## Consumers

## Appendix A

UNDERAGE ALCOHOL USE AND RISKS

## I ncidence Rates and Trends

In 1998, about a quarter of surveyed eighth graders, two-fifths of tenth graders, and half of all twelfth graders reported use of alcohol one or more times in the past month (Fig. 1).(1) Underage alcohol use today is lower than it was in 1980, when 72 percent of twelfth graders reported past-month alcohol use.(2) Monthly alcohol use by twelfth graders decreased from 1980 until approximately 1993, when it reached a low of 48.6 percent, but has risen slightly since then to 52 percent.(3)

Binge drinking -- defined as five or more drinks on a single occasion -- is one measure of heavy alcohol use. In 1998, approximately one eighth of eighth graders, one quarter of tenth graders and one third of twelfth graders binged in the two weeks prior to being surveyed.(4) Teen binge trends have followed trends similar to those of teen alcohol use generally. Teen binge drinking rates hit a high point in 1981 , when 41.4 percent of twelfth graders reported recent binge drinking.(5) By 1993, the rates had dropped to 27.5 percent, but by 1998, the rates had risen again, to 31.5 percent.(6)

As teens approach 21, the likelihood of their drinking increases. An estimated three-fifths of 19 to 20 year olds report drinking one or more times in the past month.(7) Drinking rates among college students were at their highest in 1982 ( 82.8 percent), but decreased through 1997 (to 65.8 percent), the most recent year for which data are available.(8)

Binge and other heavy drinking are reported to be significant problems among college students.(9) Approximately 41 percent of college students report binge drinking at least once in the past two weeks, with freshmen binging as often as students of legal drinking age.(10) Binge drinking rates among college students peaked at 45.4 percent in 1984, dropped to a low of 38.3 percent in 1996, and increased to 40.7 percent in $1997 .(11)$

Available survey data suggest that underage drinkers consume a range of alcohol products.(12) When youngsters first start drinking, they consume primarily beer and wine coolers; by twelfth grade, students use all types of alcohol, although beer use is most common (Fig. 2).(13) In addition, more twelfth graders report binging on beer than on distilled spirits.(14)

Data on the specific brands that underage persons use are limited. Information from the special reports suggests that brand preferences may vary among regions and that underage consumers tend to drink a few well-known brands. More information about underage brand use would be useful in assessing the effectiveness of self-regulatory efforts by individual companies.

## Risks of Underage Drinking

The costs of alcohol abuse are tremendous in both human and economic terms. The National Institute on Alcohol Abuse and Alcoholism (NIAAA, a part of the National Institutes of Health and Human Services) reports that each year, more than 100,000 deaths in the U.S. result from alcoholrelated causes.(15) NIAAA and the National Institute on Drug Abuse estimate the economic cost of alcohol abuse and alcoholism to be $\$ 148$ billion annually.(16)

Underage alcohol use is associated with injury and risk-taking. Perhaps the most familiar risks have to do with driving. Young drinkers are over-represented in drinking driver deaths.(17) Even when their blood alcohol concentrations are low to moderate, teen drinkers are involved in automobile accidents at higher rates than older drinkers.(18) The long-term reductions in underage alcohol use that occurred between the early 1980s and the mid-1990s coincided with a 50 percent reduction in the rate of alcohol-related fatalities in underage drivers,(19) but the decrease in fatality rates, like the decrease in many important marketers of teen alcohol use, has stopped.(20) Indeed, a recent study shows an increase in the willingness of college students to drive after drinking.(21)

Alcohol use increases the likelihood that teens will engage in sexual activity, including unprotected sexual activity.(22) That, in turn, increases their risk of sexually transmitted disease and pregnancy.(23)

Underage alcohol use also is associated with reduced educational achievement. Heavy drinking during the high school years is associated with a reduction in the number of years of education beyond high school,(24) and college students with grade point averages of $D$ or $F$ drink more than twice as much as those who earn As.(25)

