



April 2004

# UNDERAGE DRINKING

Alcohol is the most frequently used drug by teenagers in the United States,<sup>1</sup> and underage alcohol use is a significant national concern. Results from the 2002–2003 Los Angeles County Health Survey (LACHS) found that 39% of the County’s young adults (ages 18–20 years) reported they had consumed at least one alcoholic drink in the past month. These results are parallel to those from the 2003 Youth Risk Behavioral Survey (YRBS),<sup>2</sup> which found that 42% of public high school teens (ages 14–17 years) in Los Angeles Unified School District (LAUSD) drank in the past month (Table 1).

Nearly one-in-five young adults (18%) and high school aged teens (21%) reported binge drinking.<sup>3</sup> The pattern of youth alcohol consumption, including age of initial use, has been shown to be predictive of later heavy drinking problems and alcohol dependence.

Alcohol-related motor vehicle crashes are visible and devastating consequences of drinking, and underage drinkers are involved in fatal crashes at twice the rate of adult drivers.<sup>4</sup> Among those who consumed alcohol in the past month, 7% of underage adults and 6% of teens reported driving after drinking or after perhaps having too much to drink.

Youth obtain alcohol—either directly or indirectly—from adults.<sup>5</sup> Of underage adult drinkers, 76% obtained alcohol from a home or a private residence, 64% from someone ages 21 years or older, 24% from a

TABLE  
**1**

**Prevalence of Drinking Among High School Students (Ages 14–17 Years) and Young Adults (Ages 18–20 Years)**

	YRBS (2003) <sup>A</sup>		LACHS (2002-03) <sup>B</sup>	
	Ages 14 to 17 years Percent	95% CI	Ages 18 to 20 years Percent	95% CI
<b>L.A. County</b>	42%	38.0–45.2	39%	32.6–44.5
<b>Gender</b>				
Male	40%	35.1–45.3	49%	40.5–57.9
Female	43%	38.0–48.1	28%	20.0–35.3
<b>Race/Ethnicity</b>				
Latino	44%	39.6–48.2	39%	31.1–46.1
White	46%	30.8–60.4	51%	35.2–66.6
African-American	31%	23.6–39.0	29%*	10.5–47.6
Asian/Pacific Islander	18%*	7.3–29.0	32%*	16.6–47.4

A. Data from 2003 Youth Risk Behavior Survey (YRBS) LAUSD High School Students

B. Data from the 2002–2003 LACHS

\*Estimate should be viewed with caution because of small numbers.

restaurant/bar, and 18% from a store (Figure 1).

The 2002–03 LACHS asked all adult respondents 18 years and older their opinions about ways to reduce the impact of alcohol on society. Results of the survey are presented below in relation to recommendations from the National Academy of Sciences (NAS) to reduce underage

past month. Binge drinking for males is drinking 5 or more drinks on one occasion at least one time in the past month.

4. National Highway Traffic Safety Administration. *Traffic Safety Facts 2001—Alcohol*. (DOT HS 809 470). Washington, DC: U.S. Department of Transportation, 2002.

5. National Academy of Sciences. *Reducing Underage Drinking: A Collective Responsibility*. Washington, DC: National Academies Press, 2003.

1. Foster SE, Vaughan RD, Foster WH, Califano, JA. *Alcohol consumption and expenditures for underage drinking and adult excessive drinking*. JAMA. 2003; 289(8): 989–995.

2. Results from the 2003 Youth Risk Behavior Surveillance System (YRBSS). The YRBSS was developed by the Centers for Disease Control and Prevention, and in the Los Angeles Unified School District completed by 1,063 students (ages 14 to 17 years) in 18 public high schools.

3. Binge drinking for females is drinking 4 or more drinks on one occasion at least one time in the

drinking. NAS developed a ten-component strategy to reduce underage drinking that involves all aspects of society: adults, youths, the media and entertainment industries, communities, and the government (Table 2).

One NAS recommendation is reconsidering who is the target audience of alcohol advertising (#3). Among adults of all ages (18 years and older), the 2002–03 LACHS revealed that 67% of those who drink and 79% of non-drinkers were in favor of restricting areas where billboards can advertise alcohol. Additionally, 88% of drinkers and 87% of non-drinkers were in favor of increasing the number of public service messages about the dangers of alcohol abuse.

