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The Commercial Value of Underage and Pathological Drinking to the Alcohol Industry

A CASA* White Paper

May 2006

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Accompanying Statement

By Joseph A. Califano, Jr., Chairman and President

Alcohol abuse and addiction cost the nation an estimated \$220 billion in 2005--more than cancer (\$196 billion) or obesity (\$133 billion).

So enormous are the costs of alcohol abuse and the human tragedies such abuse spawns that preventing and reducing the incidence of pathological drinking among Americans has become a priority national health objective. Making the achievement of this objective much harder are the enormous financial interests of the alcohol industry in underage and pathological drinking and the industry's extensive and clever advertising and marketing techniques.

In an attempt to document how the financial stake of the alcohol industry conflicts with the nation's interest in the public's health, in February of 2003 CASA released a White Paper, *The Economic Value of Underage Drinking and Adult Excessive Drinking to the Alcohol Industry*.¹ The paper was based on an analysis conducted by CASA Fellows Foster, Vaughan, Foster and Califano and published in the *Journal of the American Medical Association* February 26, 2003.² This analysis documented, for the first time, the commercial value to the alcohol industry of underage drinking and adult excessive drinking (drinking more than two drinks a day, the federally recommended maximum level of safe drinking for men). It found that eliminating underage and adult excessive drinking would mean a reduction of at least 50.1 percent of the alcohol consumed in the United States in 1999 or \$56.9 billion in consumer expenditures for alcohol.

No research to date, however, has examined the combined commercial value to the industry of underage drinking and pathological drinking (drinking that meets DSM-IV clinical or medical diagnostic criteria for alcohol abuse or dependence).

This White Paper, *The Commercial Value of Underage and Pathological Drinking to the Alcohol Industry*, closes this gap in research. It is based on an article by CASA Fellows Foster, Vaughan, Foster and Califano published in the *Archives of Pediatrics and Adolescent Medicine* (APAM) May 1, 2006.

Despite statements by the alcohol industry that it does not encourage or condone underage drinking and despite its rhetoric that adults should “drink responsibly,” the economic realities of the industry paint a dramatically different picture. Our conservative analysis reveals that in 2001 (the last year for which necessary data were available), a minimum of \$22.5 billion (17.5 percent) of consumer expenditures for alcohol came from underage drinking and \$25.8 billion (20.1 percent) came from adult pathological drinking (meeting clinical criteria for alcohol abuse or dependence). The combined value of underage and pathological drinking was at least of \$48.3 billion (37.5 percent) and, as an alternative analysis showed, as much as \$62.9 billion (48.8 percent).

The industry’s significant financial reliance on underage and pathological drinking provides motive for alcohol marketing and advertising practices targeting underage youth, because those who begin drinking prior to age 21 are far likelier to become pathological drinkers. Indeed, the younger an individual begins drinking, the likelier that individual is to become an alcoholic or alcohol abuser.

Recent research shows the direct relationship between alcohol advertising and increased drinking among youth. Underage drinking benefits the alcohol industry in two ways: the total amount consumed by teens, and the contribution of underage drinking to maintaining a supply of adult pathological drinkers.

Most disturbing, this analysis reveals that a stunning 25.9 percent of underage drinkers meet clinical criteria for alcohol abuse or dependence, compared to 9.6 percent of adult drinkers. In other words, underage drinkers are more than two and one half times likelier

than adult drinkers to be pathological drinkers that meet the clinical criteria for alcohol abuse and addiction! The behavior of these children and teen pathological drinkers may destroy their own lives and injure or even kill others through risky sex that passes on AIDS and other sexually transmitted diseases or leads to teen pregnancy, reckless driving, rape and other violence. It is imperative that our nation end this savagery that alcohol abuse and addiction visit on our children and teens. We need far more effective prevention and treatment services for teens.

We also must recognize the alcohol industry’s financial conflict of interest. Its enormous profits from underage and pathological drinking make it reckless for our society to rely on the industry to curb such drinking. We need independent federal regulation of the industry’s advertising and marketing practices. Self-regulation is a delusion that ensnares too many children and teens.

Former U.S. Surgeons General Julius Richmond (President Carter), Antonia Novello (President George H. W. Bush), and David Satcher (Presidents Clinton and George W. Bush), and former First Lady Betty Ford have joined CASA in a nationwide call for federal regulation of the alcohol industry as it pertains to their advertising and marketing practices. They call for more effective prevention and treatment services for teens.