Teens who drink heavily tend to engage in other activities that increase their risk of physical injury.(26) Moreover, although no long-term data are available on underage drinking death rates, in the last few years the media have reported numerous deaths due to binge drinking, including deaths from alcohol poisoning and accidents resulting from significant intoxication.(27)

The risks of binge and other heavy drinking are not limited to the drinker. Three out of four college students report experiencing at least one secondhand effect of binge drinking, ranging from being the victim of an assault to having sleep or study interrupted.(28)

Finally, underage alcohol use may have long-term effects. Patterns of alcohol misuse can continue for a lifetime.(29) According to a study by the NIAAA, the odds of experiencing alcohol dependence or alcohol abuse during one's lifetime are reduced by 14 percent and 8 percent, respectively, for each year the initiation of drinking is delayed.(30)

## Endnotes:

1. Lloyd D. Johnston et al., Drug Use by American Young People Begins to Turn Downward (December 18, 1998) (press release and data tables from Monitoring the Future Study, Institute for Social Research, University of Michigan) [hereinafter MTF 1998], Table 1b, Trends in Annual and 30-Day Prevalence of Use of Various Drugs for Eighth, Tenth, and Twelfth Graders. The MTF Study is a nationally representative survey of alcohol and drug use by teens that has been conducted annually since 1975 by the University of Michigan's Survey Research Center under grants from the National Institute on Drug Abuse (NIDA). MTF 1998 data tables are available at http://www.isr.umich.edu/src/mtt/mtfdat98.html.
2. Id., Table 4, Long-Term Trends in Thirty-Day Prevalence of Use of Various Drugs for Twelfth Graders.
3. Id.
4. Id., Table 1c, Trends in 30-Day Prevalence of Daily Use of Various Drugs for Eighth, Tenth, and Twelfth Graders. In addition, in 1998, one third of twelfth graders reported being drunk at least once in the 30 days prior to being surveyed. Id., Table 1b, Trends in Annual and 30-Day Prevalence of Use of Various Drugs for Eighth, Tenth, and Twelfth Graders.
5. Id., Table 5, Long-Term Trends in Thirty-Day Prevalence of Daily Use of Various Drugs for Twelfth Graders.
6. Id.
7. See Lloyd D. Johnston et al., National Survey Results on Drug Use from the Monitoring the Future Study, 1975-1997, Volume II, College Students and Young Adults (NIDA, NIH Pub. No. 98-4346) (1998) [hereinafter MTF College Students and Young Adults 1998], at 69 (Figure 4-19a, Alcohol: Lifetime Annual and Thirty-Day Prevalence Among Young Adults, 1997, by Age Group).
8. Id. at 180 (Table 9-3, Trends in Thirty-Day Prevalence of Various Types of Drugs Among College Students 1-4 Years Beyond High School). Among persons who are one to four years beyond high school, 65.8 percent of full-time college students and 61.6 percent of their peers who are not full-time college students consume alcohol one or more times per month. Id. at 173 (Table 8-3, Thirty-Day Prevalence for Various Types of Drugs, 1997: Full-time College Students vs. Others Among Respondents 1-4 Years Beyond High School).
9. According to the Harvard School of Public Health, binge drinking is "the single most serious public health problem confronting American colleges." Henry Wechsler et al., Changes in Binge Drinking and Related Problems Among American College Students Between 1993 and 1997: Results of the Harvard School of Public Health College Alcohol Study, 47 J. Am. College Health 57 (1998) [hereinafter Changes in Binge Drinking], available at http://www.hsph.harvard.edu/cas/1998report.html.
10. MTF College Students and Young Adults 1998, supra note 7, at 181 (Table 9-4, Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs Among College Students 1-4 Years Beyond High School) (reporting a 40.7 percent binge drinking rate among college students in 1997); Changes in Binge Drinking, supra note 9, at 60-61 (reporting a 42.7 percent binge drinking rate among college students in 1997); see id. at 61 (Table 3, Changes in Prevalence of Binge Drinking, by Student Characteristics) (reporting that 43.2 percent of college freshmen and 41.3 percent of seniors were binge drinkers in 1997).