NAS also recommends limiting access to alcohol (#5). Restricting the times in which alcohol can be sold in stores was favored by just 46% of drinkers, but by 71% of non-drinkers. Similarly, reducing the hours during which bars or clubs can serve alcohol was favored by only 41% of drinkers, but by 69% of non-drinkers. Restricting the number of places that alcohol can be sold and increasing the number of dry areas or zones in the County where alcohol can not be sold was favored by 50% and 49% (respectively) of drinkers, and 74% and 69% (respectively) of non-drinkers (Figure 2).

Community interventions (#7) can also reduce access to alcohol and encourage alcohol-free events. 74% of drinkers and 87% of non-drinkers were in favor of encouraging more public events to be alcohol-free (Figure 2).

One of the many federal and state government responsibilities (#8) is the enforcement of laws. Drinkers and non-drinkers similarly favored the following proposals: 89% of drinkers and 88% of non-drinkers supported stricter enforcement of laws that prohibit serving alcohol to persons who are drunk; 90% of drinkers and 85% of non-drinkers favored increasing the penalties for selling alcohol to underage minors; and 85% of drinkers and 87% of non-drinkers

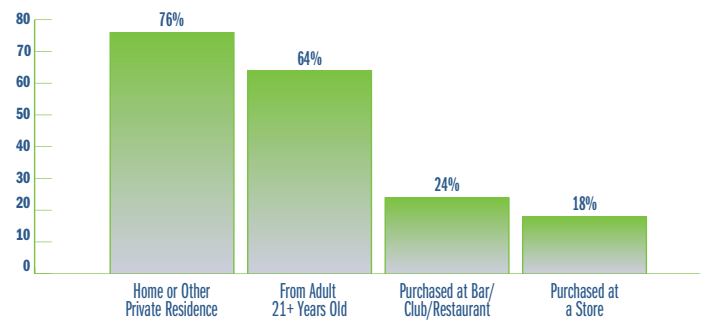
**TABLE 2** National Academy of Sciences (NAS) Proposed Strategy of 10 Components To Reduce Underage Drinking<sup>5</sup>

- |   |   |
|---|---|
| 1. National Adult-Oriented Media Campaign   | 6. Youth-Oriented Interventions           |
| 2. Partnership to Prevent Underage Drinking | 7. Community Interventions                |
| 3. Alcohol Advertising                      | 8. Government Assistance and Coordination |
| 4. Entertainment Media                      | 9. Alcohol Excise Tax                     |
| 5. Limiting Access                          | 10. Research and Evaluation               |

<http://www.nap.edu/catalog/10729.html>

**FIGURE 1**

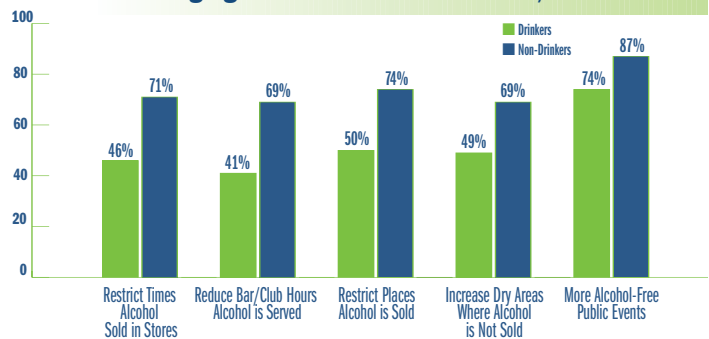
### How Young Adult Drinkers (18–20 Years) Obtained Alcohol,<sup>c</sup> 2002–03



C. Respondents indicated all the different methods they had obtained alcohol.

**FIGURE 2**

### Percentages of Drinkers and Non-Drinkers (18+ Years) Who Favored Limiting Alcohol Access and Encouraging Alcohol-Free Public Events, 2002–03



supported increasing the penalties for persons found to be driving under the influence.

The NAS recommendations include additional taxes on alcohol (#9) as such revenue could support funding for preventing and reducing youth drinking. In addition, alcohol prices are inversely correlated with youths' decisions to drink.<sup>6</sup> Seventy-eight percent of non-drinkers but only 49% of drinkers favored this proposal.