While the APAM article and this White Paper focus primarily on the responsibility of the alcohol industry, health care profession and government, others bear their own heavy responsibility to help protect our children and teens. Parents are first in line and can help by being actively engaged in their children’s lives, restricting availability of alcohol to their children and talking to their children about the dangers of alcohol abuse and addiction. Colleges must accept their responsibility to create environments that discourage drinking, including prohibiting alcohol advertising on campus and at sponsored events. The National Collegiate Athletic Association (NCAA) should

ban all beer and other alcohol advertising during broadcasts of events such as college football and basketball games. Magazines, network and local radio, television and cable stations, and Internet sites should take steps to avoid exposing underage viewers to alcohol advertisements.

CASA staff responsible for this White Paper are Susan E. Foster, MSW, CASA Vice President and Director of Policy Research and Analysis; Roger Vaughan, DrPH, head of CASA's Substance Abuse and Data Analysis Center (SADACSM), Associate Professor of Clinical Public Health, Department of Biostatistics, Mailman School of Public Health at Columbia University and associate editor for statistics and evaluation for the *American Journal of Public Health*; and, William Foster, PhD, former CASA Senior Vice President and Chief Operating Officer. I assisted and edited the document.

CASA alone is responsible for the facts and conclusions herein.

Statement of
Julius B. Richmond, MD – U.S. Surgeon General 1977-1981
Antonia C. Novello, MD, MPH, DrPH – U.S. Surgeon General 1990-1993
David Satcher, MD, PhD – U.S. Surgeon General 1998-2002

The article, “*The Commercial Value of Underage Drinking and Adult Abusive and Dependent Drinking to the Alcohol Industry*” by Foster et al in the May 1 issue of APAM, the Archives of Pediatrics and Adolescent Medicine, and the related White Paper, *The Commercial Value of Underage and Pathological Drinking to the Alcohol Industry*, by The National Center on Addiction and Substance Abuse at Columbia University, reveal that the combined value to the alcohol industry in 2001 of underage and pathological (meeting clinical criteria for abuse and addiction) drinking is between 37.5 percent and 48.8 percent of total consumer expenditures for alcohol. If unchecked, the alcohol industry stands to gain at least one-half trillion dollars in cash revenues over the next decade from consumption by underage and pathological drinkers. The industry’s significant financial gains from underage and pathological consumers create a conflict of interest for the alcohol industry. This conflict is so substantial that regulation of advertising and marketing practices solely by the industry cannot be expected to work.

Exposure of young people to alcohol advertising has been shown to increase their drinking, and the earlier a young person starts drinking, the greater the chances that he or she will become a pathological drinker. Pathological drinkers consume three times more alcohol than other drinkers making them three times more valuable to the alcohol industry. We must educate the public about this critical health problem.

Since 25.9 percent of underage drinkers already meet clinical criteria for pathological drinking compared with 9.6 percent of adult drinkers, it is imperative to provide effective prevention and treatment services for teens at the earliest possible time.

The findings of this study reveal a critical and urgent need for federal regulation of the alcohol industry as it pertains to their advertising and marketing practices.

**Statement of
Betty Ford, Chairman, The Betty Ford Center**

The article, "*The Commercial Value of Underage Drinking and Adult Abusive and Dependent Drinking to the Alcohol Industry*" by Foster et al in the May 1 issue of APAM, the Archives of Pediatrics and Adolescent Medicine, and the related White Paper, *The Commercial Value of Underage and Pathological Drinking to the Alcohol Industry*, by The National Center on Addiction and Substance Abuse at Columbia University, reveal that the combined value to the alcohol industry of underage and pathological (meeting clinical criteria for abuse and addiction) drinking is between 37.5 percent and 48.8 percent of total consumer expenditures for alcohol or \$48.3 billion and \$62.9 billion in 2001. This accurate, peer reviewed accounting of underage and pathological drinking reveals that the financial conflict of interest for the alcohol industry is so substantial that self-regulation of advertising and marketing practices cannot be expected to work.

Exposure of young people to alcohol advertising has been shown to increase their drinking, and the earlier a child starts to drink the greater the chance that he or she will become a pathological drinker. Pathological drinkers consume three times more alcohol than other drinkers. Perhaps most troubling is that 25.9 percent of underage drinkers already meet clinical criteria for pathological drinking compared with 9.6 percent of adults. It is imperative to provide effective prevention and treatment services for teens to interrupt their progression to adult pathological drinking.

