

2023

REPORT TO CONGRESS ON THE PREVENTION AND REDUCTION OF UNDERAGE DRINKING



The Interagency Coordinating Committee on the Prevention of
Underage Drinking (ICCPUD)

ICCPUD

REPORT TO CONGRESS ON THE PREVENTION AND REDUCTION OF UNDERAGE DRINKING 2023

This *Report to Congress on the Prevention and Reduction of Underage Drinking (RTC)* is required by the Sober Truth on Preventing Underage Drinking Act (STOP Act) (Pub. L. 109–422), which was enacted by Congress in 2006, reauthorized in December 2016 as part of the 21st Century Cures Act (Pub. L. 114–255), reauthorized again by the Consolidated Appropriations Act, 2023 (Pub. L. 117–328), and codified into law in 42 U.S.C. 290bb–25b: Programs to reduce underage drinking. The STOP Act requires an annual report to Congress (Chapters 1–4) that includes a description of federal programs to address underage drinking; the extent of progress in preventing and reducing underage drinking; surveillance data on underage drinking initiation, prevalence, consumption patterns, and underage access to alcohol; and related information. The STOP Act also requires an annual report to Congress on the national adult-oriented media public service campaign mandated by the STOP Act (Chapter 5), including the production, broadcasting, and evaluation of the effectiveness and reach of the campaign.

As directed by the STOP Act, the reports were prepared by the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD), which is chaired by the Assistant Secretary for Mental Health and Substance Use, U.S. Department of Health and Human Services.

Time period covered by the 2023 RTC: The 2023 RTC includes data from calendar years 2021 and 2022. Epidemiological data in Chapters 1–4 are drawn primarily from the 2021 National Survey on Drug Use and Health, the 2021 Monitoring the Future survey, and the 2021 Youth Risk Behavior Survey. Chapter 5, the *Report to Congress on the National Media Campaign to Prevent Underage Drinking*, describes 2022 activities conducted by the campaign. Chapter 4 and Appendix B include data on the underage drinking prevention activities of ICCPUD member agencies in calendar year 2022.

U.S. Department of Health and Human Services (HHS), Substance Abuse and Mental Health Services Administration (SAMHSA). (2023). Report to Congress on the Prevention and Reduction of Underage Drinking.

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FOREWORD

As the U.S. Department of Health and Human Services Assistant Secretary for Mental Health and Substance Use and Chair of the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD), I am pleased to present ICCPUD’s *2023 Report to Congress on the Prevention of Underage Drinking (RTC)*. This is the 15th annual report examining the issues of underage drinking. The report is required by the Sober Truth on Preventing Underage Drinking Act (STOP Act), originally passed by Congress in 2006 and reauthorized in 2016 as part of the 21st Century Cures Act and under the Consolidated Appropriations Act, 2023. It includes recent data from federal surveys; descriptions of underage drinking prevention, intervention, treatment, and enforcement, as well as related research activities by federal agencies; and an evaluation of “Talk. They Hear You.”[®], the national media campaign to prevent underage drinking.

In the United States, alcohol is the most frequently used substance among people younger than 21, used more often than tobacco, cannabis, and other illicit drugs. During 2021, 15.1 percent of 12-to-20-year-olds reported having consumed alcohol in the previous month in the National Survey on Drug Use and Health (NSDUH; Center for Behavioral Health Statistics and Quality [CBHSQ], 2022a). Underage alcohol consumption is a persistent and serious public health challenge, resulting in thousands of deaths each year through motor vehicle traffic crashes, violence, alcohol poisoning, and other causes. Underage drinking is also associated with suicide (White & Hingson, 2013), impaired brain function (Spear, 2018), decreased academic performance (Bradley & Greene, 2013; White & Hingson, 2013), sexual assault and other crimes (White & Hingson, 2013), and increased risk of developing an alcohol use disorder later in life (Moss et al., 2014). Binge drinking exacerbates the harmful consequences of underage drinking and increases with age;¹ according to the 2021 NSDUH, 17.2 percent of people ages 18–20 reported having engaged in binge drinking at least once in the previous month (CBHSQ, 2022a).

Data collection that informs this report was disrupted in 2020 and 2021 because of the coronavirus disease 2019 (COVID-19) pandemic. Reported data points for 2021, as well as for 2020, need to be viewed with caution. Data from the NSDUH for these years cannot be compared with each other, and direct comparisons with previous years are not appropriate. Historical NSDUH trend data, which demonstrated improvement in the reduction in underage drinking rates from 2004 through 2019, are reported separately from current (2021) data.

The ICCPUD Comprehensive Plan for Preventing and Reducing Underage Drinking draws upon information contained in this report to call upon diverse stakeholders to implement strategies that have proved to be effective. Research indicates that evidence-based strategies are most effective when implemented as part of a multifaceted approach that includes parents and families; schools and universities; community organizations; law enforcement; healthcare providers; the private sector; local, state, and tribal governments; and the federal government. For example, parents, K–12 schools, and universities can provide clear, consistent education about the consequences of underage drinking. With community support, law enforcement can more effectively prevent youth from accessing alcohol. Healthcare providers can screen patients who are under age 21 for alcohol use and provide interventions, such as brief intervention and referral to treatment as appropriate. Government at all levels can enact policies, programs, and practices and provide

¹ Binge drinking is defined as four or more drinks on the same occasion for women and five or more drinks for men.

funding to address contributors to underage drinking (U.S. Department of Health and Human Services, 2007). The Substance Abuse and Mental Health Services Administration and other ICCPUD agencies are committed to working together to provide national leadership in these critical efforts.

Miriam E. Delphin-Rittmon, Ph.D.
Assistant Secretary for Mental Health and Substance Use
U.S. Department of Health and Human Services

Executive Summary

EXECUTIVE SUMMARY

Introduction

Alcohol use is responsible for more than 3,900 deaths annually among people under age 21 in the United States,² shortening their lives by an average of 57 years (Centers for Disease Control and Prevention [CDC], 2022). Underage drinking also contributes to a wide range of costly health and social problems, including motor vehicle crash injuries and other unintentional injuries (e.g., burns, falls, and drownings), suicide, interpersonal violence (e.g., homicides, sexual assaults, and other assaults), cognitive impairment, alcohol use disorder (AUD),³ risky sexual behaviors, poor school performance, and alcohol and other drug overdoses (CDC, 2023f; Liang & Chikritzhs, 2015; Rasberry, 2017; Ritchwood et al., 2015; Tapert, 2022; Tori et al., 2020).

Underage alcohol use occurs in a context of significantly problematic adult use nationwide. More than 140,000 individuals (of all ages) in the United States die from excessive alcohol use each year,⁴ making it the third leading preventable cause of death in the United States (CDC, 2022a). Alcohol also plays a role in many drug overdoses. Opioid overdose deaths in which alcohol contributed to the death increased by 40.8 percent from 2019 to 2020 (White et al., 2022).

Over the past 2 decades, alcohol use, binge drinking,⁵ and AUD have increased in segments of the adult population, especially among women, older adults, racial/ethnic minorities, and those who are socioeconomically disadvantaged (Gruza et al., 2018; Han et al., 2017). Alcohol-involved deaths increased during the coronavirus disease 2019 (COVID-19) pandemic in the general population; between 2019 and 2020, there was a 25.5 percent relative increase in alcohol-involved deaths (White et al., 2022). The economic burden of excessive alcohol use was \$249 billion in 2010, when it was most recently assessed (Sacks et al., 2015). Adjusting for inflation, the estimated economic burden would be \$323 billion in 2022. Another study found that hospital costs related to AUD in 2017 were estimated to be \$7.6 billion annually (Peterson et al., 2021).

This report—the *2023 Report to Congress on the Prevention and Reduction of Underage Drinking (2023 RTC)*—focuses on underage alcohol use, as required by the Sober Truth on Preventing Underage Drinking Act (STOP Act). The STOP Act, reauthorized by the Consolidated Appropriations Act, 2023 (Pub. L. 117–328), established the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) and required a set of annual reports to Congress, two of which are included in this volume. The first report contains the most current data on underage alcohol use in the United States and a brief history and current information on federal prevention efforts (Chapters 1–4 and Appendices B and D). The second

² The Alcohol-Related Disease Impact Application was updated May 2022 to reflect new methodology for calculating the average annual alcohol-attributable deaths and reflects annual averages from 2015-19.

³ The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association [APA], 2013) defines alcohol use disorder differently than the DSM, Fourth Edition (DSM-IV). Notably, the DSM-5 does not distinguish between substance abuse and substance dependence, unlike the DSM-IV. The National Survey on Drug Use and Health (NSDUH) switched from use of DSM-IV criteria to DSM-5 to define substance use disorders in 2020.

⁴ “Excessive alcohol use,” as defined by CDC, includes binge drinking, heavy drinking, and any drinking by pregnant women or people younger than 21.

⁵ Binge drinking definitions varied according to the survey data reviewed. See Exhibit E.1 for more detail regarding definitions of binge drinking and related terms.

report details the production, broadcasting, and evaluation of “Talk. They Hear You.”[®], the national adult-oriented media public service campaign required by the STOP Act (Chapter 5).

The STOP Act also requires annual reports on state prevention and enforcement activities. Accordingly, ICCPUD has prepared individual reports for each of the 50 states and the District of Columbia, including state-specific population and underage alcohol use data. The *State Reports — Underage Drinking Prevention and Enforcement*, available on <https://www.stopalcoholabuse.gov>, provide information on underage drinking prevalence; state prevention and treatment systems; and prevention policies, programs, and practices. The reports include data from states and the District of Columbia on underage drinking enforcement and prevention activities and associated expenditures on these programs. These data are collected through a STOP Act–mandated survey that has been administered to state governments annually since 2011. An accompanying report, the *State Performance & Best Practices for the Prevention and Reduction of Underage Drinking Report (SPBP Report)*, also available at <https://www.stopalcoholabuse.gov>, summarizes and compares the states’ performance in implementing evidence-based policies, programs, and practices, providing an overview of current state practices related to the prevention of underage drinking. These reports are reviewed and approved by each state’s governor’s appointee.

Data on current underage alcohol use in the United States in this report come primarily from three federal surveys:

1. NSDUH, conducted by the Center for Behavioral Health Statistics and Quality (CBHSQ) of the Substance Abuse and Mental Health Services Administration (SAMHSA);
2. Monitoring the Future (MTF), conducted by a grantee of the National Institute on Drug Abuse (NIDA); and
3. The Youth Risk Behavior Survey (YRBS), administered by CDC.

The COVID-19 pandemic affected the data collection methodology and/or time frame for all three surveys (see Appendix C for details; CBHSQ, 2022b; Johnston et al., 2022b; Mpofu, 2023). Some subgroup estimates for the MTF and the NSDUH are not available for 2020 because of the smaller sample sizes obtained during 2020. Changes in MTF administration methodology during 2019 and 2020 means that estimates obtained during these years should be viewed with some caution. For the NSDUH, reduced data collection and a change to a multimodal method of data collection during the pandemic means that comparisons of 2020 and 2021 data with each other and with data from previous years cannot be made. Data collection for the most recent YRBS was delayed from the fall to the spring of 2021 because of ongoing school closures.

Each of these surveys uses slightly different definitions for drinking patterns, such as binge drinking, utilized in this report. Exhibit E.1 shows key terms as defined by each study. Although data across the surveys are not directly comparable, trends within each survey can be identified, and these trends can be compared across data sources.

Exhibit E.1: Definitions of Alcohol Consumption by Survey

Measure ⁶	Survey Source	Definition
Current Alcohol Use	NSDUH	Any reported use of alcohol in the past 30 days (also referred to as “past-month use”)
	MTF	Any reported use of alcohol during the last 30 days
	YRBS	Had at least one drink of alcohol on at least 1 day during the 30 days before the survey
Lifetime Alcohol Use	NSDUH	Reported use of alcohol at least once in the respondent’s lifetime
	MTF	Used alcohol at least once during the respondent’s lifetime
	YRBS	Had at least one drink of alcohol on at least 1 day during their life
Binge Use of Alcohol	NSDUH	Females: ⁷ Reported drinking four or more drinks... Males: Reported drinking five or more drinks... ...on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days
	MTF	Reported five or more drinks in a row over the past 2 weeks
	YRBS	Females: ⁸ Reported four or more drinks of alcohol in a row... Males: Reported five or more drinks of alcohol in a row.....within a couple of hours on at least 1 day during the 30 days before the survey
Heavy Use of Alcohol	NSDUH	Females: ⁹ Reported drinking four or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on each of 5 or more days in the past 30 days Males: Reported drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days People with heavy alcohol use are also, by definition, engaging in binge drinking.
Extreme Binge (Also Referred to as High-Intensity)	MTF	10-plus: Reported drinking 10 or more drinks in a row over the past 2 weeks 15-plus: Reported drinking 15 or more drinks in a row over the past 2 weeks
Largest Number of Alcoholic Drinks in a Row Was 10 or More (Similar Measure to Extreme Binge)	YRBS	10-plus: Reported 10 or more as the largest number of drinks in a row 30 days before the survey

⁶ Note: Measures based on gender do not appropriately account for transgender and gender-nonconforming individuals.

