouraged to become familiar with the use of the Internet as a source of valuable information for themselves (see "Internet Resources") as well as a potential source of misinformation for, and advertising aimed at, their patients.

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REFERENCES

1. Milgram GG. Youthful drinking: past and present. *J Drug Educ.* 1982; 12:289–308
2. Substance Abuse and Mental Health Services Administration. *Underage Drinking Prevention: Action Guide and Planner.* Rockville, MD: Substance Abuse and Mental Health Services Administration; 2001. DHHS Publication No. SMA 3259
3. Hawkins J, Catalano R, Miller J. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. *Psychol Bull.* 1992;112:64–105
4. Age of drinking onset predicts future alcohol abuse and dependence [press release]. Washington, DC: National Institute on Alcohol Abuse and Alcoholism; January. 1998;14
5. Office of the Inspector General. *Youth and Alcohol. Laws and Enforcement: Is the 21-Year-Old Drinking Age a Myth?* Washington, DC: US Department of Health and Human Services; 1991
6. Johnston LD, O'Malley PM, Bachman JG. *National Survey Results on Drug Use From the Monitoring the Future Study, 1975–1995; Volume I: Secondary School Students.* Rockville, MD: National Institute on Drug Abuse; 1996. NIH Publ. No. 97-4139
7. Substance Abuse and Mental Health Services Administration. *National Household Survey on Drug Abuse: Main Findings 1997.* Rockville, MD: Substance Abuse and Mental Health Services Administration; 1999
8. National Institute on Drug Abuse. *Drug Use Among Racial/Ethnic Minorities.* Rockville, MD: National Institute on Drug Abuse; 1995;31:NIH Pub No.95-3888
9. AAP releases new findings on teens and underage drinking [press release]. Elk Grove Village, IL: American Academy of Pediatrics; September 30, 1998
10. Office of Inspector General. *Youth and Alcohol: A National Survey. Drinking Habits, Access, Attitudes, and Knowledge.* Washington, DC: US Department of Health and Human Services; 1991;Publ. No. OEI-09-91-00652
11. Presley CA, Meilman PW. *Alcohol and Drugs on American College Campuses: A Report to College Presidents.* Carbondale, IL: Southern Illinois University; 1992
12. Centers for Disease Control and Prevention. Alcohol-related traffic fatalities among youth and young adults—United States, 1982–1989. *MMWR Morb Mortal Wkly Rep.* 1991;40:178–179, 185–187
13. Strunin L, Hingson R. Alcohol, drugs, and adolescent sexual behavior. *Int J Addict.* 1992;27:129–146
14. Valois RF, Dunham AC, Jackson KL, Waller J. Association between employment and substance abuse behaviors among public high school adolescents. *J Adolesc Health.* 1999;25:256–263
15. Office of the Inspector General. *Youth and Alcohol: Dangerous and Deadly Consequences.* Washington, DC: US Department of Health and Human Services; 1992. Publ. No. OEI-09-92-00261
16. Pietrantoni M, Knuppel RA. Alcohol use in pregnancy. *Clin Perinatol.* 1991;18:93–111
17. American Academy of Pediatrics, Committee on Substance Abuse and Committee on Children With Disabilities. Fetal alcohol syndrome and fetal alcohol effects. *Pediatrics.* 1993;91:1004–1006
18. Kokotailo PK, Adger H Jr, Duggan AK, Repke J, Joffe A. Cigarette, alcohol, and other drug use by school-age pregnant adolescents: prevalence, detection, and associated risk factors. *Pediatrics.* 1992;90:328–334
19. Gilchrist LD, Gillmore MR, Lohr MJ. Drug use among pregnant adolescents. *J Consult Clin Psychol.* 1990;58:402–407
20. Morse RM, Flavin DK. The Joint Committee of the National Council on Alcoholism and Drug Dependence and the American Society of Addiction Medicine to study the definition and criteria for the diagnosis of alcoholism. The definition of alcoholism. *JAMA.* 1992;268:1012–1014
21. American Psychological Association. Alcohol-related disorders. In: *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).* 4th ed. Washington, DC: American Psychological Association; 1994:194–204
22. Comerci GD. Recognizing the five stages of substance abuse. *Contemp Pediatr.* 1985;2:57–68
23. Morrison MA. Addiction in adolescents. *West J Med.* 1990;152:543–546
24. Goodwin DW, Schulsinger F, Hermansen L, Guze SB, Winokur G. Alcohol problems in adoptees raised apart from alcoholic biological parents. *Arch Gen Psychiatry.* 1973;28:238–243
25. Cloninger CR. Genetic and environmental-factors in the development of alcoholism. *J Psychiatry Treat Eval.* 1983;5:487–496
26. Goodwin DW. Alcoholism and genetics: the sins of the fathers. *Arch Gen Psychiatr.* 1985;42:171–174
27. Woodside M. Research on children of alcoholics: past and future. *Br J Addict.* 1988;83:785–792
28. Adger H Jr. Problems of alcohol and other drug use and abuse in adolescents. *J Adolesc Health.* 1991;12:606–613
29. Kandel DB. On processes of peer influence in adolescent drug use: a developmental perspective. *Adv Alcohol Subst Abuse.* 1985;4:139–163
30. Myers DP, Andersen AR. Adolescent addiction: assessment and identification. *J Pediatr Health Care.* 1991;5:86–93
31. Maltzman I, Schweiger A. Individual and family characteristics of middle class adolescents hospitalized for alcohol and other drug abuse. *Br J Addict.* 1991;86:1435–1447