The Commercial Value of Underage and Pathological Drinking to the Alcohol Industry

CASA's analysis of the most recently available relevant data (2001) reveals that the alcohol industry depends on underage and pathological (meeting DSM-IV clinical or medical diagnostic criteria) drinking for a minimum of \$48.3 billion or 37.5 percent of total consumer expenditures for its products and as much as \$62.9 billion or 48.8 percent.

Early initiation of alcohol use financially supports the industry in two ways: the amount consumed by underage drinkers, and the contribution of underage drinking to maintaining a supply of adult pathological drinkers. Teens who begin regular drinking before age 15 or younger are four times likelier to become alcohol dependent than those who start regular drinking at age 21 or older.³ Almost all (96.8 percent) adult pathological drinkers began drinking before age 21.⁴

Because of their increased levels of consumption pathological drinkers--both underage and adult--are three times more valuable to the alcohol industry than other drinkers.

If unchecked, the alcohol industry stands to gain at least one-half trillion dollars in cash revenues over the next decade from product sales to underage and pathological drinkers. This represents a profound conflict of interest with the public health.

Preventing Pathological Drinking: A National Health Goal

Alcohol abuse and alcoholism cost the nation an estimated \$220 billion in 2005,*⁵ more than

* Includes direct medical costs; lost productivity due to illness, death, crime and victimization; and other costs including accidents, criminal justice and alcohol treatment services.

cancer (\$196 billion)^{* 6} or obesity (\$133 billion).^{† 7} Because of the high price Americans pay in dollars and human suffering, the U.S. Department of Health and Human Services has identified the reduction of underage drinking and abusive and dependent--pathological--drinking a priority national health objective in the United States in its *Healthy People 2010* report.⁸ Abusive and dependent drinking is recognized clinically as a pathological condition under the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, revision four (DSM-IV).⁹

Federal dietary guidelines issued by the U.S. Departments of Agriculture and Health and Human Services recognize that higher levels of alcohol intake raise the risk for high blood pressure, stroke, certain cancers, accidents, violence, suicides, birth defects, and overall mortality. These same guidelines state that drinking beyond safe levels of one drink a day for women and two drinks a day for men "...may cause cirrhosis of the liver, inflammation of the pancreas, and damage to the heart and brain."¹⁰

Research suggests that an effective way to prevent pathological drinking is to delay the onset of regular drinking.¹¹ Individuals who begin drinking before age 15 are four times likelier to become alcohol dependent than those who do not drink before age 21. The odds of lifetime alcohol dependence are reduced by 14 percent with each increasing year of age of first use.¹² The incidence of lifetime alcohol abuse and dependence is greatest for those who begin drinking between the ages of 11 and 14.¹³ Despite knowledge of this relationship between early onset of drinking and later abuse and dependence, each day more than 13,000 teens under the age of 21 take their first drink. A little over 6,000 of these beginning drinkers are under the age of 16.¹⁴

* Includes direct medical costs and lost productivity due to illness and death.

† Includes direct medical costs and lost productivity due to illness and death.

How Many People are Current Drinkers?

To determine the prevalence of current drinking[‡] by both underage youth and adults, CASA used the following data sources:

- The 2001 Youth Risk Behavior Survey (YRBS), administered by the Centers for the Disease Control and Prevention (CDC) to determine the percent of underage youth who are current drinkers.^{§ 15}
- The 2001 Behavioral Risk Factor Surveillance Survey (BRFSS), also administered by the CDC, to determine the percent of adults who are current drinkers.^{** 16}
- The 2000 U.S. Census to determine the number of people aged 12 to 20 and the number 21 and over.^{†† 17}

Among youth age 12 to 20, 47.1 percent are current drinkers; among adults age 21 and over, 53.8 percent are current drinkers. According to the U.S. Census, there were 35.8 million people aged 12- to 20-years old (12.7 percent of the total population), and 196.9 million people aged 21 and older (or 70.0 percent of the total population). CASA estimates that 16.9 million youth between the ages of 12 and 20 and 106 million adults ages 21 and over were current drinkers in 2001.¹⁸

‡ Current drinkers are those who report having one or more drinks of alcohol in the past 30 days.

§ The 2001 YRBS is a nationally representative sample of 13,601 persons in grades 9 through 12, with observed ages from 12 to 18 years (if the participating high school student was older than 18-years old, they were recoded as an 18-year old).