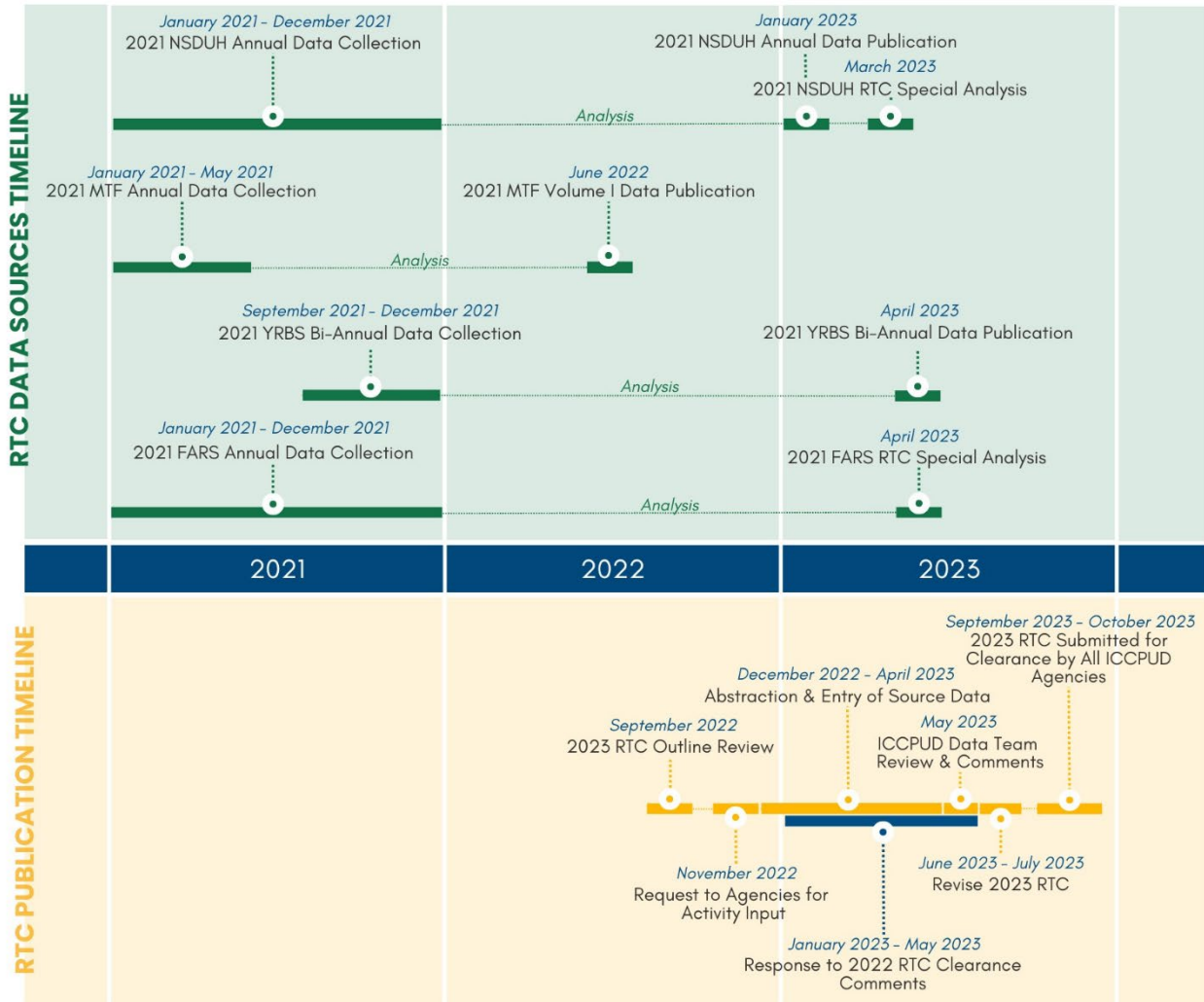
⁷ Reflects 2015 definition change for female binge drinking from five drinks to four drinks.

⁸ Reflects 2017 definition change for female binge drinking from five drinks to four drinks.

⁹ Reflects 2015 definition change for female binge drinking from five drinks to four drinks.

Time period covered by the 2023 RTC: The 2023 RTC includes data from calendar years 2021 and 2022. Epidemiological data in Chapters 1–4 are drawn primarily from the 2021 NSDUH, the 2021 MTF survey, and the 2021 YRBS. Chapter 5, the *Report to Congress on the National Media Campaign to Prevent Underage Drinking*, describes 2022 activities conducted by the campaign. Appendix B includes data on the underage drinking prevention activities of ICCPUD member agencies in calendar year 2022 (Exhibit E.2).

Exhibit E.2: Time Period Covered by the 2023 RTC

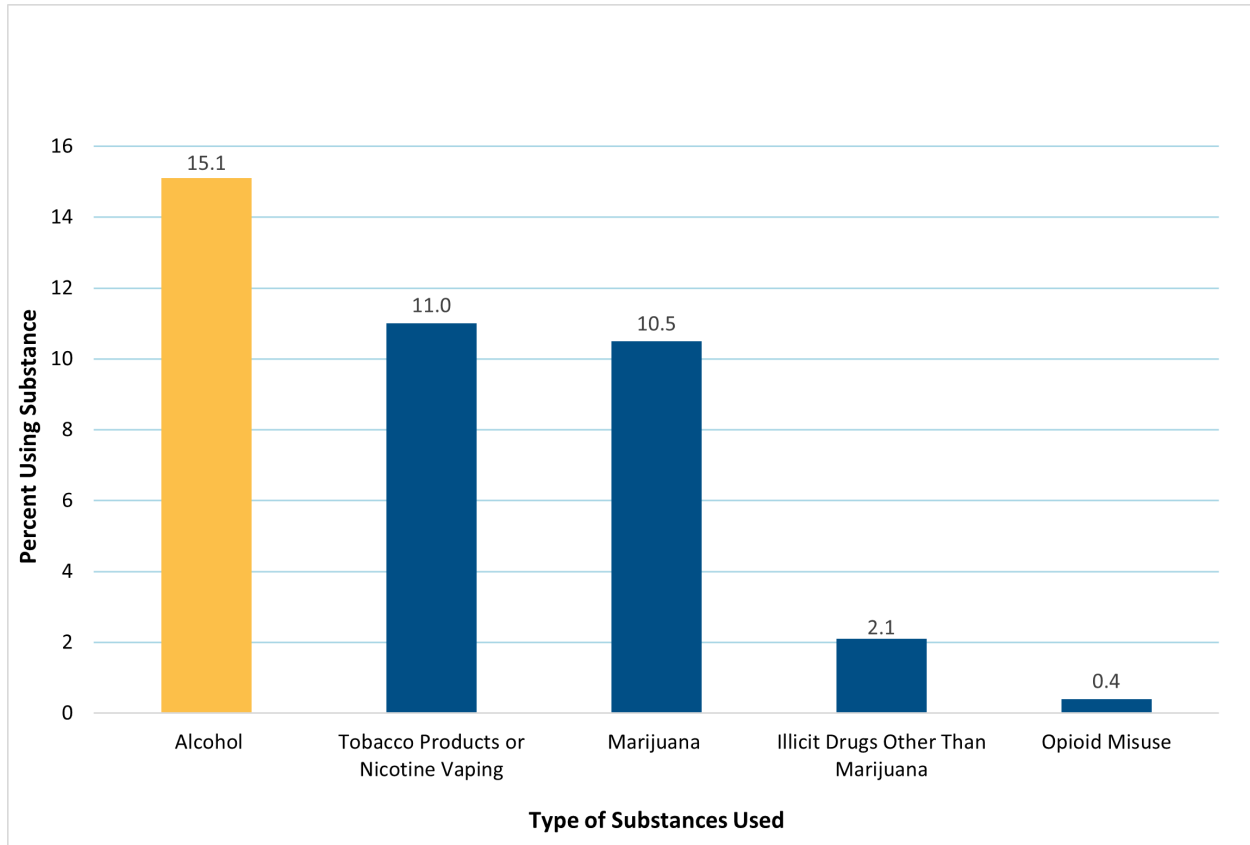


Current Characteristics of Underage Drinking in the United States

Alcohol Is the Most Widely Used Substance Among U.S. Youth

Alcohol is the most widely used substance among youth in the United States,¹⁰ with the proportion of young people using alcohol higher than the proportion of young people using marijuana, tobacco, or another drug (Exhibit E.3; CBHSQ, 2022a).

Exhibit E.3: Substances Most Widely Used by People Ages 12–20 in the Past Month: NSDUH 2021 Data (CBHSQ, 2022a)



According to the 2021 NSDUH, within the past 30 days among individuals ages 12–20:

- 15.1 percent reported alcohol use,
- 11.0 percent reported tobacco product use or nicotine vaping,
- 10.5 percent reported use of marijuana,
- 2.1 percent reported illicit drug use other than marijuana, and
- 0.4 percent reported opioid misuse (CBHSQ, 2022a).

¹⁰ For the purposes of this report, the terms “youth,” “young people,” and “underage” refer to individuals ages 12–20 unless otherwise specified; these terms include adolescents and young adults assessed by the various surveys who are not legally permitted to drink.

Youth Start Drinking at an Early Age

As discussed in more detail below, early initiation of alcohol use increases the risk for a variety of health and social problems during adolescence, as well as health problems later in life. For example, the early initiation of alcohol consumption is a risk factor for future substance use and alcohol dependence (Buchmann et al., 2009; Grant & Dawson, 1997; Hingson & Zha, 2009; Hawkins et al., 1997; Liang & Chikritzhs, 2015). Accordingly, delaying the onset of alcohol initiation may reduce the risk of developing such health and social problems in adulthood.

The peak years of initiation of alcohol use are in grades 7–11, and on the 2021 YRBS, 15.0 percent of high school students reported that they used alcohol before age 13 (CDC, 2023c).¹¹

Approximately 1,933 people ages 12–14 initiated alcohol use each day in 2021, based on NSDUH data (CBHSQ, 2023).

Binge Drinking

Approximately 3.2 million (8.3 percent) of 12-to-20-year-olds reported past-month binge alcohol use on the NSDUH in 2021 (CBHSQ, 2022a).¹² An analysis of the data from the Adolescent Behaviors and Experiences Survey conducted during January through June 2021 indicated that 21.2 percent of high school students who reported having engaged in binge drinking had done so on 6 or more days within the previous month, and 39.2 percent had consumed eight or more drinks in a row (Brener et al., 2022).

Binge drinking substantially increases the risk of alcohol-related harms among underage youth and adults, such as motor vehicle crash injuries, other injuries, unsafe sexual practices, and experiencing sexual assault. Given these consequences, reducing binge drinking is a core objective in the U.S. Department of Health and Human Services' (HHS) Healthy People 2030 program (HHS, 2021).

In the 2021 NSDUH, approximately 1.6 percent of 12-to-20-year-olds (0.6 million) had engaged in heavy drinking, defined by SAMHSA as binge drinking on each of 5 or more days in the past 30 days (CBHSQ, 2022a). Although underage individuals who drink generally consume alcohol less frequently than adults who drink, they are more likely to binge drink when they do, increasing the risk for harm. A substantial proportion of underage people who drink consume considerably more than the four- or five-drink binge criterion. For example, based on data from the 2021 NSDUH, 4.6 percent of underage individuals who drink had nine or more drinks during their last drinking occasion (CBHSQ, 2023).

Why Is Underage Drinking a Problem?

- Alcohol is used more widely than tobacco, marijuana, and other drugs in the United States by people under age 21 (CBHSQ, 2022a).
- In 2021, of the 2,166 drivers ages 15–20 who were killed in motor vehicle traffic crashes, 564 (27 percent) had a blood alcohol concentration (BAC) of 0.01 or higher (National Highway Traffic Safety Administration [NHTSA], 2023).¹
- In 2019, 17 percent of U.S. high school students rode with a drinking driver and 5 percent drove when they had been drinking alcohol (Yellman et al., 2020).
- Alcohol use contributes to long-term cognitive impairment, sexual assault, and suicide and is associated with academic problems (Abbey et al., 2004; Brown & Tapert, 2004; Bradley & Greene, 2013).
- Early initiation of drinking is associated with development of AUD later in life (Buchmann et al., 2009; Grant & Dawson, 1997; Hingson & Zha, 2009; Hawkins et al., 1997; Liang & Chikritzhs, 2015).

¹¹ YRBS data are collected every 2 years; data for 2021 are included in the current *RTC*.

¹² Binge drinking is defined in the NSDUH as five or more drinks on a single occasion for males and four or more drinks on a single occasion for females.

A subset of binge drinking is high-intensity or extreme binge drinking, which is the consumption of 10 or more drinks in a row at least once in the previous 2 weeks or 15 or more drinks in a row in the previous 2-week period. (MTF measures both 10-plus and 15-plus drinks in a row in this category.) High-intensity or extreme binge drinking represents an even higher level of a consumption pattern (binge drinking) that is already known to be dangerous. According to an analysis of MTF data for 2021, 3.2 percent of 12th graders reported having consumed 10 or more drinks in a row, and 1.3 percent reported having consumed 15 or more drinks in a row within the previous 2 weeks.

Although these percentages have been generally shifting downward over time, the drinking habits of more than 3 percent of high school students still meet the definition of high-intensity or extreme binge drinking (Miech et al., 2022).

Alcohol use rates, including binge and heavy alcohol use,¹³ increase with age (Exhibit E.4). However, it is important to note that although very young adolescents (ages 12–15) are less likely to drink than older adolescents and young adults, they may reach high BAC levels with fewer drinks (e.g., three to four drinks) than older adolescents (age 18 or older) because of their smaller physical size (Donovan, 2009). This suggests that binge and heavy alcohol use may be even more of a problem than is reflected in survey data and may be particularly dangerous for younger adolescents.

Underage Drinking by Gender and Race/Ethnicity¹⁴

According to 2021 NSDUH data, past-month alcohol use was reported by 14.0 percent of males and 16.3 percent of females ages 12–20¹⁵ (CBHSQ, 2022a). Prevalence differs by age and gender overall; females in the 14–15- and 16–17-year-old age groups were significantly more likely to report past-month alcohol use than males in the same age group (CBHSQ, 2023).

According to 2021 NSDUH data, White individuals ages 12–20 were significantly more likely to report past-30-day alcohol use than Black, Asian, Hispanic, and Multiracial individuals of the same age; Asian adolescents ages 12–20 were least likely to report 30-day alcohol use.

NSDUH data for 2021 on binge alcohol use among males and females ages 12–20 by gender and race/ethnicity are shown in Exhibit E.5 (CBHSQ, 2023).

Underage Binge Drinking

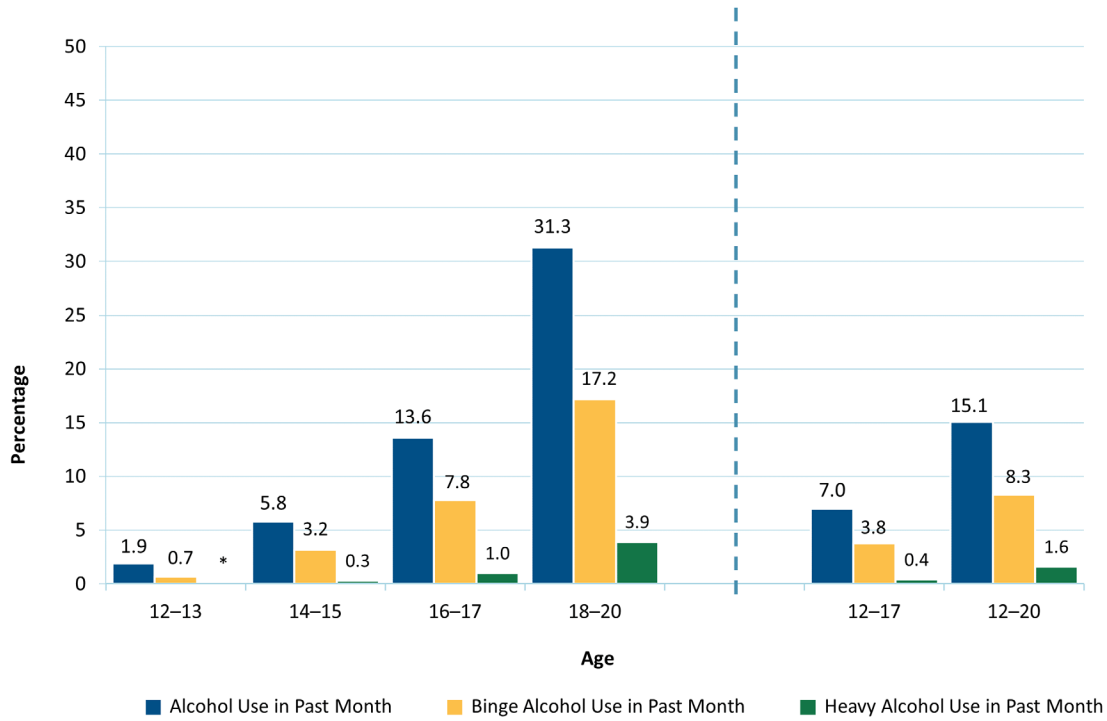
- Approximately 3.2 million (8.3 percent) of 12-to-20-year-olds reported past-month binge alcohol use in 2021 (CBHSQ, 2022a).
- In 2021, approximately 0.6 million underage youth engaged in heavy drinking (i.e., binge drinking on 5 or more days within a 30-day period; CBHSQ, 2022a).
- More than 3 percent of 12th graders engaged in high-intensity or extreme binge drinking in 2021 (Miech et al., 2022).