11. MTF College Students and Young Adults 1998, supra note 7, at 181 (Table 9-4). Wechsler's study of college drinking found that the percentage of students who engaged in binge drinking decreased between 1993 and 1997 (from 44.1 percent to 42.7 percent), but that during the same period, the rate of drinking to get drunk increased from 39.4 percent to 52.3 percent, and the rate of drunkenness three or more times in the past month increased from 22.9 percent to 27.9 percent. Changes in Binge Drinking, supra note 9, at 61-62.
12. Regardless of beverage type, the same amount of alcohol is consumed per drink; standard-size servings of beer, wine and distilled spirits contain an equivalent amount of alcohol. National Institute on Alcohol Abuse and Alcoholism (NIAAA), Alcohol Alert: Moderate Drinking, No. 16 PH 315 (April 1992), available at http://silk.nih.gov/silk/niaaal/publication/aa16.htm.
13. In 1998, 32 and 34 percent of eighth graders reported having used beer and wine coolers, respectively, in the past year; 16.2 and 15.6 percent reported having used beer and wine coolers, respectively, in the past 30 days. Trends in Prevalence of Use of Beer and Wine Coolers for Eighth Graders, 1993-1998; Trends in Prevalence of Use of Liquor, Beer, Wine and Wine Coolers for Twelfth Graders, 1997-1998 (unpublished tables from MTF Study). Research supplied with one of the company special reports states that most underage persons start by drinking beer or wine coolers but begin consuming wine and distilled spirits (in the form of mixed drinks or shots) shortly thereafter. It should be noted that the coolers currently on the market may have a base of malt, wine or spirits; consumers who answer surveys may be unaware of this fact.
14. In 1998, 28.5 percent of twelfth graders reported binge drinking of beer, 23.6 percent reported binge drinking of hard liquor, 9.5 percent reported binge drinking of wine coolers, and 6.4 percent reported binge drinking of wine, within the prior two weeks. Trends in Prevalence of Use of Liquor, Beer, Wine and Wine Coolers for Twelfth Graders, 1997-1998 (unpublished table from MTF Study).
15. U.S. Department of Health and Human Services, Ninth Special Report to the U.S. Congress on Alcohol and Health (June 1997) [hereinafter Ninth Special Report], at xxxiv. As a result, alcohol and other substance abuse has been identified as a priority area under "Healthy People 2000," a national prevention agenda coordinated by the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. See http://odphp.osophs.dhhs.gov/pubs/HP2000/hppub97.htm. Healthy People 2010 is slated to be released in January 2000.
16. Henrick Harwood et al., The Lewin Group, The Economic Costs of Alcohol and Drug Abuse in the United States - 1992 at 1 (NIDA, NIH Pub. No. 98-4327) (1998), available at http://165.112.78.61/EconomicCosts/Chapter1.html\#1.1. The estimate was computed based upon costs for 1992, the most recent year for which data are available.
17. Ninth Special Report, supra note 15, at 11.
18. NIAAA, Alcohol Alert: Drinking and Driving, No. 31 PH 362 (January 1996), available at http://silk.nih.gov/silk/niaaa1/publication/aa31.htm. All 50 states plus the District of Columbia have, since 1990, adopted "zero tolerance" laws which set the blood alcohol content limit at 0.02 or lower for drivers under 21. NHTSA, U.S. Department of Transportation, State Highway Safety Laws: Lower BAC Levels for Youthful DWI Offenders (December 31, 1998) (unpublished table listing BAC limits in each state).
19. See NHTSA, U.S. Department of Transportation, Traffic Safety Facts 1997: A Compilation of Motor Vehicle Crash Data from the Fatality