** The 2001 BRFSS is an annual telephone survey of 212,510 respondents, including 148,325 aged 21 years or older.

†† We chose to use 2000 Census estimates because 2001 estimates remain dynamic; that is, they are continually updated making replication of our analysis difficult. 2001 estimates do not differ markedly from those of 2000 and would not change the result of our analyses.

How Many People are Pathological Drinkers?

To determine the percentage of current drinkers--both underage and adult--that are pathological drinkers, CASA used the 2001 National Household Survey on Drug Abuse (NHSDA), administered by the Substance Abuse and Mental Health Services Administration (SAMSHA).^{*} Pathological drinkers were defined as meeting criteria for alcohol abuse or dependence as defined by the American Psychiatric Association and published in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV). The NHSDA includes the items necessary for a DSM-IV diagnosis of alcohol abuse or dependence.

A respondent is labeled as *abusing* alcohol if he or she exhibits any one of the following conditions in the previous year:

- Serious problems at home, work or school caused by alcohol use;
- Alcohol use in situations where it is physically hazardous (e.g., driving a car);
- Substance-related legal problems; or,
- Continued use of alcohol even though it caused serious problems with friends and family.

The respondent is labeled as alcohol *dependent* if he or she exhibits three or more of the following seven conditions at any time in the previous year:

- A need for markedly increased amounts or by a markedly diminished effect with same amount;

^{*} The NHSDA, now called the National Survey on Drug Use and Health (NSDUH), is a nationally representative sample of 55,561 persons, including 24,264 persons aged 12 to 20 and 31,297 persons aged 21 and older.

- Withdrawal syndrome for the substance, or taking the same substance to relieve or avoid withdrawal symptoms;
- Taking the substance in larger amounts or over a longer period than was intended;
- Having a persistent desire or being unsuccessful in cutting down or controlling substance use;
- Spending a great deal of time in activities necessary to obtain or use the substance;
- Giving up or reducing participation in important social, occupational, or recreational activities because of substance use; or,
- Continued use despite adverse social or health consequences caused or exacerbated by the substance.

Among drinkers aged 12- to 20-years old, 25.9 percent are pathological drinkers. Whereas people aged 12 to 20 comprise 15.4 percent of the population age 12 and older, they comprise 30.1 percent of those meeting the DSM-IV criteria for alcohol abuse or dependence.

Among adult drinkers age 21 and over, 9.6 percent are pathological drinkers. Adults comprise 84.6 percent of the population age 12 and over and 69.9 percent of pathological drinkers.

Underage drinkers are 2.7 times likelier to meet the DSM-IV criteria for alcohol abuse or dependence than adult drinkers.

How Much Do Underage and Pathological Drinkers Consume?

To determine the amount of consumption, we used the following NHSDA survey items: "Think specifically about the past 30 days--that is, since [fill in date], up to and including today. During the past 30 days, on how many days did you drink 1 or more drinks of an alcoholic beverage?" and "On the days when you drank

during the past 30 days, how many drinks did you usually have? Count as a drink a can or bottle of beer; a wine cooler or a glass of wine, champagne, or sherry; a shot of liquor or mixed drink or cocktail.”

To calculate the amount of alcohol consumed by underage drinkers and underage and adult drinkers who met, and did not meet, the DSM-IV criteria for alcohol abuse or dependence, we performed the following steps:

- The number of persons aged 12 to 20 and 21 and older, estimated using the 2000 U.S. Census, was multiplied by the proportion of those who drank in the past 30 days, estimated using the 2001 YRBS for those aged 12 to 20* and the 2001 BRFSS for adults.
- The resulting numbers of people ages 12 to 20, and 21 and older who drank in the past 30 days were then multiplied by the estimated average amount of alcohol consumed among drinkers within age category using 2001 NHSDA data.
- The results were annualized and combined to compute the total number of drinks consumed by people ages 12 and older.
- To determine the number of people who met the DSM-IV criteria for alcohol abuse or dependence, we multiplied the estimated proportion of drinkers in each category who met the DSM-IV criteria for alcohol abuse or dependence by the number of drinkers in each age category.

Based on these data, underage drinkers consume 18.1 percent of all drinks. They average 35.2 drinks per month. Underage pathological

* This may represent an underestimate of the proportion of 12- to 20-year old who drink since the YRBS includes only 12- to 18-year olds. However, this approach was preferable to trying to merge estimates of 19- to 20-year olds from another data source (e.g., the BRFSS, NHSDA or NESARC) that had different sampling strategies and data collection methodologies.

drinkers consume 8.5 percent of all drinks and average 64.3 drinks per month.