¹³ Heavy alcohol use is assessed in the NSDUH as binge drinking on 5 or more days in the past 30 days.

¹⁴ Racial and ethnic groups reported for NSDUH data are mutually exclusive. People who were of Hispanic or Latino ethnicity could be of any race but are not included in the estimates for any of the racial categories. Estimates for people who were not of Hispanic or Latino ethnicity are reported by race. People reporting two or more races and who were not of Hispanic or Latino ethnicity are noted as multiracial. People reporting their race as Black or African American are subsequently referred to as Black. People reporting their ethnicity as Hispanic or Latino are subsequently referred to as Hispanic.

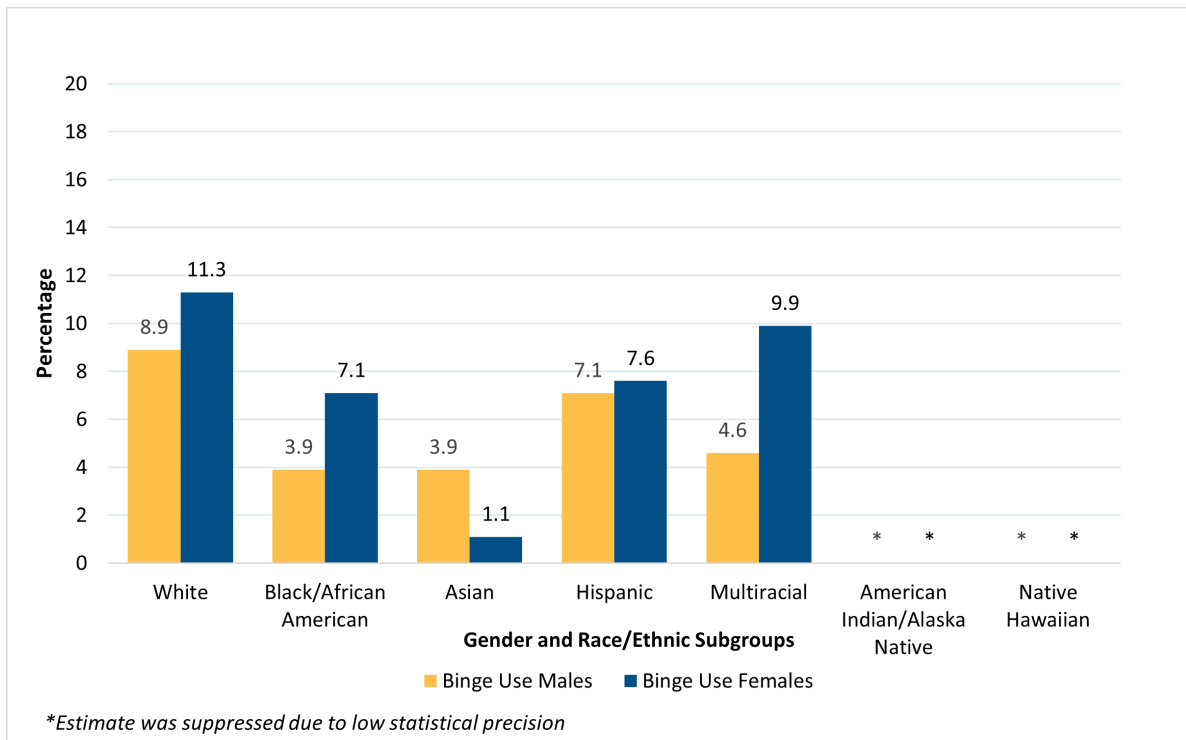
¹⁵ NSDUH did not begin gathering data on sexual orientation and gender identity until the 2023 survey.

Exhibit E.4: Any Alcohol Consumption, Binge, and Heavy Alcohol Use in the Past 30 Days Among People Ages 12–20 by Age: 2021 NSDUH Data (CBHSQ, 2022a)



* Estimate was suppressed due to low statistical precision

Exhibit E.5: Binge Drinking in the Past Month Among People Ages 12–20 by Race/Ethnicity and Gender: 2021 NSDUH Data (CBHSQ, 2023)



* Estimate was suppressed due to low statistical precision

Prevalence of Alcohol Use Disorder Among Youth Is High

Although most underage people who binge drink do not meet the criteria for AUD, the prevalence among this group based on DSM-5 criteria (APA, 2013) is nonetheless substantial, with 5.4 percent of 12-to-20-year-old individuals meeting AUD criteria in 2021. The prevalence rate for AUD in 18-to-20-year-olds (9.2 percent) is significantly lower than the prevalence rates for 21-to-24-year-olds (18.0 percent), 25-to-29-year-olds (18.4 percent), and 30-to-34-year-olds (15.3 percent; CBHSQ, 2023).

College-Age Drinking

Drinking rates in the past month are significantly higher for 18-to-20-year-olds (31.3 percent) than for youth ages 12–17 years (7.0 percent), according to NSDUH data (CBHSQ, 2023). Similarly, bingeing rates reported on the NSDUH for 18-to-20-year-olds (17.2 percent) are significantly higher than bingeing rates for 12-to-17-year-olds (3.8 percent). MTF data for 2021 also show that for college students (approximately ages 18–22), 59.6 percent reported past-month drinking, compared with 48.4 percent of those of the same age but not in college (Patrick et al., 2022). Problems associated with college drinking, in addition to traffic crashes and injury-related deaths, include drinking beyond personal limits, sexual assault, other violent crime on college campuses, and reduced academic performance (White & Hingson, 2013). A study of negative alcohol-related consequences in a sample of over 1,000 19- and 20-year-olds found that about half (50.3 percent) reported having had at least one negative consequence of alcohol use in the previous 12 months, which included emotional, physical, relational, and performance/financial consequences (Patrick et al., 2020).

Underage Access to Alcohol

Selling or giving alcohol to youth under age 21 is illegal in all 50 states and the District of Columbia, although in some states it is legal to provide alcohol to underage youth under special circumstances, such as at religious ceremonies, in private residences, or in the presence of a parent or guardian. (For detailed data, see the companion report to this *RTC*, the *SPBP Report*, at <https://www.stopalcoholabuse.gov>.) Despite the broad restrictions of the age 21 minimum legal drinking age (MLDA), underage youth find it relatively easy to acquire alcohol, often from adults. This may indicate that evidence- and community-based strategies to reduce underage access should be more widely implemented. As seen in Exhibit E.6, younger underage people who drink (ages 15–17)¹⁶ are more likely to receive alcohol from another underage individual (18.2 percent) or from their own parent or guardian (15.1 percent) than from other sources. Older underage people (ages 18–20) who drink are more likely to have received it from an unrelated adult who either gave it to them (24.6 percent) or purchased it for them (18.6 percent; CBHSQ, 2022a).

Co-Use of Alcohol and Drugs

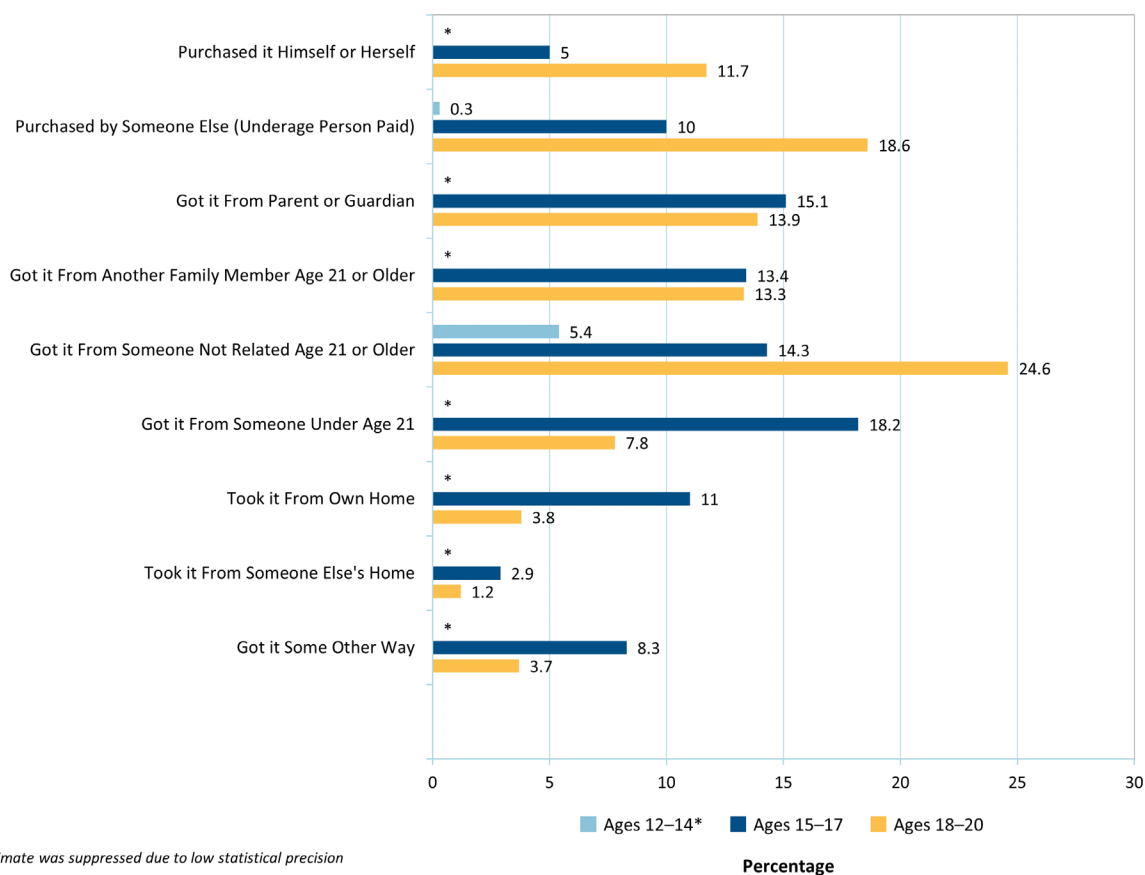
The increase in the number of states legalizing cannabis for medical and nonmedical use has raised a concern about the effects of alcohol and cannabis co-use, either concurrently (use of both substances, but not together) or simultaneously (using both substances together, such that their effects overlap) in adolescents.¹⁷ There is evidence that the rates of simultaneous use of

¹⁶ Estimate for ages 12–14 was suppressed because of low statistical precision.

¹⁷ Cannabis refers to the genus of flowering plants within the Cannabaceae family; marijuana is a species of cannabis. The term cannabis is used to refer both to cannabis and marijuana in this report.

alcohol and cannabis have increased historically among early (ages 18 to 25) and mid-young (ages 26 to 34) adults who use alcohol (Terry-McElrath & Patrick, 2018). Cross-sectional and longitudinal studies across multiple ages have demonstrated that people with co-use (including young adults) have an increased risk for substance-related behaviors and harms, including driving under the influence, blacking out, and other negative consequences (e.g., being physically sick and engaging in violent behavior) when compared with those who only report use of a single substance (Gunn et al., 2018; Karoly et al., 2020; Linden-Carmichael et al., 2019). Targeted prevention efforts require an understanding of the patterns of co-use and age groups most at risk (Linden-Carmichael & Wardell, 2021).

Exhibit E.6: Sources of Alcohol: NSDUH 2021 Data (CBHSQ, 2023)



Alcohol consumption is also associated with prescription drug misuse. Although the rate of co-ingestion of alcohol and various prescription drugs is relatively low, emergency department visits, depression, and other substance use behaviors are significantly associated with co-ingestion. More than 75 percent of adolescents who co-ingest report at least one substance use disorder (Ford et al., 2023).

Prevention Efforts

Since the mid-1980s, underage drinking prevention efforts have been implemented at the federal, state, tribal, and local levels. Evidence-based prevention, intervention, treatment, enforcement, and recovery strategies are described and called for in *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs and Health* (HHS, 2016); the Community

Preventive Services Task Force Guide to Community Preventive Services: Preventing Excessive Alcohol Consumption (Guide to Community Preventive Services, 2022); CollegeAIM: College Alcohol Intervention Matrix (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2015); the Surgeon General’s *Call to Action to Prevent and Reduce Underage Drinking* (HHS, 2007); the National Research Council (NRC) and Institute of Medicine (IOM) report *Reducing Underage Drinking: A Collective Responsibility* (NRC & IOM, 2004); and the NIAAA *Call to Action: Changing the Culture of Drinking at U.S. Colleges* (NIAAA, 2002). Several of these important initiatives are discussed in Chapter 4 of this report.

A Coordinated Federal Response to Underage Drinking: The STOP Act

In 2006, Congress enacted the STOP Act to address underage drinking in the United States. The STOP Act—reauthorized in December 2016 as part of the 21st Century Cures Act (Pub. L. 114–255) and again in the Consolidated Appropriations Act, 2023 (Pub. L. 117–328)—formalized the ICCPUD and required annual reports to Congress on (1) underage drinking at the national level; (2) the national media campaign; (3) state performance and best practices; (4) and each state’s underage drinking prevention and enforcement efforts.

Framework for Success in Reducing Underage Drinking

Epidemiological data demonstrate that the rate of underage drinking has decreased over the past decades in several segments of the 12-to-20-year-old population. It is not clear what has caused this decline in underage drinking, but it most likely is due to a combination of factors, including increased attention to the risks of underage drinking at all levels of society. However, the exact combination of factors that has driven the decrease is not known.