32. Swett C Jr, Cohen C, Surrey J, Compaine A, Chavez R. High rates of alcohol use and a history of physical and sexual abuse among women outpatients. *Am J Drug Alcohol Abuse*. 1991;17:49-60
33. *The Weekly Reader National Survey on Drugs and Alcohol*. Middletown, CT: Field Publications; 1995
34. Hawkins RO Jr. Adolescent alcohol abuse: a review. *J Dev Behav Pediatr*. 1982;3:83-87
35. Grube JW, Wallack L. Television beer advertising and drinking knowledge, beliefs, and intentions among schoolchildren. *Am J Public Health*. 1994;84:254-259
36. The Scholastic/CNN Newsroom Survey on Student Attitudes About Drug and Substance Abuse. New York, NY: Scholastic Inc; 1990
37. Slater MD, Rouner D, Murphy K, Beauvais F, Van Leuven J, Rodriguez MD. Male adolescents' reactions to TV beer advertisements: the effects of sports content and programming context. *J Stud Alcohol*. 1996;57:425-433
38. Center for Media Education. *Alcohol and Tobacco on the Web: New Threats to Youth*. Washington, DC: Center for Media Education; 1997
39. Jacobson M, Hacker G, Atkins R. *The Booze Merchants. The Inebriating of America*. Washington, DC: Center for Science in the Public Interest Books; 1983
40. Singer DG. Alcohol, television, and teenagers. *Pediatrics*. 1985;76(suppl):668-674
41. American Academy of Pediatrics. 45% of fellows routinely screen for alcohol use. *AAP News*. October 1998:1,12
42. Knight JR, Shrier LA, Bravender TD, Farrell M, Vander Bilt J, Shaffer HJ. A new brief screen for adolescent substance abuse. *Arch Pediatr Adolesc Med*. 1999;153:591-596
43. American Academy of Pediatrics, Committee on Substance Abuse. Indications for management and referral of patients involved in substance abuse. *Pediatrics*. 2000;106:143-148
44. American Academy of Pediatrics and Center for Advanced Health Studies. *Substance Abuse: A Guide for Health Professionals*. Schonberg SK, ed. Elk Grove Village, IL: American Academy of Pediatrics/Pacific Institute for Research and Evaluation; 1998
45. Mee-Lee D. *ASAM Patient Placement Criteria for the Treatment of Substance-Related Disorders*. 2nd ed. Chevy Chase, MD: The American Society of Addiction Medicine; 1996

MANAGEMENT AND TREATMENT RESOURCES

- Alderman EM, Schonberg SK, Cohen MI. The pediatrician's role in the diagnosis and treatment of substance abuse. *Pediatr Rev*. 1992;13:314-318
- American Academy of Pediatrics and Center for Advanced Health Studies. *Substance Abuse: A Guide for Health Professionals*. Schonberg SK, ed. Elk Grove Village, IL: American Academy of Pediatrics/Pacific Institute for Research and Evaluation; 1988
- American Academy of Pediatrics, Committee on Substance Abuse. Tobacco, alcohol and other drugs: the role of the pediatrician in prevention and management of substance abuse. *Pediatrics*. 1998;101:125-128
- Dupont RL. *Getting Tough on Gateway Drugs: A Guide for the Family*. Washington, DC: American Psychiatric Press; 1984
- Macdonald DI, Blume SB. Children of alcoholics. *Am J Dis Child*. 1986;140:750-754

- Macdonald DI. *Drugs, Drinking and Adolescents*. Chicago, IL: Year Book Medical Publishers; 1984
- Millstein SG, Irwin CE Jr, Adler NE, Cohn LD, Kegeles SM, Dolcini MM. Health risk behaviors and health concerns among young adolescents. *Pediatrics*. 1992;89:422-428
- Schwartz RH, Cohen PR, Bair GO. Identifying and coping with a drug-using adolescent: some guidelines for pediatricians and parents. *Pediatr Rev*. 1985;7:133-139
- Zarek D, Hawkins JD, Rogers PD. Risk factors for adolescent substance abuse. Implications for pediatric practice. *Pediatr Clin North Am*. 1987;34:481-493

SOME SUGGESTED INTERNET RESOURCES

- Al-Anon/Alateen Family Group Headquarters Inc
<http://www.al-anon.alateen.org>
- American Council for Drug Education
<http://www.acde.org>
- FACE Truth and Clarity on Alcohol
<http://faceproject.org>
- Robert Wood Johnson Foundation
<http://www.rwjf.org>
- Monitoring the Future Study: A Continuing Study of American Youth
<http://www.isr.umich.edu/src/mtf>
- Mothers Against Drunk Driving
<http://www.madd.org>
- National Association of State Universities and Land-Grant Colleges
<http://www.nasulgc.org/bingedrink>
- National Clearing House for Alcohol and Drug Information
<http://www.health.org>
- Office of Alcohol and Other Drug Abuse
 The National Office of the Robert Wood Johnson Foundation
Initiatives to Reduce High-Risk Drinking Among Youth
<http://www.ama-assn.org/special/aos/alcohol1/>
- Parents Resource for Drug Education
<http://www.prideusa.org>
- Partnership for a Drug-Free America
<http://www.drugfreeamerica.org>
- Phoenix House
<http://www.phoenixhouse.org>
- Rutgers University Center of Alcohol Studies Library
<http://www.rci.rutgers.edu/~cas2>
- Substance Abuse and Mental Health Services Administration
<http://www.samhsa.gov>

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