Adult pathological drinkers consume 20.5 percent of all drinks and average 66.4 drinks per month.

All pathological drinkers consume 29 percent of the drinks consumed in the U.S.

What is the Commercial Value to the Alcohol Industry of Underage and Pathological Drinking?

To estimate consumer expenditures linked to underage drinkers and to underage and adult drinkers who met or did not meet the DSM-IV criteria for pathological drinking, the total amount (in gallons and liters) of beer, distilled spirits and wine consumed by each group in 2001 was calculated using data from the alcohol industry published by Adams Business Research (ABR).[†]

To estimate the cash value of underage and adult drinking also requires information on the proportion of the type of drink (beer versus distilled spirits versus wine) consumed by underage and adult drinkers and by those who met versus did not meet the DSM-IV criteria for alcohol abuse or dependence. No data documenting the proportions by type of alcoholic beverages consumed by underage drinkers ages 12 to 18 are available. However, Foster, *et al* found that the pattern of drinking among underage drinkers ages 12 to 20 closely resembles the pattern of drinking among adult excessive drinkers.¹⁹

CASA estimated patterns of alcohol consumption using the 2001-2002 National Epidemiological Survey on Alcohol and Related Conditions (NESARC).²⁰ This nationally representative survey of those aged 18 and older,

[†] The ABR is comprised of experts in alcohol sales, market research, and finance and maintains up-to-date data on alcohol consumption and expenditures in the United States.

administered by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), asks participants to identify type of drink by the categories of beer, distilled spirits, wine, and “coolers” of all types. We applied the estimated beverage type computed among those 18 to 20 to all underage drinkers. Because the price of coolers is typically similar to that of beer,²¹ we redistributed the percent of cooler consumption into the “beer” category.

Adults who meet the DSM-IV criteria for abuse or dependence consume 70.8 percent beer, 18.3 percent distilled spirits, and 10.9 percent wine while other adult drinkers consume 56.1 percent beer, 16.7 percent distilled spirits, and 27.2 percent wine. Using this same data set, we found that underage drinkers (ages 18 to 20) who meet the DSM-IV criteria for abuse or dependence consume 79.6 percent beer, 17.5 percent distilled spirits, and 2.9 percent wine, while other underage drinkers consume 71.5 percent beer, 20.8 percent distilled spirits, and 7.7 percent wine.

To calculate the cash value of alcohol consumed by each age and DSM-IV group, we multiplied the total amount of alcohol (in the form of beer, distilled spirits, and wine) consumed in the United States by the percent of total alcohol consumed by each age and DSM-IV group. Using these procedures, we accounted for all but 0.31 percent of consumer expenditures. We re-allocated this small remainder of the \$128.5 billion in consumer expenditures for alcohol in 2001 reported by Adams²² across the age and drinking categories according to their computed percent of all alcohol expenditures.

To present a range of estimates of the cash value of underage and pathological drinking, we also used the NESARC to compute estimates of drinking rates, consumption, and pathological drinking rates among adults 21 and older. Because the NESARC did not include persons aged 12 to 17 years, we continued to use the YRBS data to estimate drinking rates and the NHSDA data to estimate drinking amounts and pathological drinking rates among underage drinkers.

All analyses using nationally representative data sets incorporated the appropriate weighting variables provided with each data set.

Value of Alcohol Consumed by Underage Drinkers

An estimated \$128.6 billion²³ was spent on alcohol in the United States in 2001. The total cash value of underage drinking was at least \$22.5 billion in 2001 or 17.5 percent of total consumer expenditures for alcohol.

Value of Alcohol Consumed by Pathological Drinkers

Of total consumer expenditures for alcohol, 28.3 percent or \$36.3 billion was attributable to pathological drinking. Underage abusive and dependent drinking alone accounted for 8.2 percent (\$10.5 billion); adult abusive and dependent drinking accounted for 20.1 percent (\$25.8 billion).

Those who meet the DSM-IV criteria for alcohol abuse or dependence drink, on average, three times as much per month as those who do not meet the criteria.

Underage drinkers (age 12 to 20) who meet the DSM-IV criteria for pathological drinking represent one-quarter (25.9 percent) of drinkers in that age group but they consume nearly half of all drinks (47.3 percent) in that age category. Adult drinkers (age 21 and over) who meet the DSM-IV criteria represent 9.6 percent of drinkers in that age group but they consume 25.0 percent of all drinks in that age category.