Since the early 1980s, federal initiatives have elevated the issue of underage drinking to a more prominent place on the national public health agenda (most notably through passage of the MLDA Act), contributed to a policy climate in which relevant legislation has been passed by states and localities, stimulated coordinated citizen action, and raised awareness of the importance of proactive and systematic enforcement of laws. Private and public efforts have also supported the development of drug-free communities that engage numerous sectors in the fight against underage alcohol and other drug use, such as schools, medical systems, law enforcement, social services, and more. The changes described above have provided a framework for a national commitment to reducing underage drinking. Sustained progress requires the identification and implementation of new evidence-based strategies and the continued support of successful strategies.

The federal agencies that participate in ICCPUD (see Appendix A and the sidebar in this section)¹⁸ contribute leadership and vision to this national effort commensurate with their missions and mandates. In 2018, ICCPUD updated its Comprehensive Plan with three broad goals and three targets for underage drinking reduction (described below under “Extent of Progress”). The most recent update of the Comprehensive Plan was approved by ICCPUD in 2022.

¹⁸ As specified in the STOP Act, the ICCPUD is composed of 16 federal officials, some of whom have delegated participation to specific agencies and/or staff. In 2022, the Assistant Secretary for Mental Health and Substance Use added the Director of the Agency for Healthcare Research and Quality as a Principal. Although not enumerated in the (STOP) law, other agencies have chosen to participate.

Every ICCPUD agency engages in programs and activities that are aimed, either directly or indirectly, at underage drinking prevention or reduction. Together, these programs and activities constitute a complementary and coordinated federal approach that has helped reduce underage drinking. For example:

- NIAAA supports research on prevalence and patterns of underage alcohol use, underage drinking prevention, and treatment for youth who misuse alcohol or who have AUD.
- NIDA advances the science on the causes and consequences of drug use, including alcohol.
- CDC prevents excessive alcohol use and its impact in states and communities through public health surveillance, partnerships, and applied research for translation into public health practice. CDC also works to prevent alcohol-related harms, including motor vehicle crash injuries, other injuries, violence, sexually transmitted infections, and fetal alcohol spectrum disorders.
- SAMHSA works to reduce underage demand for alcohol by advancing prevention, treatment, and recovery support services.
- NHTSA provides data on underage alcohol use and traffic crashes.
- SAMHSA, CDC, and the National Institutes of Health (NIH) all conduct surveys (either directly or through grants and cooperative agreements) that gather current data on underage alcohol use.

ICCPUD includes the following officials, as specified in the STOP Act:

- Secretary of HHS
- Secretary of Education
- Attorney General
- Secretary of Transportation
- Secretary of the Treasury
- Secretary of Defense
- Assistant Secretary for Mental Health and Substance Use
- Assistant Secretary for Children and Families
- Surgeon General
- Director of CDC
- Director of NIAAA
- Director of NIDA
- Director of the Office of National Drug Control Policy
- Administrator of NHTSA
- Administrator of the Office of Juvenile Justice and Delinquency Prevention
- Chairman of the Federal Trade Commission
- Director of the Administration for Healthcare Research and Quality

Effective Solutions

Comprehensive underage drinking prevention and reduction efforts include a balance of evidence-based prevention, intervention, treatment, and enforcement policies, programs, and practices that are implemented at multiple levels, including the federal, state, tribal, community, family, school, and individual levels. Policies, programs, and practices may be environmental (aimed at altering physical, economic, and social environments and focused on entire populations or a subpopulation) or individual (designed to impart knowledge, change attitudes and beliefs, or teach skills to youth and adults).

Policy Approaches

The 2016 Surgeon General’s report titled *Facing Addiction in America* (HHS, 2016) emphasizes the importance of environmental policies, noting that prevention interventions that affect everyone, rather than only those at highest risk, are likely to have the greatest impact on reducing alcohol misuse, including underage drinking. In addition, the Surgeon General’s report notes that “research has shown that policies focused on reducing alcohol misuse for the general population can effectively reduce alcohol consumption among adults as well as youth.” Environmental-level

strategies aimed at primary prevention for the general population that were found by the Surgeon General's report to be evidence-based include (1) increasing alcohol taxes, (2) regulating alcohol outlet density, and (3) imposing commercial host (dram shop) liability.

Evidence-based environmental policies to specifically reduce underage drinking identified in the 2016 Surgeon General's report *Facing Addiction in America* (HHS, 2016) include:

- Retaining the 21 MLDA
- Compliance checks of alcohol retailers to monitor whether they are selling to underage buyers
- Zero-tolerance laws that prohibit underage drivers from having any measurable BAC
- Use/lose laws that take away underage drivers' licenses for alcohol violations
- Laws that impose criminal and civil liability on adults for hosting underage drinking on their property
- Proposals for reductions in alcohol advertising

(Note: These and other state legal policies identified as best practices for underage drinking reduction are discussed at length in the companion to this report, the **SPBP Report**, available at <https://www.stopalcoholabuse.gov>. An additional source of evidence-based policies addressing prevention of adult and underage alcohol misuse is *Implementing Community-Level Policies to Prevent Alcohol Misuse*, from SAMHSA's National Mental Health and Substance Use Policy Laboratory [<https://www.samhsa.gov/resource/ebp/implementing-community-level-policies-prevent-alcohol-misuse>].)

Environmental-level interventions can be complemented by individual-, family-, and school-level approaches. When considering which strategies to implement, communities should prioritize environmental-level interventions, as they will have the greatest impact on alcohol misuse (Babor et al., 2022). However, when done in conjunction with environmental-level efforts, approaches that focus on individuals, families, or schools can work together to create a communitywide prevention system that works together to prevent and reduce alcohol misuse among youth (HHS, 2016). As *Facing Addiction in America* (HHS, 2016) states:

Targeted programs implemented at the family, school, and individual levels can complement broader population-level policy interventions and assist in reducing specific risk factors and promoting protective factors.

Details of programs and policies supported by federal agencies are provided in Appendix B.

National Media Campaign

The STOP Act mandated the creation of a national media campaign to prevent underage drinking. The "Talk. They Hear You."® (TTHY) national media campaign was developed by SAMHSA's Center for Substance Abuse Prevention in response to directives set forth in 42 U.S.C. 290bb–25b: Programs to reduce underage drinking.

The original goal of the TTHY campaign was to provide parents and caregivers of children ages 9–15 with the resources they need to address the issue of alcohol use early on. In response to emerging public health issues and the changing legal landscape associated with them, the campaign has strategically expanded its content to include information on alcohol and other substances and broadened its age range to include resources for parents and caregivers of youth up to age 20.

The most visible TTHY campaign resources are its television, radio, and print public service announcements (PSAs), which have collectively garnered 17.8 billion media impressions (the number of times people have seen the ads or messages) in all 50 states and in more than 300 cities since the campaign's inception (2013–2022). The TTHY campaign continues to evolve and has developed a diverse suite of informational, educational, and promotional resources beyond PSAs—including a mobile application, discussion starter guides and videos, and resource guides/toolkit—to help communities promote and implement the campaign locally and empower parents and caregivers to start talking with their children about alcohol, drugs, and other dangerous substances.

The annual report to Congress on the status of this campaign is presented in Chapter 5.

Progress in Addressing Underage Drinking

Significant progress in reducing underage drinking has been achieved over the past several decades. Data collected during 2020 and 2021, at the height of the COVID-19 pandemic, cannot be compared with historical data. However, historical data on past-month alcohol use among individuals ages 12–20 show a 35.5 percent decline from 2004 to 2019 (CBHSQ, 2021). Past-month alcohol use among individuals ages 12–20 was 15.1 percent in 2021 (CBHSQ, 2023). Nevertheless, drinking rates for this group remain unacceptably high. Alcohol is still the most widely consumed substance among America's youth—used more often than cannabis and tobacco. Alcohol use often begins at a young age, and underage youth who drink tend to binge drink and to consume more on a single drinking occasion than adults do, increasing the risk for harm. Approximately 54.8 percent of individuals ages 12–20 who reported drinking in the past month on the 2021 NSDUH survey also reported having engaged in binge drinking (CBHSQ, 2022a).

The benefits of reducing underage drinking are substantial, including saving lives and dollars and promoting the overall health of young people. Delaying the age at which young people begin drinking might reduce their chances of developing AUD and of experiencing other negative consequences in adulthood (Grant & Dawson, 1997). Proactively intervening on substance use behaviors at a young age has been shown to cut decades off the time required to reach a state of sustained recovery (Dennis, 2005). A recent study demonstrated that there are long-term consequences of adolescent substance use disorder (SUD) that are identifiable in adolescence (McCabe et al., 2022a). This points to the need to screen adolescents for SUD and associated risk factors and highlights the need for early intervention for adolescents, including interventions that are graded to SUD severity (Volkow & Wargo, 2022).

The implementation of effective policy and environmental strategies for reducing excessive alcohol use might help further reduce underage drinking while also reducing excessive drinking among adults, which has been increasing. Research has clearly shown a correlation between youth drinking behaviors and those of adults living in the same state, as well as a strong relationship between state alcohol policies affecting adult drinking and underage drinking rates (CDC, 2023e; Xuan et al., 2015). For example, in an older review assessing implementation and efficacy of various state policies over a 13-year period, Nelson et al. (2015) found that policies that were effective for addressing drinking by youth and alcohol-impaired driving were more commonly implemented than policies restricting adult consumption. Although previous studies have found a relationship between adult and youth drinking rates, it is unclear what the effect of more recent changes in policies, enforcement strategies, and other environmental factors will be on this relationship.

Continued Effort Is Needed

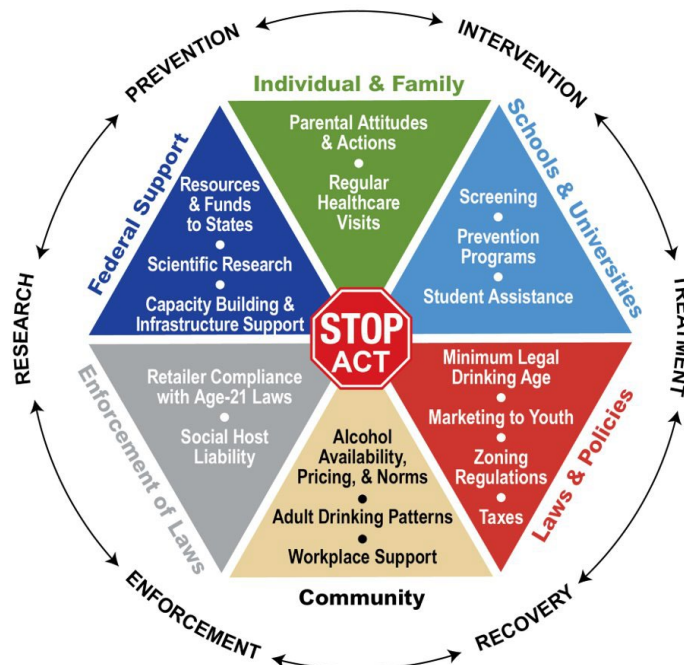
Sustained efforts to reduce underage drinking are needed at multiple levels, including prevention, intervention, treatment, recovery, enforcement, and research on policies, programs, and practices (Exhibit E.7). This multifaceted approach is needed to maintain the current successes and continue to lower the prevalence of underage drinking, along with the many problems associated with alcohol use. Wider adoption, implementation, and enforcement of evidence-based policies and programs will support this effort.

The shifting landscape of issues and trends related to underage drinking, as well as changes in youth drinking behavior, must be continually identified, monitored, and addressed. These issues may include:

- The ongoing effects of the COVID-19 pandemic on adolescent and adult mental health and drinking patterns
- Recent changes in laws governing the sale of alcohol for home delivery and takeout, as well as sales of alcoholic beverage products on the internet
- Changes in cannabis-related policies and laws and possible resulting changes in consumption patterns and the perception of the risks of substance use, including concurrent and simultaneous use of alcohol and cannabis
- The concurrent use of alcohol and other drugs, such as opioids
- The development of new products that especially appeal to youth
- The sale of high-alcohol-content grain beverages
- Changes in the price of alcoholic beverages resulting from reductions in alcohol taxes or other policy changes at the federal, state, tribal, and local levels

Ongoing engagement of policymakers, citizen coalitions, health professionals, educators, law enforcement, and others is essential to the implementation of effective prevention strategies for reducing underage drinking.

Exhibit E.7: Multifaceted Approach to the Reduction of Underage Drinking



Chapter 1: Public Health Consequences of Underage Drinking

CHAPTER 1 KEY POINTS

- *Alcohol use is responsible for over 3,900 deaths annually among youth under age 21 in the United States, shortening their lives by an average of 56.7 years.*
- *Health and social impacts that directly affect the underage person who drinks include the risk of death caused by motor vehicle traffic crash injuries, suicide, homicide, alcohol and drug overdoses, and other unintentional injuries.*
- *Additional risks related to underage drinking include altered brain development, engagement in risky sexual behavior, and involvement with the legal system.*
- *Social costs related to underage drinking include risks to other drivers and passengers and interpersonal violence.*
- *Youth alcohol consumption is associated with higher risk of cancer later in life, including high-grade prostate cancer for men and breast cancer for women.*

CHAPTER 1: PUBLIC HEALTH CONSEQUENCES OF UNDERAGE DRINKING

Chapter Overview

This chapter includes a discussion of the specific adverse consequences of underage drinking, including both direct consequences to the underage individual who drinks and social costs.

Underage drinking affects the health and wellbeing of not only the underage people who drink alcohol but also their families, their communities, and society overall. Health and social impacts that directly affect the underage person who drinks include the risk of death caused by:

- Motor vehicle traffic crash injuries and other unintentional injuries (e.g., fires/burns, falls, and drowning)
- Alcohol and drug overdoses
- Homicides and suicides (Center for Disease Control and Prevention [CDC], 2023f).

Other risks related to underage drinking include altered brain development, engagement in risky sexual behavior, and involvement with the legal system. The family of the adolescent who drinks alcohol may experience a disruption of normal relationships and a family crisis. Social costs related to underage drinking include risks to other drivers and passengers and interpersonal violence (National Research Council [NRC] and Institute of Medicine [IOM] Committee on Developing a Strategy to Reduce and Prevent Underage Drinking, 2004).

In 2010, almost \$24.3 billion (about 10 percent) of the total \$249 billion economic cost of excessive alcohol consumption was related to underage drinking. Approximately 56 percent of underage drinking costs can be attributed to lost productivity; most of that cost is due to premature mortality from alcohol-attributable conditions involving underage youth (Sacks et al., 2015).