## Need For Action

There are many serious physical health, mental health, behavioral and social consequences of underage alcohol use (Table 3). Twenty percent of all motor vehicle crashes involving 16–20 year olds also involve alcohol.<sup>7</sup> While only 7% of licensed drivers in 2000 were aged 15–20 years, they represented approximately 13% of drivers involved in fatal crashes who had been drinking.<sup>8</sup> In addition, nearly 40% of deaths and injuries to people

6. Cook, P.J. & Moore, M.J. (2002). *The economics of alcohol abuse and alcohol-control policies*. *Health Affairs*. 21(2):120-133.

7. Yi, H., Williams, G.D., and Dufour, M.C. (2001) *Surveillance report #56: Trends in alcohol-related fatal traffic crashes, United States, 1977-99*. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.

8. National Highway Traffic Safety Administration (2002). *Youth fatal crash and alcohol facts 2000*. (DOT HHS 809 406). Washington, DC: U.S. Department of Transportation.

under age 21 from drownings, burns, and falls in 1999 tested positive for alcohol.<sup>9</sup>

The area of the brain affected by alcohol is responsible for planning, organizing, and other functions that are critical for considering the consequences of actions and responding to stress.<sup>11</sup> Therefore, alcohol can adversely affect school performance and functioning in other social settings. In addition, alcohol intoxication causes disinhibition and impaired judgment which can result in aggressive behavior, risk-taking or reckless behavior, and other harmful behaviors.

Alcohol can complicate the often difficult transition from adolescence to adulthood. Mental health consequences of adolescent alcohol use range from low self-esteem and deviant behavior to depression and suicide. Rates of conduct disorder, antisocial personality disorder, nicotine dependence, and illicit drug abuse and dependence are significantly higher among youth who drink.<sup>12</sup>

Alcohol is the most costly abused substance in the United States with economic costs estimated at \$185 billion annually.<sup>13</sup> These include costs of medical care, crime, incarceration, motor vehicle crashes, fetal alcohol syndrome, and illness and death. In Los Angeles County, the economic costs of alcohol in 2003 were an estimated \$7.4 billion.<sup>14</sup> In the U.S., alcohol is

# on the web

**National Institute on Alcohol Abuse and Alcoholism (NIAAA)**, College Drinking: Changing the Culture provides evidence-based approaches for prevention of college binge drinking.  
[www.collegedrinkingprevention.gov](http://www.collegedrinkingprevention.gov)

The **Higher Education Center for Alcohol and Other Drug Prevention**, helps college and community leaders develop, implement, and evaluate programs and policies to reduce student problems related to alcohol, other drug use, and interpersonal violence.  
[www.edc.org/hec/](http://www.edc.org/hec/)

**Leadership to Keep Children Alcohol Free** is a unique coalition of Federal agencies, and public and private organizations to prevent the use of alcohol by children ages 9–15 years. Founded by the National Institute on Alcohol Abuse and Alcoholism and The Robert Wood Johnson Foundation, and has since been joined by other Federal Agencies.  
[www.alcoholfreechildren.org](http://www.alcoholfreechildren.org)

**American Medical Association (AMA)**. Alcohol and Other Drug Abuse. Youth and Alcohol: We've Got a Drinking Problem. The Office of Alcohol and Other Drug Abuse was created by the collaboration of the AMA and the Robert Wood Johnson Foundation to reduce underage alcohol abuse.  
[www.ama-assn.org/ama/pub/category/3337.html](http://www.ama-assn.org/ama/pub/category/3337.html)

**Los Angeles County Alcohol and Drug Program Administration, Adolescent Intervention, Treatment, and Recovery Program System of Services** is a network of community-based organizations that provide a continuum of services for youth with substance abuse problems.  
[www.lapublichealth.org/adpa/reports/guide0702.pdf](http://www.lapublichealth.org/adpa/reports/guide0702.pdf)