Analysis Reporting System and the General Estimates System, No. DOT HS 808806 (November 1998), at 36 (Table 18, Drivers in Fatal Crashes by Blood Alcohol Concentration and Age, 1982-1997) (per NHTSA, table data represent driver fatalities).
20. See id. Among 16-20 year olds, the percentage of driver fatalities where the driver's BAC was 0.01 or above decreased from a high of 44 percent in 1982 to a low of 20.6 percent in 1995, but has since increased very slightly, to 21.5 percent. Similarly, the percentage of driver fatalities among persons $16-20$ where the BAC was 0.10 or above decreased from 31.1 percent in 1982 to 12.7 percent in 1995, but has since increased slightly to 14.3 percent.
21. See Changes in Binge Drinking, supra note 9, at 63 (reporting a 13 percent increase in drinking and driving by college students since 1993). See also Patrick M. O'Malley and Lloyd D. Johnston, Drinking and Driving Among U.S. High School Seniors, 1984-1997, 89 Am. J. Pub. Health 678 (May 1999) (reporting that rates of drinking and driving among twelfth graders have stopped declining).
22. See NIAAA, Alcohol Alert: Youth Drinking: Risk Factors and Consequences, No. 37, July 1997; Ninth Special Report, supra note 15, at 266.
23. See Ninth Special Report, supra note 15, at 266-67.
24. See Ninth Special Report, supra note 15, at 295. In addition, Congress has found that alcohol use by secondary and elementary school students significantly impedes the learning process and that students who drink tend to receive lower grades and are more likely to miss school because of illness than students who do not drink. 20 U.S.C. § 7102 (Safe and Drug-Free Schools and Communities Act of 1994).
25. Cheryl A. Presley et al., Alcohol and Drugs on American College Campuses: A Report to College Presidents, Third in a Series, 1995, 1996, and 1997 (Core Institute, Southern Illinois University Carbondale) (1998), at 11 (Table 11).
26. Ninth Special Report, supra note 15, at 263-64.
27. See, e.g., Bill Delaney, Alcohol Still Top Health Risk to College Students, November 23, 1998, available at http://www.cnn.com/HEALTH/9811/23 /binge.drinking/; Fraternity Death Comes Despite Campus Steps to Control Drinking, August 27, 1997, available at http:///www.cnn.com/US/9708 /27/Isu.drinking/; Cause of Death Choking, News-Sentinel (Indiana), December 16, 1998, at 5A; Deceased Student's Alcohol Level 0.22, UPI News (Michigan), January 18, 1999.
28. Other secondhand effects include being the victim of an unwanted sexual advance, having property vandalized, or being insulted or humiliated. Changes in Binge Drinking, supra note 9, at 63, 66 (Table 8, Percentages of Nonbinge Drinking Students Reporting Secondhand Binge Drinking Effects, 1993 and 1997, by Gender); see also Ninth Special Report, supra note 15, at 264, 265 (Table 5, Risk of Alcohol-Related Problems Among College-Age Students). The 500 largest colleges and universities reported over 16,000 alcohol-related arrests in 1996. Kit Lively, Alcohol Arrests on Campus Jumped 10\% in 1996; Drug Arrests Increased by 5\%, Chronicle of Higher Education, May 8, 1998.
29. Ninth Special Report, supra note 15, at 301-02.
30. Bridget F. Grant and Deborah A. Dawson, Age At Onset of Alcohol Use and Its Association with DSM-IV Alcohol Abuse and Dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey, 9 J. Substance Abuse 103-10 (1997). The American Psychiatric Association's 1994 Diagnostic and Statistical Manual of Mental Disorders (4th ed.) ("DSM-IV") defines alcohol dependence as a cluster of cognitive, behavioral, and physiological symptoms which indicate that a person continues to drink despite having significant alcohol-related problems. Alcohol abuse is characterized as repetitive patterns of drinking in harmful situations with adverse consequences, including impaired ability to fulfill responsibilities or negative effects on social and interpersonal functioning and health. See Ninth Special Report, supra note 15, at 1-2.