Underage drinking not only imposes societal costs in the short-term but also can increase societal costs over time because of the increased risk of chronic conditions among youth who start drinking at young ages, including alcohol use disorder (AUD; NRC & IOM, 2004).

Direct Adverse Consequences

Alcohol use is responsible for over 3,900 deaths annually among youth under age 21 in the United States, shortening their lives by an average of 56.7 years (CDC, 2022a).¹⁹ Underage drinking contributes to a wide range of costly health and social problems, including:

- Motor vehicle traffic crash injuries and other unintentional injuries (e.g., burns, falls, and drownings)
- Suicides
- Interpersonal violence (e.g., homicides, sexual assaults, and other assaults)
- Cognitive impairment

¹⁹ The Alcohol-Related Disease Impact Application was updated in May 2022 to reflect new methodology for calculating the average annual alcohol-attributable deaths and reflects annual and state averages from 2015–2019.

- AUD²⁰
- Sexual risk behavior
- Poor school performance
- Alcohol and other drug overdoses

Adverse consequences of underage alcohol consumption include death, injury, and alterations in brain development.

Mortality and Injury From Traffic Crashes

Alcohol consumption contributes to motor vehicle crashes, particularly for young drivers. The association between blood alcohol concentration (BAC) and crash risk is higher in young drivers (under 21) than in older drivers, and this elevated risk is evident even at very low BAC levels (0.01 percent). The rate of increase in risk as BAC increases is also markedly higher than for older drivers (Peck et al., 2008).

In 2021, of the 2,116 drivers ages 15–20 who were killed in motor vehicle traffic crashes:

- 564 (27 percent) had a BAC of 0.01 percent or higher.²¹
- 471 (22 percent of the total 2,116; 83.5 percent of those young drivers with an elevated BAC) had a BAC of 0.08 percent or higher.
- 93 (4 percent of the total 2,116) had a BAC of 0.01–0.07 percent.²²

Although traffic fatalities for all drivers had been generally decreasing over time, there was an increase in the number of traffic fatalities in 2020 compared with 2019, resulting in the highest number of traffic deaths recorded since 2007 (National Center for Statistics and Analysis [NCSA], 2021). Preliminary data for 2021 show an increase again in traffic fatalities in 2021 compared with 2020, with the number of fatalities at the highest level since 2005. A similar pattern of increases is seen for the subset of drivers ages 15–20. Notably, the percentage increase in the second quarter of 2021 for all drivers was the highest quarterly percentage increase in the history of Fatality Analysis Reporting System (FARS) data. Importantly, from 2020 to 2021, the total percentage change for alcohol-impaired-driving fatalities (+14 percent) exceeded the rate increase for total traffic fatalities (+10 percent; NCSA, 2022; Stewart, 2023).

Suicide, Homicide, and Other Causes of Injury-Related Death

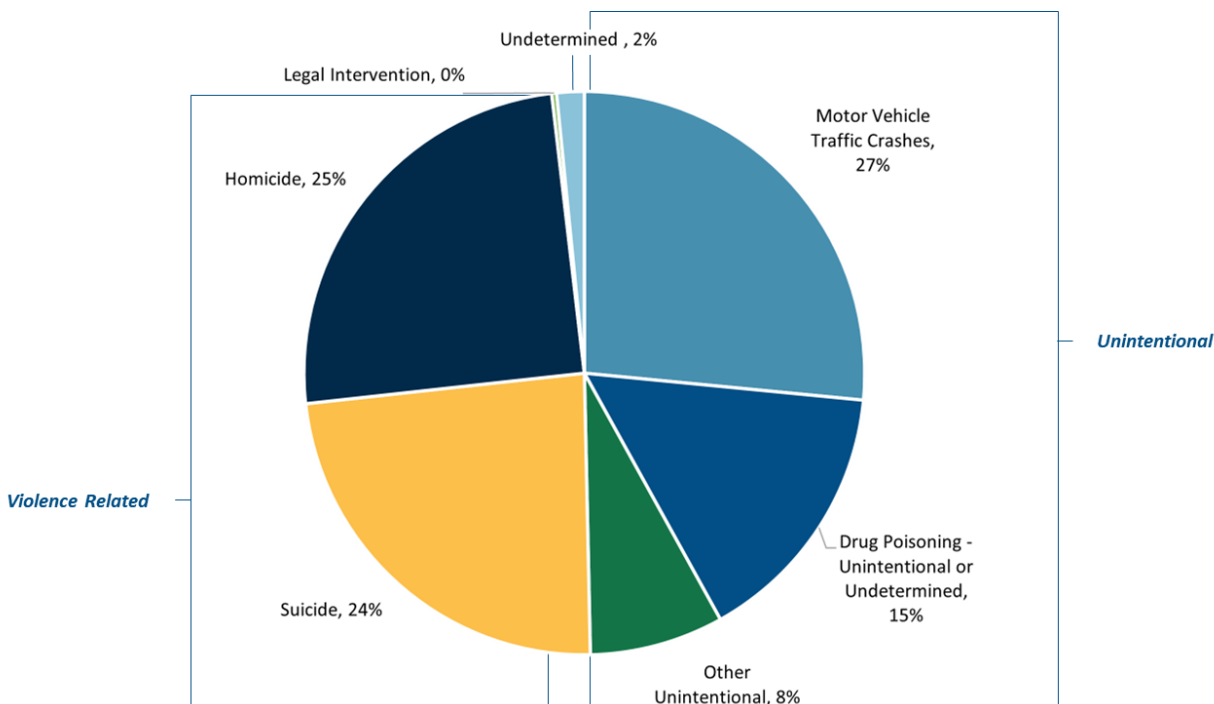
In addition to contributing to motor vehicle crashes, underage drinking contributes to all major causes of fatal and nonfatal injuries experienced by people ages 12–20, including suicide, homicide, and unintentional injuries other than motor vehicle crash injuries (CDC, 2023f; see Exhibit 1.1).

In 2021, an estimated 7,541 youth ages 12–20 died from unintentional injuries; 4,026 of those deaths involved motor vehicle traffic crashes. The remaining 3,515 unintentional injury deaths were caused by events other than motor vehicle crashes, such as poisoning (which includes alcohol and drug overdoses), drowning, falls, and fires/burns (CDC, 2023f).

²⁰ The National Survey on Drug Use and Health (NSDUH) now assesses adolescent substance use disorders based on *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*, (DSM-5) criteria.

²¹ NHTSA has found that alcohol impairs driving-related skills for a range of drivers at 0.02 percent BAC, the lowest tested level. The magnitude of impairment increased consistently at BACs through 0.10 percent, the highest level tested (Moskowitz et al., 2000).

²² Special data analysis provided by the National Highway Traffic Safety Administration (NHTSA) for this report; NCSA, 2023.

Exhibit 1.1: Injury-Related Fatalities for Youth Ages 12–20: 2021 (CDC, 2023f)

Suicide was the leading cause of death among people ages 10–34 in 2021 (CDC, 2023f). Suicide rates have been rising steadily over the past several years, and suicide rates for teens (ages 15–19) and young adults (ages 20–24) in 2017 were at the highest level since 2000 (Miron et al., 2019). From 2018 to 2019, rates declined significantly among people ages 15–24 years (3.4 percent; 14.5–14.0) and in males ages 10–14 years (16.2 percent; 3.7–3.1; Stone et al., 2018). However, rates among youth ages 10–24 have increased overall between 2019 and 2021. Importantly, increases have not been evenly distributed across racial/ethnic groups; in particular, Black youth ages 10–24 experienced a statistically significant 36.0 percent relative increase in suicides from 2018 to 2021.

The COVID-19 pandemic increased the incidence of suicide attempts among young people; among adolescents ages 12–17 years, the mean weekly number of emergency department visits for suspected suicide attempts was 22.3 percent higher during the summer of 2020 and 39.1 percent higher during the winter of 2021 than during the corresponding periods in 2019. The increases were more pronounced in females (Yard et al., 2021).

Alcohol use is often implicated in adult and adolescent suicide attempts and completions. Suicidal behavior in adolescents and adults has multiple causes, evidencing biochemical, genetic, and psychological correlates (Sher & Zalsman, 2005). The comorbidity between mental illness and substance use has been found to be as high as 73.0 percent, with consistent positive correlations between adolescent drinking, depression, and suicidality (Ganz & Sher, 2009). A 2019 meta-analysis concluded that globally and across all age groups, the odds of suicidal behavior are about three times higher among individuals with AUD compared with those without AUD (Conner & Bagge, 2019; Baiden et al. 2019). Compared with adolescents who reported no alcohol use, adolescents who initiated alcohol before age 13 had 1.60 times higher odds of experiencing suicidal ideation; adolescents who initiated alcohol use by age 13 or over had 1.47 times higher odds of experiencing suicidal ideation.

In the first meta-analysis to examine alcohol involvement in deaths at the national level, Smith and colleagues (1999) estimated that for the population as a whole, alcohol use (defined as the presence of a BAC of 0.10 percent or greater) was a major contributing factor in almost one-quarter (22.7 percent) of suicides, as well as nearly one-third (31.5 percent) of homicides. A more recent meta-analysis focused primarily on adults concluded that any acute alcohol use is associated with increased likelihood of a suicide attempt, particularly at high levels of consumption (Borges et al., 2017). Another meta-analysis found that 21.0 percent of people who died by suicide had a BAC of 0.10 percent or greater (Alpert et al., 2022). Among a sample of adults admitted to the hospital for attempted suicide, those who stated that they had drunk to facilitate the suicide attempt had a greater intent to die by suicide than those who had not (Bagge et al., 2015). The relationship between alcohol use and suicidal ideation and attempts in adolescents is not fully understood (Bagge & Sher, 2008).

Although estimates vary, the research clearly shows a strong association between alcohol use and suicide attempts and deaths in youth. Data focused on youth from 17 states showed that among youth ages 10–19 who died by suicide and were tested for alcohol, 12.0 percent had BACs greater than 0.08 percent (Crosby et al., 2009). Another youth-focused study estimated that 9.1 percent of youth under age 21 who were hospitalized after a suicide attempt had consumed alcohol beforehand; among those cases in which alcohol had been consumed, 72.0 percent of the suicide attempts were attributable to or caused by the alcohol use (Miller et al., 2006).

An analysis of the 2014–2016 National Violent Death Reporting System data showed that among the 4,596 youth ages 10–20 who died violently and had a recorded BAC, 24.6 percent had a positive BAC and 8.4 percent had a BAC greater than or equal to 0.08 percent (Greene et al., 2021).

Homicide was the second leading cause of intentional injury-related death for individuals ages 12–20 in 2021. Data on alcohol involvement in homicides among adolescents are very limited; most of the research assesses adult populations and measures the alcohol status of the victim rather than the perpetrator, making it difficult to ascertain perpetrator alcohol consumption levels.

Alterations in Brain Development

Underage alcohol consumption can impair normal brain development in adolescence, which can have long-term consequences. During adolescence, dramatic changes to the brain’s structure, neuron connectivity (“wiring”), and physiology occur (Restak & Grubin, 2001). These changes affect everything from emerging sexuality to emotionality and judgment. However, not all parts of the brain mature at the same time. Differences in maturational timing across the brain can result in impulsive decisions or actions, disregard for consequences, and emotional reactions that can lead to alcohol use or otherwise put teenagers at serious risk of harm.

The adolescent brain may be uniquely vulnerable to the negative effects of alcohol consumption.

Neurobiological research suggests that adolescence may be a period of unique vulnerability to the effects of alcohol. A 2018 review of research on adolescents who consume alcohol, particularly those who engage in binge drinking, shows that early and heavy alcohol use can have negative effects on the neural and cognitive development of the brain. Physiological effects

include suppression of maturational changes in the adolescent brain. Negative effects on cognition and personality include decreased ability in planning, executive functioning, memory, spatial operations, verbal learning, and attention, all of which play important roles in academic performance and future levels of functioning (Spear, 2018).

Research to date does not address to what extent the negative consequences of adolescent alcohol exposure on the brain can be reduced. The neurocognitive effects of combining alcohol with other drugs are also not clear. As Spear (2018) notes, the potentially permanent and long-lasting effects of alcohol exposure on the adolescent brain are not generally communicated to the public. Because adolescents are biologically predisposed to seek out novel and potentially risky experiences (which include the use of alcohol and other drugs), this suggests that the most effective prevention strategies for this age group involve policies that restrict access to alcohol (Spear, 2018).

Very early exposure to alcohol that occurs during pregnancy can result in fetal alcohol spectrum disorders (FASD), including fetal alcohol syndrome. Prevalence rates for FASD in the U.S. are estimated to be between 2 percent and 5 percent; these prevalence rates are probably an underestimate because of several factors, including the complexity of diagnosis and overlap with alternative diagnoses (Wozniak et al., 2019).

Risky Sexual Behavior, Sexual Violence Victimization, and Sexual Violence Perpetration

Alcohol use and risky sexual behavior (which includes unintended and unprotected sexual activity and any behavior that increases one's likelihood of contracting a sexually transmitted infection) tend to be positively correlated across studies of adolescents, but the relationship is complex. Individual, contextual, and environmental factors significantly affect the co-occurrence of these risk behaviors. The association is more clearly seen in females, with additional differences by ethnicity. For example, a review of studies involving college students concluded that the association between alcohol use and risky sexual behavior is moderated by the existing relationship with a partner and the level of drinking (Brown et al., 2016). The positive association between substance use and risky sexual behavior is also found with multiple drugs, not just alcohol (Ritchwood et al., 2015).

Alcohol and other substance use is associated with risky sexual behavior, sexual violence, and dating violence.

In teens, misuse of alcohol, prescription drugs, and the two substances combined was determined to be a significant risk factor for subsequent sexual violence and dating violence among adolescents in high school (Espelage et al., 2018). Badour et al. (2020) assessed the correlation of drinking patterns with both experiencing assault and perpetration of sexual violence in male and female high school students.²³ Both sexual violence victimization and perpetration were associated with current binge drinking (consuming four or five or more drinks in a row) and problem alcohol use in males and females.²⁴ However, regardless of alcohol use patterns, high school females were more likely to experience sexual violence victimization (21.2 percent, versus high school males at 13.3 percent), whereas males were more likely to report sexual violence perpetration (10.8 percent, versus 5.2 percent for females). For males and females who

²³ Includes sexual coercion, use of threat of or actual physical force, and alcohol-/drug-facilitated or incapacitated sex.

