Excerpt from the Surgeon General’s Report: *Adverse Consequences OF Underage Drinking*

**Note:** Excerpted from [*The Surgeon General’s Call to Action to Prevent and Reduce Underage Drinking*](http://www.ncbi.nlm.nih.gov/books/NBK44360/), U.S. Department of Health and Human Services, pp. 10–14.22

The short- and long-term consequences that arise from underage alcohol consumption are astonishing in their range and magnitude, affecting adolescents, the people around them, and society as a whole. Adolescence is a time of life characterized by robust physical health and low incidence of disease, yet overall morbidity and mortality rates increase 200 percent between middle childhood and late adolescence/early adulthood. This dramatic rise is attributable in large part to the increase in risk-taking, sensation-seeking, and erratic behavior that follows the onset of puberty and which contributes to violence, unintentional injuries, risky sexual behavior, homicide, and suicide (Dahl 2004). Alcohol frequently plays a role in these adverse outcomes and the human tragedies they produce. Among the most prominent adverse consequences of underage alcohol use are those listed below. Underage drinking:

* Is a leading contributor to death from injuries, which are the main cause of death for people under age 21. Annually, about 5,000 people under age 21 die from alcohol-related injuries involving underage drinking. About 1,900 (38 percent) of the 5,000 deaths involve motor vehicle crashes, about 1,600 (32 percent) result from homicides, and about 300 (6 percent) result from suicides (Centers for Disease Control and Prevention [CDC] 2004; Hingson and Kenkel 2004; Levy et al. 1999; National Highway Traffic Safety Administration [NHTSA] 2003; Smith et al. 1999).
* Plays a significant role in risky sexual behavior, including unwanted, unintended, and unprotected sexual activity, and sex with multiple partners. Such behavior increases the risk for unplanned pregnancy and for contracting sexually transmitted diseases (STDs), including infection with HIV, the virus that causes AIDS (Cooper and Orcutt 1997; Cooper et al. 1994).
* Increases the risk of physical and sexual assault (Hingson et al. 2005).
* Is associated with academic failure (Grunbaum et al. 2004).
* Is associated with illicit drug use (Grunbaum et al. 2004).
* Is associated with tobacco use (Shiffman and Balabanis 1995).
* Can cause a range of physical consequences, from hangovers to death from alcohol poisoning.
* Can cause alterations in the structure and function of the developing brain, which continues to mature into the mid to late twenties, and may have consequences reaching far beyond adolescence (Brown et al. 2000; Crews et al. 2000; De Bellis et al. 2000; Swartzwelder et al. 1995a, 1995b; Tapert and Brown 1999; White and Swartzwelder 2005).
* Creates secondhand effects that can put others at risk. Loud and unruly behavior, property destruction, unintentional injuries, violence, and even death because of underage alcohol use afflict innocent parties. For example, about 45 percent of people who die in crashes involving a drinking driver under the age of 21 are people other than the driver (U.S. Department of Transportation Fatality Analysis Reporting System 2004). Such secondhand effects often strike at random, making underage alcohol use truly everybody’s problem.
* In conjunction with pregnancy, may result in fetal alcohol spectrum disorders, including fetal alcohol syndrome, which remains a leading cause of mental retardation (Jones and Smith 1973).

Further, underage drinking is a risk factor for heavy drinking later in life (Hawkins et al. 1997; Schulenberg et al. 1996a), and continued heavy use of alcohol leads to increased risk across the lifespan for acute consequences and for medical problems such as cancers of the oral cavity, larynx, pharynx, and esophagus; liver cirrhosis; pancreatitis; and hemorrhagic stroke (reviewed in Alcohol Research & Health 2001).

**Early Onset of Drinking Can Be a Marker for Future Problems, Including Alcohol Dependence and Other Substance Abuse**

Approximately 40 percent of individuals who report drinking before age 15 also describe their behavior and drinking at some point in their lives in ways consistent with a diagnosis for alcohol dependence. This is four times as many as among those who do not drink before age 21 (Grant and Dawson 1997).