Combined Value of Underage and Pathological Drinking

For the alcohol industry, increases in alcohol consumption come either from new customers or from increased drinking among existing customers. This analysis demonstrates that early initiation of alcohol use provides substantial financial value to the alcohol industry in both areas: \$22.5 billion in consumer expenditures linked to alcohol consumed by minors--new

customers; and \$25.8 billion per year in consumer expenditures for alcohol consumed by adult abusive and dependent drinkers--increased drinking among existing customers. These two groups are closely linked in that the earlier a young person starts to drink, the greater the likelihood of becoming an adult pathological drinker. Almost all adult pathological drinkers (96.8 percent) began drinking before age 21.²⁴

The combined annual worth of all underage drinking (including abusive and dependent drinking) and all adult abusive and dependent drinking to the industry is a minimum of \$48.3 billion or 37.5 percent of total consumer expenditures for alcohol.

An alternative analysis employing the NESARC data found that underage drinkers and adults who met the DSM-IV criteria for alcohol abuse or dependence together were responsible for nearly half--48.8 percent--or \$62.9 billion in consumer expenditures for alcohol.

Public Health Implications

With more than a third to almost a half of sales linked to underage and pathological drinking, the alcohol industry has compelling financial motive to attempt to maintain or increase rates of underage drinking.

We do not condone illegal under-age drinking under any circumstances. This industry does not, and never has, targeted our advertising to people who can't legally buy our products.³¹

--Jeff Becker, President
Beer Institute

Alcohol advertisements in magazines, for example, expose youth age 12 to 20 to 48 percent more beer advertisements and 20 percent more distilled spirits advertisements and 92 percent more alcopops* advertising than adults of legal age.²⁵ The same pattern of

* Sweet-tasting, flavored malt alcoholic beverages such as Rick's Spiked Lemonade, Tequiza, Hooper's Hooch, Smirnoff Ice, Skyy Blue or Seagram's Smooth. Also known as malternatives.

overexposure of children relative to adults to beer and distilled spirits advertisements in magazines also can be seen in radio and TV advertising.²⁶ And, exposure of children and teens to magazine and television alcohol ads has increased, even more so for girls than boys.²⁷

These increases have occurred in spite of national reports, including the 2004 report of the National Research Council and Institute of Medicine, calling for limits on advertising by the alcohol industry to children and teens under the age of 21.²⁸ Recent research on the link between alcohol advertising and underage drinking illustrates why. Each additional alcohol advertisement viewed by youth increases the number of drinks consumed by youth by one percent.²⁹ Allegations that the alcohol industry profits from "unfair and deceptive" marketing practices aimed at underage drinkers to assure this flow of profits have been the subject of several lawsuits filed against the alcohol industry.³⁰

This analysis documents the compelling financial interest on the part of the industry that provides motive for such advertising and marketing practices. These financial interests are antithetic to the priority national health objective of reducing underage and pathological drinking.

The public health implications of this research are twofold. First, because of this apparent conflict of interest, the alcohol industry is not an appropriate candidate to regulate its own advertising and marketing practices as they relate to underage drinking in particular. External regulatory controls should be applied to protect underage youth from exposure to alcohol advertising and marketing.

Second, the fact that 25.9 percent of underage drinkers (12.2 percent of youth age 12 to 20) already meet DSM-IV criteria for pathological drinking underscores the critical importance of comprehensive prevention strategies and treatment options tailored to the needs of teens.

*No one is policing what the industry is doing,
and the industry is in denial.*³²

--David A. Kessler, MD
Dean, University of California, San Francisco
School of Medicine

Recommendations

To achieve the national goal of reduction of underage drinking and abusive and dependent or pathological drinking, CASA makes these key recommendations:

- Take federal action to regulate the alcohol industry's advertising and marketing practices;
- Mount a major public health campaign to educate the public about the dangers of underage drinking and of abusive and dependent drinking;
- Educate health care providers to recognize the signs and symptoms of substance abuse and know how to respond;
- Assure availability of comprehensive substance abuse prevention and treatment programs tailored to the needs of teens and adults; and,
- Require that insurance companies, including Medicaid and Medicare, extend coverage for addiction treatment comparable to other health and mental health conditions.

Notes

¹ The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *The economic value of underage drinking and adult excessive drinking to the alcohol industry*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

² Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2003). Alcohol consumption and expenditures for underage drinking and adult excessive drinking. *JAMA*, 289(8), 989-995.

³ Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 9, 103-110.