²⁴ Includes experiencing blackouts, fighting, or doing poorly in school; doing things that are later regretted; or missing work or school due to alcohol consumption.

reported both experiencing victimization and engaging in sexual violence perpetration, the rates of binge drinking and having two or more alcohol problems were quite high. The research is not clear on the temporal nature of the association between sexual violence victimization and alcohol use—that is, whether the experience of sexual violence victimization increases the risk for problem drinking, binge and heavy drinking are risk factors for the experience of sexual violence victimization, or the relationship is bidirectional (Badour et al., 2020).

Interventions developed to date tend to focus on reducing binge and heavy drinking. As Gilmore et al. (2018) note, however, it is the perpetrator who is always at fault for the sexual assault; interventions that attempt to reduce risk for the victim, as is found primarily at the college level, can be controversial, as they may appear to focus blame on the victim.

Decreased Academic Performance

In general, studies of underage drinking and academic performance indicate that drinking is associated with poorer school performance. A 2013 literature review found a statistically significant inverse relationship between alcohol use and academic achievement (Bradley & Greene, 2013). In general, cross-sectional studies have found that students who do poorly in school drink more than students whose school performance is better (Bryant et al., 2003). Similarly, a more recent cross-sectional study utilizing Youth Risk Behavior Surveillance System (YRBS) data found that students' use of substances (which included alcohol), sexual risk, violence-related behaviors, and suicide-related behaviors were associated with lower self-reported grades (mostly D's and F's; Rasberry, 2017).

Cross-sectional studies do not address the direction of the relationship between underage alcohol use and academic performance. The available longitudinal data are somewhat mixed, and in some cases, data suggest that academic failure leads to increased drinking rather than the reverse. For example, a 1-year longitudinal analysis of middle school and high school students using the National Longitudinal Study of Adolescent to Adult Health found that independent of consumption levels, students who drank experienced modest declines (one-tenth of a letter grade) in academic achievement (Crosnoe et al., 2004). Using a similar design, Crosnoe (2006) found that academic failure was a greater risk factor for later adolescent drinking than adolescent drinking was for later academic failure. Academic failure appeared to lead to increased drinking through weakened bonds that traditionally control problem behavior, especially bonding to teachers (Crosnoe, 2006). Conversely, Renna (2008) tracked educational attainment and alcohol use at ages 19 and 25 among two cohorts of 18-year-olds in 1982 and 1983, using data from the National Longitudinal Survey of Youth (NLSY; Rothstein et al., 2019). Binge drinking in the senior year of high school reduced the probability of receiving a high school diploma and increased the probability of graduating later in life with a General Educational Development diploma (and hence realizing lowered earning potential). The study also found that increases in the minimum legal drinking age increased the probability of people graduating by age 19 by 5.3 percentage points. In contrast with the above study findings, using data from the Youth Development Study, Mortimer (2003 and 2015), Owens et al. (2008), and Harris and Udry (2021) tracked a panel of youth from their freshman to senior years of high school and failed to find a significant link across the high school years between increased drinking and diminishing academic performance.

College-age drinking also has educational impacts. About 25.0 percent of college students report academic consequences because of their drinking, including missing class, falling behind, doing

poorly on exams or papers, and receiving lower grades overall (White & Hingson, 2013). A 2017 longitudinal study found that individuals with moderate to high alcohol use who also engaged in low or no marijuana use (approximately 40.0 percent of the sample) had lower grade-point averages (GPAs) compared with peers with no or low substance use at the onset of college. However, those who used both marijuana and alcohol moderately to heavily had even lower GPAs that declined over time (Meda et al., 2017).

Increased Risk of Developing Alcohol-Related Problems Later in Life

Early-onset alcohol use—alone and in combination with increased drinking in adolescence—has been noted as a risk factor for developing increased alcohol involvement in later life (Agrawal et al., 2009; Dawson et al., 2008; Grant et al., 2005; Hingson et al., 2006; Hingson & Zha, 2009; Pitkänen et al., 2005; York et al., 2004). Although most people who drink excessively are not alcohol-dependent, excessive drinking is a risk factor for AUD. Grant and Dawson (1997) found that more than 40.0 percent of people who initiated drinking before age 13 met *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV) diagnostic criteria for alcohol dependence at some time in their lives. For youth ages 12–17, approximately 5.6 percent developed AUD within 12 months of first alcohol use (Volkow et al., 2021).

The initiation of alcohol consumption in childhood or early adolescence is also associated with later use of drugs, drug dependence, and drug-related motor vehicle crash involvement (Hermos et al., 2008; Hingson et al., 2008). Use of both alcohol and cannabis or alcohol, cannabis, and cigarettes before age 16 is associated with a spectrum of young adult substance use problems (e.g., binge drinking; use of illicit drugs such as cocaine and methamphetamine), as well as substance use disorder diagnoses (Moss et al., 2014).

Adults who had started drinking at age 14 were three times more likely to report driving after having drunk too much ever in their lives than were those who had begun drinking after age 21. Motor vehicle crashes were four times more likely for those who had begun drinking at age 14 than for those who had begun drinking after age 21 (Hingson et al., 2001).

There are increasing data demonstrating a relationship between alcohol consumption and cancer. There are nearly 19,000 cancer deaths each year from any level of alcohol use (CDC, 2022a) and more than 75,000 alcohol-attributable cancer cases (Goding et al., 2021). Globally, alcohol use is the second leading risk factor for cancer (Tran et al., 2022). In the U.S. in 2014, alcohol was the third leading modifiable risk factor for cancer (Islami et al., 2018). Youth alcohol consumption is associated with cancer later in life; men who had drunk weekly between ages 15 and 19 were three times more likely to be diagnosed with high-grade prostate cancer than men who had not drunk during that age range (Michael et al., 2018). For women, alcohol consumption during early adulthood (18–40) is associated with increased risk of breast cancer; this holds true regardless of how much alcohol is consumed later in life (Chen et al., 2011).

Increased Risks From Concurrent and Simultaneous Substance Use

For people under age 21, cannabis is the second-most commonly used illicit substance after alcohol, and it is often used with alcohol.²⁵ The increase in the number of states legalizing cannabis for medical and nonmedical use has raised a concern about the effects of alcohol and

²⁵ Marijuana is classified as an illicit drug at the federal level, although a number of states have legalized consumption for adults. Tobacco may not be purchased by youth under age 21; alcohol purchase and consumption by youth under age 21 is illegal.

cannabis co-use, either concurrently (use of both substances, but not together) or simultaneously (using both substances together, such that their effects overlap) in adolescents. There is evidence that the rates of simultaneous alcohol and cannabis use have increased historically among early and mid-young adults who use alcohol (Terry-McElrath & Patrick, 2018). Cross-sectional studies across multiple ages have demonstrated that people who co-use (including young adults) have an increased risk for substance-related harms—including driving under the influence, blacking out, and cognitive consequences—when compared with those who only report having used a single substance (e.g., Karoly et al., 2020; Linden-Carmichael et al., 2019).

Current (2021) NSDUH data indicate that 19.2 percent of individuals ages 12–20 who reported having used alcohol in the previous month also reported having used marijuana simultaneously or within 2 hours of the most recent use of alcohol, compared with only 9.3 percent of those age 21 or older (Center for Behavioral Health Statistics and Quality [CBHSQ], 2022a). Data from the 2021 YRBS indicate that of those reporting that they had current substance use, approximately 35 percent had used two or more substances (CDC, 2023a). An analysis of NSDUH data during the years covering 2002–2018 for young adults (ages 18–22) found that although alcohol use overall declined during that time period, marijuana use increased, and co-use of alcohol and marijuana also increased annually (McCabe et al., 2021).

Use of multiple substances in youth has been linked to heavier consumption patterns in adulthood compared with single or dual substance use (Han, Compton, Blanco, & DuPont, 2017). An analysis of data collected by the Monitoring the Future (MTF) survey indicates that high school seniors who consume 10-plus drinks in a row and cannabis users consuming one or more marijuana joints per day are more likely to report use of both substances simultaneously (Patrick & Terry-McElrath, 2017). Similarly, more than 25 percent of 12th graders who reported having engaged in extreme binge drinking (15-plus drinks in a row) also reported non-medical use of prescription medication, such as opioids, sedatives (central nervous system depressants)/anxiolytics (medication to treat anxiety), and stimulants (McCabe et al., 2017).

Co-use of alcohol and cannabis may signal the presence of an additional substance use disorder (SUD). An analysis of NSDUH data from 2002 to 2018 by McCabe et al. (2021) indicated that over 80.0 percent of young adults with a prescription substance use disorder (82.9 percent) or illicit substance use disorder (85.1 percent) reported having co-used alcohol and cannabis or having AUD and/or cannabis use disorder (McCabe et al., 2021). The authors suggest that the changing landscape of drug use warrants changes in approaches to screening, intervention, and treatment for drug use and use disorders, focusing on polysubstance use rather than single substances. Targeted prevention efforts require an understanding of the patterns of simultaneous alcohol and cannabis use and age groups most at risk (Linden-Carmichael & Wardell, 2021).

Alcohol consumption is also associated with prescription drug misuse. A study analyzing multiple years of NSDUH data (2015–2019) assessed prescription drug misuse combined with alcohol ingestion (co-ingestion) among adolescents ages 12–17. Prescription drug misuse is defined in the NSDUH as use “in any way a doctor did not direct, including without a prescription of your own; in greater amounts, more often, or longer than you were told to take it; in any other way a doctor did not direct.” Previous-30-day prescription drug misuse with alcohol co-ingestion was reported by 18.6 percent of adolescents who had misused prescription drugs, and it varied by drug, ranging from a low of 0.003 percent for sedatives to a high of 0.16 percent for opioids. Although a relatively low percentage, this translated to approximately 67,410 adolescents in the U.S. who had co-ingested alcohol with a prescription drug in the previous 30

days. Co-ingestion was more common among adolescents who had misused prescription opioids and tranquilizers. It is notable that emergency department visits, depression, and other substance use were also significantly associated with co-ingestion. Co-ingestion of alcohol with opioids and tranquilizers was associated with a higher likelihood of an SUD; 77.5 percent of adolescents who had co-ingested reported having at least one SUD (Ford et al., 2023).

The potential effect of alcohol in combination with opioids is also a concern. Respiratory depression caused by opioids—which can be fatal—is exacerbated by the effects of alcohol in young adults (Schrier et al., 2017). Esser et al. (2021), using combined NSDUH data from 2016 to 2018, found that individuals who reported having engaged in binge drinking were twice as likely to report concurrent prescription drug misuse while drinking than non-binge drinkers. In 2017, alcohol was involved in 14.7 percent of opioid overdose deaths, a 5.5-fold increase from 1999 (Tori et al., 2020). Deaths from opioid overdose involving alcohol as a contributing cause increased by 40.8 percent during the first year of the COVID-19 pandemic (White et al., 2022).

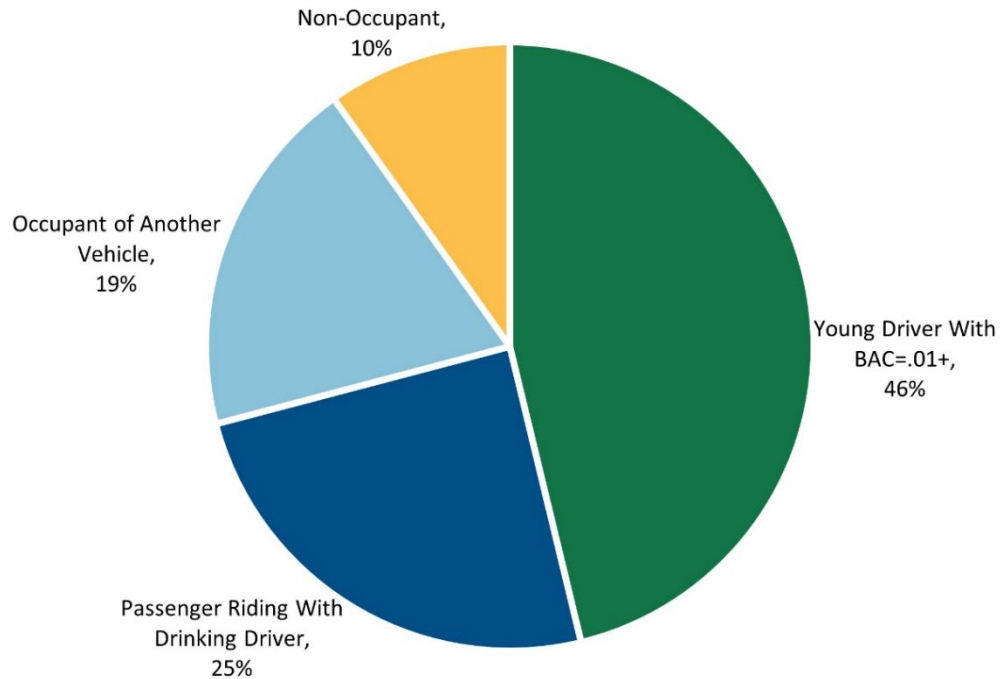
The simultaneous use of substances while driving also has significant public safety implications; substances can amplify each other's impairing effects (NHTSA, n.d.). Analysis of NSDUH data related to driving under the influence noted that 4.7 percent of males and 3.2 percent of females ages 16–20 reported having driven under the simultaneous influence of alcohol and illicit drugs in 2014 (Lipari et al., 2016). Although impaired driving decreased from 2002 to 2014, it remains a concern.

Social Costs and Associated Consequences

Mortality and Injury

People other than the underage individuals who drink also experience the consequences of underage alcohol use through destruction of property, unintentional injury, violence, and even death. In 2021, 1,219 people were killed in motor vehicle traffic crashes involving a 15-to-20-year-old driver with a BAC of 0.01 percent or higher. The distribution of fatalities by person type in 2021 is shown in Exhibit 1.2. As shown, 54 percent of deaths in traffic crashes involving a 15-to-20-year-old driver with a BAC of 0.01 or higher were people other than the young driver who had been drinking (e.g., passengers and occupants of other vehicles; NHTSA, 2023).

Exhibit 1.2: Distribution of Fatalities in Motor Vehicle Traffic Crashes Involving a 15-to-20-Year-Old Driver With a BAC of 0.01 or Higher by Person Type in 2021: NHTSA, FARS 2021 Annual Report File (NHTSA, 2023)



Arrest estimates developed by the National Center for Juvenile Justice based on data published in the Federal Bureau of Investigation's *Crime in the United States* reports suggest that individuals under age 21 commit about 18.0 percent of violent crime (Office of Juvenile Justice and Delinquency Prevention, 2020). The degree to which alcohol is a factor in violent crimes committed by people who are younger than 21 is unknown. However, adolescent alcohol use, particularly alcohol use before age 13, is associated with higher odds of carrying a weapon (Baiden et al., 2021). Compared with adolescents who had never had alcohol, adolescents who reported having drunk alcohol before age 13 had more than double the odds of carrying a weapon, and those who reported having drunk alcohol at age 13 or over had 1.25 times higher odds of carrying a weapon.