## TABLE 3 Health, Behavioral, and Social Consequences of Underage Alcohol Use

### Physical Health

- Injury/Death
- Less Bone Mineral Density<sup>10</sup>
- Overdose

### Behavioral and Social Consequences

- Aggressive: Homicide, Assault, Rape, Fights
- Risk-Taking: Other Drug Use, Early Intercourse, Unprotected Sex
- Reckless Behavior: Drinking and Driving, Vandalism, Property Damage
- School Dropout
- Anti-Social: Decreased Participation and Communication, Withdrawal
- Conflict with Authorities and Peers

### Brain Development<sup>11</sup>

- Impaired Brain Functioning/Development
- Decreased Capacity to Form New Memories
- Decreased Performance of Executive Functions/Planning
- Poorer Recall of Verbal Information (English, Social Studies Classes)
- Decreased Processing of Visual Spatial Information (Math, Science, Computer Classes)
- Decreased Concentration and Attention to Tasks

### Mental Health<sup>12</sup>

- Low Self-Esteem
- Depression
- Suicide
- Deviant Behavior

an estimated \$116 billion-per-year industry, and underage drinkers are responsible for 20% of all alcohol consumed and for 19% (or \$22.5 billion) of alcohol industry revenues.<sup>1</sup>

Although efforts have been made to address underage drinking and the impact of alcohol advertising, America's youth saw far more alcoholic beverage advertisements in magazines in 2001 than did adults of legal drinking age.<sup>15</sup> Also, youths saw almost as

9. Levy, D.T., Miller, T.R., Stewart, K., Spicer, R., and Cox, K. (1999, July). *Underage drinking: Immediate consequences and their costs*. Pacific Institute for Research and Evaluation, working paper, unpublished.

10. Neville, C.E., Robson, P.J., Murray, I.J., Strain, J.J., Twisk, J., Gallagher, A.M., McGuinness, M., Cran, G.W., Ralston, S.H., and Boreham, C.A. (2002). *The effect of nutrient intake on bone mineral status in young adults: The Northern Ireland young hearts project*. *Calcified Tissue International*, 70(2), 89-98.

11. Spear, L.P. (2002). *The adolescent brain and the college drinker: Biological basis of propensity to use and misuse alcohol*. *Journal on Studying Alcohol Suppl.* 14, 71-81.

12. McGue, M., Iacona, W.G., Legrand, L.N., Malone, S., and Elkins, I. (2001). *Origins and consequences of age at first drink: Associations with substance-use disorders, disinhibitory behavior and psychopathology, and P3 amplitude*. *Alcoholism: Clinical and Experimental Research*, 8, 1156-1165.

13. Harwood, H. *Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods, and Data*. Report prepared by The Lewin Group for the National Institute on Alcohol Abuse and Alcoholism, 2000. Available at: <http://www.niaaa.nih.gov/publications/economic-2000/index.htm>. Accessibility verified September 9, 2003.

14. *Costs of Alcohol Abuse to Los Angeles County*. Los Angeles, CA: County of Los Angeles—Department of Public Health; Alcohol and Drug Program Administration, 2003.

15. Center on Alcohol Marketing and Youth (CAMY). *Overexposed: Youth a Target of Alcohol Advertising in Magazines*. Washington, DC: Georgetown University, 2002.



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much television alcohol advertising as adults in 2001.<sup>16</sup>

In conclusion, alcohol consumption by youth is a major public health problem with serious health consequences. Comprehensive prevention programs,

expansion and enforcement of alcohol control policies, and increased availability of services for treating alcohol abuse in younger populations are urgently needed to reduce alcohol consumption and its impacts.

*16. Center on Alcohol Marketing and Youth (CAMY). Television: Alcohol's Vast Adland. Washington, DC: Georgetown University; 2002.*

The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The 2002-2003 survey collected information on a random sample of 8,167 adults and 5,995 children. Interviews were offered in English, Spanish, Cantonese, Mandarin, Korean, and Vietnamese. The most recent survey was supported by grants from First 5 LA, the California Department of Health Services through grants to the Family Health, Tobacco Control and Prevention, and Alcohol and Drug Programs, and the Public Health Response and Bioterrorism Preparedness federal grant. The survey was conducted for the Los Angeles County Department of Health Services between October 2002 and March 2003 by Field Research Corporation.

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**For additional information about the  
L.A. Survey: [www.lapublichealth.org/ha](http://www.lapublichealth.org/ha)**