Besides experiencing a higher incidence of dependence later in life, youth who report drinking before the age of 15 are more likely than those who begin drinking later in life to have other substance abuse problems during adolescence (Hawkins et al. 1997; Robins and Przybeck 1985; Schulenberg et al. 1996a); to engage in risky sexual behavior (Grunbaum et al. 2004); and to be involved in car crashes, unintentional injuries, and physical fights after drinking both during adolescence and in adulthood. This is true for individuals from families both with and without a family history of alcohol dependence (Hingson et al. 2000, 2001, 2002). Delaying the age of onset of first alcohol use as long as possible would ameliorate some of the negative consequences associated with underage alcohol consumption.

**The Negative Consequences of Alcohol Use on College Campuses Are Widespread**

Alcohol consumption by underage college students is commonplace, although it varies from campus to campus and from person to person. Indeed, many college students, as well as some parents and administrators, accept alcohol use as a normal part of student life. Studies consistently indicate that about 80 percent of college students drink alcohol, about 40 percent engage in binge drinking, and about 20 percent engage in frequent episodic heavy consumption, which is bingeing three or more times over the past 2 weeks (National Institute on Alcohol Abuse and Alcoholism [NIAAA] 2002).

**Note:** In college studies, *binge drinking* is usually defined as “five or more drinks in a row for men and four or more drinks in a row for women” (National Institute on Alcohol Abuse and Alcoholism [NIAAA] National Advisory Council). The definition was refined by the NIAAA National Advisory Council in 2004 as follows: “A ‘binge’ is a pattern of drinking alcohol that brings blood alcohol concentration (BAC) to 0.08 gram percent or above. For the typical adult, this pattern corresponds to consuming 5 or more drinks (male), or 4 or more drinks (female), in about 2 hours.” It is a criminal offense in every State for an adult to drive a motor vehicle with a blood alcohol level of 0.08 gram percent or above.

The negative consequences of alcohol use on college campuses are particularly serious and pervasive. For example:

* An estimated 1,700 college students between the ages of 18 and 24 die each year from alcohol-related unintentional injuries, including motor vehicle crashes (Hingson et al. 2005).
* Approximately 600,000 students are unintentionally injured while under the influence of alcohol (Hingson et al. 2005).
* Approximately 700,000 students are assaulted by other students who have been drinking (Hingson et al. 2005).
* About 100,000 students are victims of alcohol-related sexual assault or date rape (Hingson et al. 2005).

**Underage Military Personnel Engage in Alcohol Use That Results in Negative Consequences**

According to the most recent (2005) Department of Defense Survey of Health-Related Behaviors Among Military Personnel, 62.3 percent of underage military members drink at least once a year, with 21.3 percent reporting heavy alcohol use.

**Note:** *Heavy alcohol use* in this survey refers to drinking five or more drinks per typical drinking occasion at least once a week.

Problems among underage military drinkers include: serious consequences (15.8 percent); alcohol-related productivity loss (19.5 percent); and as indicated by AUDIT scores, hazardous drinking (25.7 percent), harmful drinking (4.6 percent), or possible dependence (5.5 percent) (Bray et al. 2006).

**Note:** The Alcohol Use Disorders Identification Test (AUDIT), which was developed by the World Health Organization, consists of 10 questions scored 0 to 4 that are summed to yield a total score ranging from 0 to 40. It is used to screen for excessive drinking and alcohol-related problems. Scores between 8 and 15 are indicative of hazardous drinking, scores between 16 and 19 suggest harmful drinking, and scores of 20 or above warrant further diagnostic evaluation for possible alcohol dependence.

**Children of Alcoholics Are Especially Vulnerable to Alcohol Use Disorders**

Children of alcoholics (COAs) are between 4 and 10 times more likely to become alcoholics than children from families with no alcoholic adults (Russell 1990) and therefore require special consideration when addressing underage drinking. COAs are at elevated risk for earlier onset of drinking (Donovan 2004) and earlier progression into drinking problems (Grant and Dawson 1998). Some of the elevated risk is attributable to the socialization effects of living in an alcoholic household, some to genetically transmitted differences in response to alcohol that make drinking more pleasurable and/or less aversive, and some to elevated transmission of risky temperamental and behavioral traits that lead COAs, more than other youth, into increased contact with earlier-drinking and heavier-drinking peers.