Social and Individual Costs on College Campuses

The problems associated with college student drinking include sexual assault and other violent crime on college campuses (White & Hingson, 2013). A study of roughly 5,500 college women on two campuses revealed that nearly 20.0 percent experienced some form of sexual assault while at college (Krebs et al., 2009). A 2005 national survey of college students found that 97,000 students may experience alcohol-related sexual assault in a given year (Hingson et al., 2005). However, the incidence of college sexual assaults is difficult to measure, and different studies report different rates (DeMatteo & Galloway, 2015).

A review by Abbey (2011) of three relevant studies of college students concluded that approximately half of reported and unreported sexual assaults involve alcohol consumption by the perpetrator, the person experiencing the crime, or both. Abbey and colleagues (2004) reported that if alcohol is involved, usually both the person experiencing the assault and the perpetrator have consumed alcohol. Estimates of perpetrators' intoxication during the incidents range from 30.0 percent to 75.0 percent.

An association of alcohol with sexual assaults has been demonstrated in younger age groups as well. A study of over 27,000 students in Maryland public high schools found that alcohol use was associated with increased odds of having experienced both physical and verbal teen dating violence compared with students who reported having not used alcohol (Parker et al. 2016).

Many other adverse social consequences are linked with college student alcohol consumption. Hingson et al. (2009) estimated that annually, more than 696,000 college students are assaulted or hit by another student who has been drinking. They estimated that another 599,000 are unintentionally injured while under the influence of alcohol. In addition, Hingson and colleagues (2009) estimated that roughly 474,000 students ages 18–24 have had unprotected sex while under the influence of alcohol. Further, each year, more than 100,000 students ages 18–24 report having had sexual intercourse while so intoxicated that they were unable to consent. About 11.0 percent of college students report having damaged property while under the influence of alcohol (Hingson et al., 2005).

Alcohol use contributes to problems encountered by all young adults, not just those in a college environment. A recent analysis of MTF data for young adults post–high school found that although 4-year college students more frequently reported negative consequences resulting from alcohol use than did non-attenders, individuals in 2-year technical/vocational school programs reported more unsafe driving after alcohol use. Overall, after total alcohol intake was controlled for, young adult women were more likely to report having engaged in behavior that caused them negative emotional and/or physical consequences from their alcohol use than men. The authors note that the study's findings indicate that intervention and prevention efforts addressing the negative consequences of alcohol use are important for all young adults (Patrick et al., 2020).

It is evident that in addition to the negative consequences to individual youth who drink, there are substantial costs to society in young lives lost, lost productivity, and future increased healthcare costs.

A Coordinated Federal Response to Underage Drinking: The STOP Act

In 2006, Congress passed the Sober Truth on Preventing Underage Drinking Act (STOP Act) to address underage drinking in the United States. The STOP Act—reauthorized in December 2016 as part of the 21st Century Cures Act (Pub. L. 114–255) and again by the Consolidated Appropriations Act, 2023 (Pub. L. 117–328) and codified into law in 42 U.S.C. 290bb–25b: Programs to reduce underage drinking—formalized the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) and required annual reports to Congress on (1) underage drinking at the national level; (2) the national media campaign; (3) state performance and best practices; (4) and each state's underage drinking prevention and enforcement efforts. The latter two are published separately. (See <https://www.stopalcoholabuse.gov>.)

This volume includes the first two of those reports, addressing the following requirements of the STOP Act:

- Information related to patterns and consequences of underage drinking, as well as evidence-based best practices to prevent and reduce underage drinking and provide treatment services (Chapters 1 and 4 and Appendix B).
- A description of the federally coordinated approach to preventing and reducing underage drinking (Chapter 4).
- The extent of progress in preventing and reducing underage drinking nationally (Chapters 2 and 3).
- Surveillance data, including information about the initiation and prevalence of underage drinking, consumption patterns, and the means of underage access (Chapters 2 and 3).
- Measures of the exposure of underage populations to messages regarding alcohol in advertising and the entertainment media as reported by the Federal Trade Commission (Chapter 4).
- A description of production and broadcasting activities of the “Talk. They Hear You.”[®] national media campaign mandated by the STOP Act and an evaluation of the effectiveness and reach of the campaign (Chapter 5).
- Other information about underage drinking that ICCPUD, on behalf of the Secretary of the U.S. Department of Health and Human Services, has determined to be appropriate.

Chapter 2: The Nature and Extent of Underage Drinking in the United States

CHAPTER 2 KEY POINTS

- *Alcohol is the most widely used substance among youth in the United States. Past-month alcohol use is reported by 14.0 percent of males and 16.3 percent of females.*
- *Binge drinking in the past month is reported by 8.3 percent of 12-to-20-year-olds. This represents 3.2 million underage youth.*
- *The percentage of females reporting binge drinking (9.3 percent) is significantly higher than the percentage of males (7.4 percent) for ages 12–20 combined.*
- *For every day in 2021, approximately 1,933 young people 12–14 years of age drank alcohol for the first time. Early initiation of alcohol use increases the risk for a variety of health and social problems during adolescence, as well as health problems later in life.*
- *For youth ages 12–17, approximately 5.6 percent developed an alcohol use disorder within 12 months of first alcohol use.*

CHAPTER 2: THE NATURE AND EXTENT OF UNDERAGE DRINKING IN THE UNITED STATES

Chapter Overview

Chapter 2 provides an overview of the current nature and extent of underage drinking, primarily utilizing data provided by three major national surveys funded by the federal government, described at the beginning of this chapter. This chapter, in conjunction with Chapter 3, addresses these key mandates from the Sober Truth on Preventing Underage Drinking Act (STOP Act):

- Information on the onset and prevalence of underage drinking
- Patterns of underage consumption as described in research, including federal surveys
- Measures of the availability of alcohol and the means of underage access
- Measures of the exposure of underage populations to messages regarding alcohol in advertising and entertainment media as reported by the Federal Trade Commission (FTC)

The chapter then covers the extent of historical progress in reducing underage drinking in several key areas, including rates and prevalence of past-month alcohol use, binge drinking, age of initiation, and driving after drinking. The coronavirus disease 2019 (COVID-19) pandemic necessitated changes in data collection methods and frequency for the National Survey on Drug Use and Health (NSDUH) and the Monitoring the Future (MTF) survey; the data for 2020 and 2021 are therefore not suitable for comparison with historical data. Trend data are reported for the pre-pandemic time frame only (through 2019); post-pandemic trends will be provided as they become available. The chapter concludes by summarizing the progress made to date.

Federal Surveys Used in This Report

Current information on consumption and progress on reducing underage drinking is obtained through three major national surveys (Exhibit 2.1) funded by the federal government that collect data on, among other topics, underage drinking and its consequences:

- The annual NSDUH
- The annual MTF survey (conducted pursuant to federal grants)
- The biennial Youth Risk Behavior Survey (YRBS)

Key findings from these data sources and other research related to underage alcohol use in the United States are described in this chapter and in Chapter 3. In general, NSDUH data are used as the primary source; MTF and YRBS data are cited as the primary source when the NSDUH does not have comparable information.

Each survey makes a unique contribution to an understanding of the nature of alcohol use, and each survey was developed for a specific purpose. Direct comparison of findings across the three surveys (e.g., prevalence of underage drinking) is not generally appropriate because each survey has a unique design, a different data collection method (Chen et al., 2017; Fendrich & Johnson, 2001; Harrison, 2001), a different sampling frame and weighting approach (Cowan, 2001), and differences in measures (see Exhibit 2.2). The only overlap in the survey populations sampled is students in the 10th and 12th grades in traditional schools in 47 states (Exhibit 2.1). Even so,

reviewing trends over time for data collected within each survey is informative, as each survey provides a different perspective on the status of underage drinking.²⁶

Exhibit 2.1: Summary of Major Federal Surveys Assessing Underage Drinking²⁷

Survey/ Sponsoring Agency	Purpose	Target Population	Administration Schedule	Data Collection Method
NSDUH — Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Behavioral Health Statistics and Quality (CBHSQ)	Measurement of substance use, misuse, and use disorders for U.S. civilian, non-institutionalized population age 12 or older	Civilian, non-institutionalized population age 12 or older in the United States (residents of households and individuals in non-institutional group quarters)	Annually since 1990	In-person visits to homes and web-based visits; computer-assisted audio self-interviews
MTF ²⁸ — National Institute on Drug Abuse (NIDA)	Measurement of alcohol use, tobacco use, and other drug use by secondary school students	Secondary school students in the coterminous United States in grades 8, 10, and 12; a randomly selected sample from each senior class has been followed up biennially after high school until age 30 and then every 5 years after that	Annually for 12th graders since 1975 and for 8th and 10th graders since 1991; biennially for college students and adults ages 19–30 and every 5 years thereafter, through age 60	School-based, self-administered questionnaire
YRBS — Centers for Disease Control and Prevention (CDC)	Assessment of a variety of behaviors that affect adolescent health, including alcohol consumption	Public and private school students in grades 9–12 in the United States and the District of Columbia	Biennially since 1991	School-based, self-administered questionnaire in the classroom

²⁶ The European School Survey Project on Alcohol and Other Drugs (ESPAD), administered approximately every 5 years, collected the seventh wave of data, similar in content to the MTF survey, across 35 European countries in 2019. Selected comparisons of U.S. and European data are included in this report.

²⁷ See Chen, Yoon, & Faden (2017) for details on differences in the surveys.

²⁸ For comparability with 2021 NSDUH (the data available as this report was being prepared in 2022–23), the latest MTF data included in this report are also from 2021. The 2022 MTF data became available in January 2023 and will be included in the next report.

Exhibit 2.2: Current Definitions of Alcohol Consumption by Survey

Measure ²⁹	Survey Source	Definition
Current Alcohol Use	NSDUH	Any reported use of alcohol in the past 30 days (also referred to as “past-month use”)
	MTF	Any reported use of alcohol during the last 30 days
	YRBS	Had at least one drink of alcohol on at least 1 day during the 30 days before the survey
Lifetime Alcohol Use	NSDUH	Reported use of alcohol at least once in the respondent’s lifetime
	MTF	Used alcohol at least once during respondent’s lifetime
	YRBS	Had at least one drink of alcohol on at least 1 day during their life
Binge Use of Alcohol	NSDUH	[As of 2015] Females: Reported drinking four or more drinks... Males: Reported drinking five or more drinks... ...on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days
	MTF	Reported five or more drinks in a row over the past 2 weeks
	YRBS	[As of 2017] Females: Reported four or more drinks of alcohol in a row... Males: Reported five or more drinks of alcohol in a row... ...within a couple of hours on at least 1 day during the 30 days before the survey
Heavy Use of Alcohol	NSDUH	[As of 2015] Females: Reported drinking four or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on each of 5 or more days in the past 30 days Males: Reported drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days Heavy alcohol use is also, by definition, binge use of alcohol

²⁹ Note: Measures based on gender do not appropriately account for transgender and gender-nonconforming individuals.

Measure ²⁹	Survey Source	Definition
Extreme Binge (Also Referred to as High-Intensity)	MTF	10-plus: Reported drinking 10 or more drinks in a row over the past 2 weeks 15-plus: Reported drinking 15 or more drinks in a row over the past 2 weeks
Largest Number of Alcoholic Drinks in a Row Was 10 or More (Similar to Extreme Binge)	YRBS	10-plus: Reported 10 or more as the largest number of drinks in a row 30 days before the survey

Measuring Alcohol Consumption

Underage drinking is assessed both by examining self-reported drinking behavior directly and by assessing changes in behaviors and outcomes that are correlated with underage drinking.

The 2021 NSDUH data are the basis for the current measures of self-reported alcohol consumption—past-month use, lifetime use, and binge and heavy alcohol use—and NSDUH data through 2019 are the basis for measuring historical progress in reducing underage drinking over time for the same measures that are provided in this section. Related measures from the MTF survey and the YRBS are provided when available. Additional details on differences by age and sex or gender are also included within each section.

Any discussion of sex differences in underage drinking should include consideration of biological factors that may underlie or contribute to differences in drinking behavior and their consequences. Differences in body composition (e.g., increased body fat, decreased muscle mass, and subsequently less body water in females) may result in a greater BAC in females compared with males consuming the same amount of alcohol. These physiological differences suggest that females may experience alcohol-related problems at lower doses of alcohol than males. On the other hand, males tend to have lower reactivity to alcohol (perceived effects of alcohol as a function of amount consumed), putting them at greater risk for binge and heavy drinking (Schulte et al., 2009). For transgender individuals, current measures do not account for the impact of physiological changes in alcohol metabolism and associated health risks that may arise from medical changes associated with gender-affirming procedures (Gilbert et al., 2018). To improve the data in this area, Gilbert et al. recommend “being explicit as to whether and how sex and/or gender are operationalized and relevant for the research question, expanding the repertoire of alcohol measures to include those not contingent on sex or gender, testing the psychometric performance of established screening instruments with transgender populations, and shifting from descriptive to analytic study designs.” In addition, the authors suggest future the use of sampling strategies that ensure sufficient participation by transgender individuals.

Although overall alcohol consumption, binge drinking, and high-intensity drinking are decreasing among adolescents and young adults, gender rates are converging because of faster decreases in male rates, such that this pattern does not hold into later adulthood. A review of recent studies concluded that increases in consumption, binge drinking, and alcohol-related harms are driven largely by increases among women in their 30s and 40s (Exhibit 2.3). This trend of greater increases in consumption for women compared with men appears to continue into older adult years, age 60 and older (Keyes et al., 2019). Preliminary evidence indicates that

women were more likely to increase their levels of drinking during the early days of the COVID-19 pandemic (late May to mid-June 2020) and to report more alcohol-related negative consequences than males (Pollard et al., 2020).