⁴ CASA analysis of NHSDA: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *National Household Survey on Drug Abuse, 2001* [Computer file]. ICPSR version. Research Triangle Park, NC: Research Triangle Institute [producer], 2002. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor], 2003.

⁵ CASA's cost of living adjustment, using the Bureau of Labor Statistics Inflation Calculator, of 1998 data by Harwood, H. (2000). *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. Based on estimates, analyses, and data reported in Harwood, H., Fountain, D.; & Livermore, G. *The economic costs of alcohol and drug abuse in the United States 1992*. Report prepared for the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, U.S. Department of Health and Human Services. NIH Publication No 98-4327. Rockville, MD.

⁶ CASA's cost of living adjustment, using the Bureau of Labor Statistics Inflation Calculator, of 2004 data from U.S. National Institutes of Health, National Cancer Institute. *Cancer trends progress report – 2005 update*. [Online]. Retrieved April 13, 2006 from the World Wide Web: <http://progressreport.cancer.gov>.

⁷ CASA's cost of living adjustment, using the Bureau of Labor Statistics Inflation Calculator, of 2000 data from U.S. Department of Health and Human Services. (2001). *The Surgeon General's call to action to prevent and decrease overweight and obesity*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General.

⁸ U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (2005). *Healthy people 2010: With understanding and improving health and objectives for improving health*. (2nd ed.). [Online]. Retrieved February 7, 2005 from the World Wide Web: <http://www.healthypeople.gov>.

⁹ American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders*, (4th ed.). Washington, DC: American Psychiatric Association.

¹⁰ U.S. Department of Agriculture, & U.S. Department of Health and Human Services. (2005). *Dietary guidelines for Americans, 2005*. Washington, DC: U.S. Department of Health and Human Services.

¹¹ Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 9, 103-110; Grant, B. F., Stinson, F. S., & Harford, T. C. (2001). Age at onset of alcohol use and DSM-IV alcohol abuse and dependence: A 12-year follow-up. *Journal of Substance Abuse*, 13(4), 493-504; Grant, B. F. (1998). The impact of a family history of alcoholism on the relationship between age at onset of alcohol use and DSM-IV alcohol dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Alcohol Health & Research World*, 22(2), 144-147; Brook, D. W., Brook, J. S., Zhang, C., & Whiteman, M. (2002). Drug use and the risk of major depressive disorder, alcohol dependence, and substance use disorders. *Archives of General Psychiatry*, 59(11), 1039-1045; Hasin, D. S., & Glick, H. (1992). Severity of DSM-III-R alcohol dependence: United States, 1988. *British Journal of Addiction*, 87(12), 1725-1730; Windle, M. (1991). Alcohol use and abuse: Some findings from the National Adolescent Student Health Survey. *Alcohol Research & Health*, 15(1), 5-10; DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *American Journal of Psychiatry*, 157(5), 745-750; Barnes, G. M., & Welte, J. W. (1986). Patterns and predictors of alcohol use among 7-12th grade students in New York State. *Journal of Studies on Alcohol*, 47(1), 53-62; Chou, S. P., & Pickering, R. P. (1992). Early onset of drinking as a risk factor for lifetime alcohol-related problems. *British Journal of Addiction*, 87(8), 1199-1204.

¹² Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 9, 103-110.

¹³ DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *American Journal of Psychiatry*, 157(5), 745-750.

- ¹⁴ CASA analysis of YRBS: Centers for Disease Control and Prevention. (2001). *Youth Risk Behavior Surveillance System*. Atlanta, GA: U.S. Department of Health and Human Services.
- ¹⁵ CASA analysis of YRBS: Centers for Disease Control and Prevention. (2001). *Youth Risk Behavior Surveillance System*. Atlanta, GA: U.S. Department of Health and Human Services.
- ¹⁶ CASA analysis of NHSDA: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *National Household Survey on Drug Abuse, 2001* [Computer file]. ICPSR version. Research Triangle Park, NC: Research Triangle Institute [producer], 2002. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor], 2003.
- ¹⁷ U.S. Department of Commerce, U.S. Census Bureau. (2003). *Profiles of general demographic characteristics, 2002*. [On-line]. Retrieved January 23, 2003 from the World Wide Web: <http://landview.census.gov>.
- ¹⁸ CASA analysis of YRBS: Centers for Disease Control and Prevention. (2001). *Youth Risk Behavior Surveillance System*. Atlanta, GA: U.S. Department of Health and Human Services.
- ¹⁹ Foster, S. E., Vaughan, R. D., Foster, W. H., & Califano, J. A. (2003). Alcohol consumption and expenditures for underage drinking and adult excessive drinking. *JAMA*, 289(8), 989-995.
- ²⁰ CASA analysis of Wave 1: National Institute on Alcohol Abuse and Alcoholism. (2002). *Wave 1 of 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)*. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.
- ²¹ Roberts, M. (2002). *Hard beverages tap into America's thirst for something different*. [On-line]. Retrieved July 21, 2005 from the World Wide Web: <http://www.restaurant.org>; *Grapefinds*. (2005). [On-line]. Retrieved July 21, 2005 from the World Wide Web: <http://www.grapefinds.net>; *Beverages & More!* (2005). [On-line]. Retrieved July 21, 2005 from the World Wide Web: <http://www.bevmo.com>.
- ²² Adams Business Research. (2002). *Adams liquor handbook, 2001*. Norwalk, CT: Adams Business Research; Adams Business Research. (2002). *Adams wine handbook, 2001*. Norwalk, CT: Adams Business Research; Adams Business Research. (2002). *Adams beer handbook, 2001*. Norwalk, CT: Adams Business Research.
- ²³ Adams Business Research. (2002). *Adams liquor handbook, 2001*. Norwalk, CT: Adams Business Research; Adams Business Research. (2002). *Adams wine handbook, 2001*. Norwalk, CT: Adams Business Research; Adams Business Research. (2002). *Adams beer handbook, 2001*. Norwalk, CT: Adams Business Research.
- ²⁴ CASA analysis of NHSDA: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *National Household Survey on Drug Abuse, 2001* [Computer file]. ICPSR version. Research Triangle Park, NC: Research Triangle Institute [producer], 2002. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor], 2003.
- ²⁵ Center on Alcohol Marketing and Youth. (2005). *Youth overexposed: Alcohol advertising in magazines, 2001-2003*. Washington, DC: Center on Alcohol Marketing and Youth.
- ²⁶ Center on Alcohol Marketing and Youth. (2002). *Television: Alcohol's vast adland*. Washington, DC: Center on Alcohol Marketing and Youth; Jernigan, D. H., Ostroff, J., Ross, C., & O'Hara, J. A. (2004). Sex differences in adolescent exposure to alcohol advertising in magazines. *Archives of Pediatrics & Adolescent Medicine*, 158(7), 629-634.
- ²⁷ Jernigan, D. H., Ostroff, J., Ross, C., & O'Hara, J. A. (2004). Sex differences in adolescent exposure to alcohol advertising in magazines. *Archives of Pediatrics & Adolescent Medicine*, 158(7), 629-634.
- ²⁸ Bonnie, R. J., O'Connell, M. E., & Committee on Developing a Strategy to Reduce and Prevent Underage Drinking (Eds.). (2004). *Reducing underage drinking: A collective responsibility*. Washington, DC: Board on Children, Youth and Families, Division of Behavioral and Social Sciences and Education, Research Council and Institute of Medicine; American Medical Association. (2002). *Underage drinkers at higher risk of brain damage than adults, American Medical Association report reveals [Press release]*. [On-line]. Retrieved December 9, 2002 from the World Wide Web: <http://www.alcoholpolicysolutions.net>; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *Teen tipplers: America's underage drinking epidemic*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; Hakki, et al., v. Zima Company, et al. Superior Court of the District of Columbia, Case No 03-cv-2621-GK (11-13-2003).
- ²⁹ Snyder, L. B., Milici, F. F., Slater, M., Sun, H., & Strizhakaova, Y. (2006). Effects of alcohol advertising exposure on drinking among youth. *Archives of Pediatrics & Adolescent Medicine*, 160(1), 18-24.
- ³⁰ Hakki, et al., v Zima Company, et al. Superior Court of the District of Columbia, Case No 03-cv-9183-GK, Filed November 13, 2003; Kreft v. Zima Beverage Company, et al. District Court and County of Denver, CO, Case No 03-cv-9229, Filed December 3, 2003; Wilson, et. al., v. Zima Company, et al. Superior Court Division, General Court of Justice, Mecklenburg County, NC, Case No. 04-cvs-626, Filed January 13, 2004.

³¹ Schwartz, J. (2002, December 18). Alcohol ads on TV find their way to teenagers, a study finds, despite industry guidelines. *New York Times*, p. C6.

³² Schwartz, J. (2002, December 18). Alcohol ads on TV find their way to teenagers, a study finds, despite industry guidelines. *New York Times*, p. C6.