Exhibit 2.3: Alcohol Consumption Patterns by Developmental Period, Gender, and Age Cohort From 1976 to 2004 (Keyes, Jager, et al., 2019)

	Developmental Period				
	Adolescence	Young Adulthood 18-25	Young Adulthood 26-29	Middle Adulthood	Older Adulthood Over 60
Male Pattern	Decreasing	Decreasing	Increasing	Static	Static
Female Pattern	Decreasing	Decreasing	Increasing	Increasing	Increasing
Gender Comparison	Males decreasing faster than females	Males decreasing faster than females	Females increasing more than males	Females rapidly increasing	Females rapidly increasing

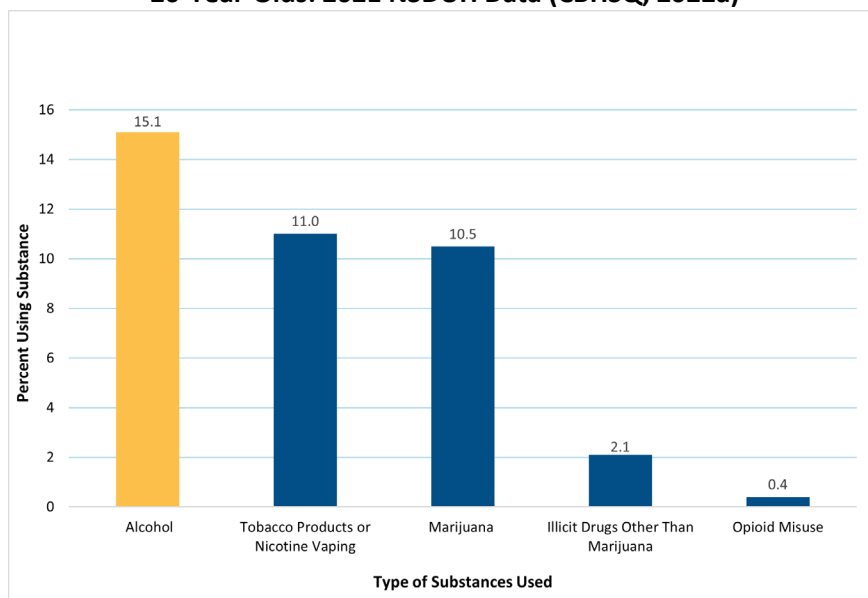
Past-Month Alcohol Use: NSDUH

NSDUH data from 2021 indicate that approximately 15.1 percent of 12-to-20-year-olds in the United States (or about 5.9 million young people) reported having used alcohol in the past month (CBHSQ, 2022a).³⁰

In the 2021 NSDUH, 5.9 million people ages 12–20 reported having used alcohol in the past month (CBHSQ, 2022a).

To put these numbers into context, alcohol continues to be the most widely used substance among U.S. youth. According to the results of the 2021 NSDUH survey, 10.5 percent of 12-to-20-year-olds had used marijuana; 11.0 percent had used tobacco products and/or nicotine vaping; 2.1 percent had used illicit drugs other than marijuana; and 0.4 percent had used opioids (CBHSQ, 2022a; see Exhibit 2.4).

Exhibit 2.4: Past-Month Use of Alcohol, Marijuana, Other Illicit Drugs, and Tobacco Products by 12-to-20-Year-Olds: 2021 NSDUH Data (CBHSQ, 2022a)



³⁰ Past-month alcohol use is defined for the NSDUH survey as having had any alcohol in the 30 days prior to the survey interview.

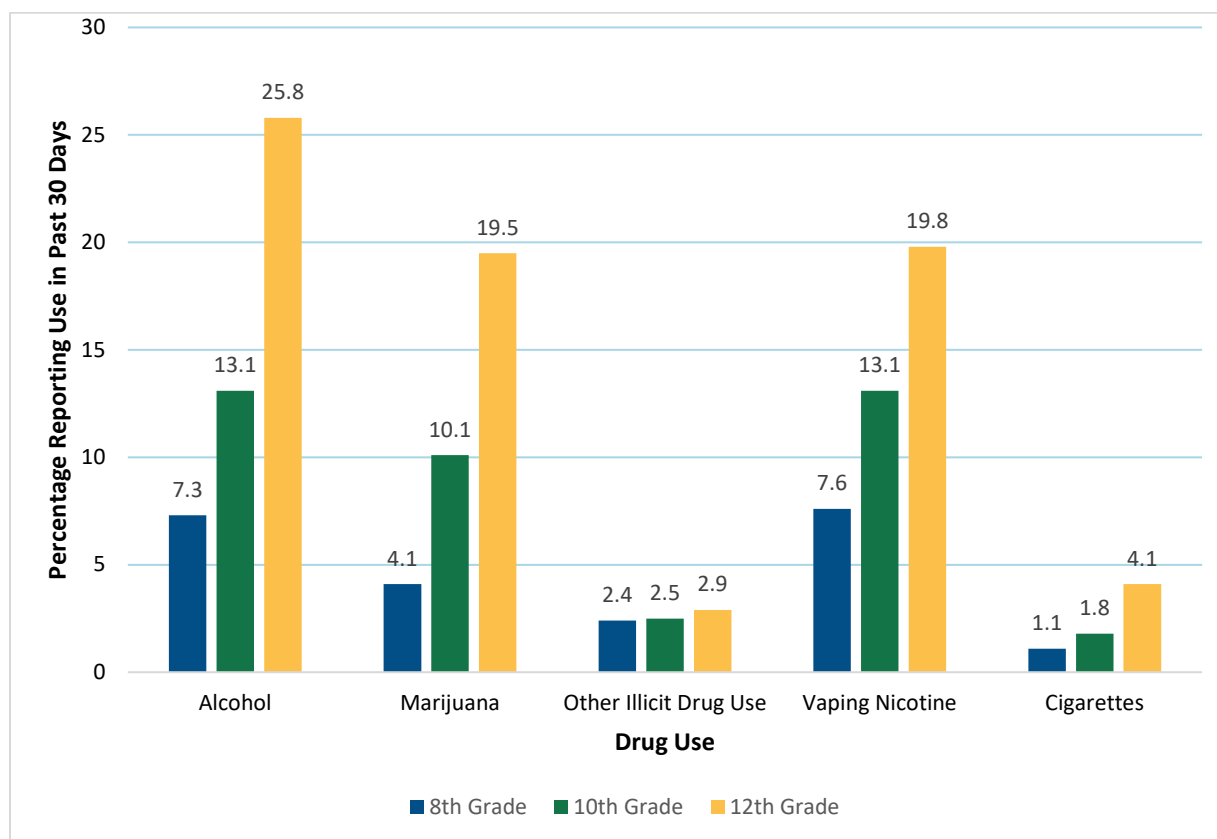
Past-Month Alcohol Use: MTF and YRBS

In 2021, 15.1 percent of students (grades 8, 10, and 12 combined) reported having drunk alcohol in the 30 days prior to the MTF survey (Johnston, Miech, et al., 2022b). YRBS (2021) survey data show that 22.7 percent of students in grades 9–12 reported having had at least one drink in the 30 days before the survey (CDC, 2023a).

MTF data show the same patterns of overall substance use as demonstrated in the NSDUH data. A higher percentage of youth in grades 8, 10, and 12 combined had used alcohol (15.1 percent) in the month prior to being surveyed than had used marijuana (11.0 percent), other illicit drugs (2.6 percent), or cigarettes (2.3 percent). Vaping of nicotine this past year is now at 13.3 percent (Johnston et al., 2022). Exhibit 2.5 shows the use of substances by each grade (Miech et al., 2022).

YRBS data from 2021 also indicate greater use of alcohol in the past month (22.7 percent) than marijuana (15.8 percent), prescription opioids (6.0 percent), and vaping (18.0 percent) by high school students (CDC, 2023a).

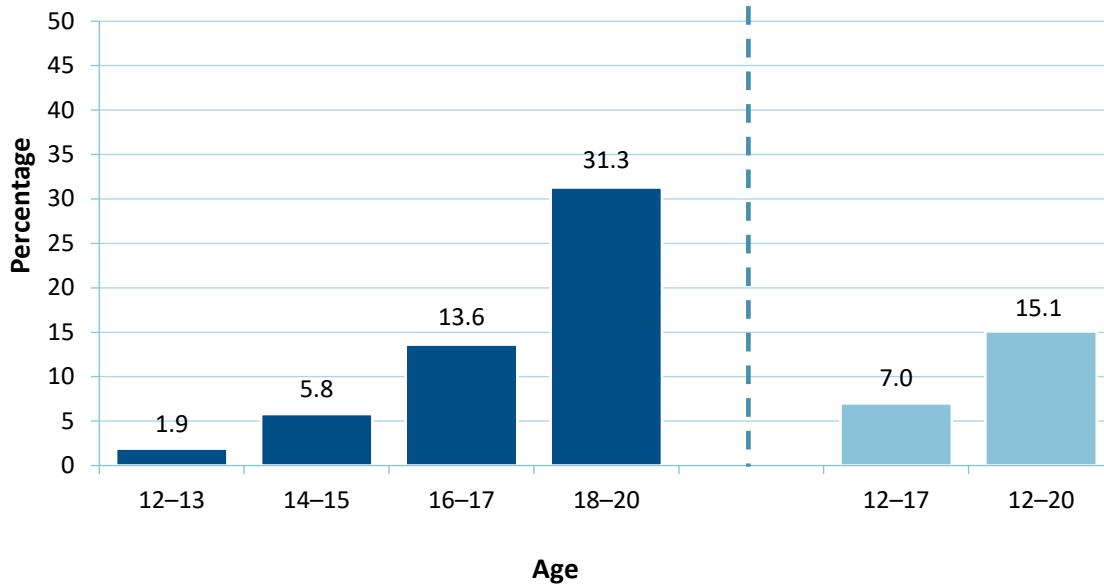
Exhibit 2.5: Past-Month Adolescent Alcohol, Cigarette, Marijuana Use, and Vaping by Grade: 2021 MTF Data (Miech et al., 2022)



Past-Month Alcohol Use: NSDUH by Age, Gender, and Age by Gender

Exhibit 2.6 provides a summary of past-month underage consumption by selected age groups for 2021. There are significant differences in past-month use among all age groups, with consumption increasing with age (CBHSQ, 2023).

Exhibit 2.6: Past-Month Alcohol Use by Age: 2021 NSDUH Data (CBHSQ, 2023)



Each of the major surveys gathers data and presents results by sex and/or gender slightly differently. Exhibit 2.7 provides the current language assessing sex/gender for each of the three major surveys used in this report.

Exhibit 2.7: Definition of Sex/Gender by Survey

	Definition of Sex	Definition of Gender
National Survey on Drug Use and Health (NSDUH)³¹	Does not use sex as a variable	Defines gender as “male” or “female”
Monitoring the Future (MTF)³²	What is your sex? “male,” “female,” “other or prefer not to answer”	Does not use gender as a variable
Youth Risk Behavior Survey (YRBS)³³	Defines sex as “male” or “female”	Asks youth whether they identify as transgender. Text includes, “Some people describe themselves as transgender when their sex at birth does not match the way they think or feel about their gender. Are you transgender?” Responses include, “No, I am not transgender,” “Yes, I am transgender,” “I am not sure if I am transgender,” and “I do not know what this question is asking.”

³¹ Beginning with the 2023 NSDUH, the survey asks respondents their sex at birth and their gender identity, including whether they identify as male, female, transgender, or another identity.

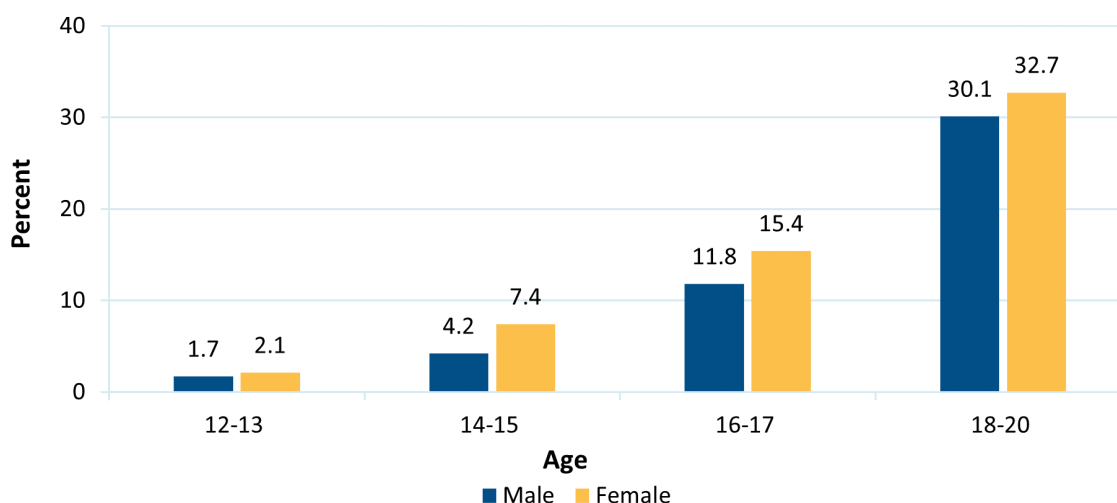
³² <https://www.icpsr.umich.edu/web/ICPSR/studies/38503/variables>

³³ https://www.cdc.gov/healthyouth/data/yrbs/pdf/2023/2023_YRBS_Standard_HS_Questionnaire.pdf

According to 2021 NSDUH data, past-month alcohol use is reported by 14.0 percent of males and 16.3 percent of females ages 12–20. This difference is statistically significant (CBHSQ, 2023).

Prevalence of current drinking differed by age and gender overall; females in the 14-to-15-year-old and the 16-to-17-year-old age groups reported past-month alcohol use significantly more frequently than males in the same age group; differences between males and females ages 12 to 13 and 18 to 20 were not statistically significant (Exhibit 2.8; CBHSQ, 2023).

Exhibit 2.8: Past-Month Alcohol Use by Age and Gender: 2021 NSDUH Data (CBHSQ, 2023)



Lifetime Alcohol Use: NSDUH

Lifetime alcohol use in the NSDUH represents respondents reporting ever having had alcohol (more than a sip) in their lifetimes. In 2021, 34.4 percent of underage (ages 12–20) youth reported lifetime alcohol use (CBHSQ, 2022a).

Lifetime Alcohol Use: MTF

Per the 2021 MTF survey, 21.7 percent of 8th grade students, 34.7 percent of 10th graders, and 54.1 percent of 12th graders had had alcohol at some point in their lives (Johnston, Miech, et al., 2022b).

Binge Drinking: NSDUH

Among 12-to-20-year-olds, 8.3 percent had engaged in binge drinking on at least 1 day in the past 30 days, according to the 2021 NSDUH. This represents 3.2 million underage youth (CBHSQ, 2023).³⁴

- As of 2021, alcohol had been consumed by 34.4 percent of people ages 12–20 at some point in their lives (CBHSQ, 2022a).
- In 2021, 3.2 million underage youth reported having engaged in binge drinking in the past 30 days (CBHSQ, 2023).

³⁴ Binge drinking is defined in the NSDUH as four (for females) or five (for males) or more drinks on the same occasion either at the same time or within a few hours (CBHSQ, 2019b). This level of consumption is generally agreed to result in a blood alcohol level of 0.08 percent or above for most individuals (Krieger et al., 2018).

Binge Drinking: MTF and YRBS

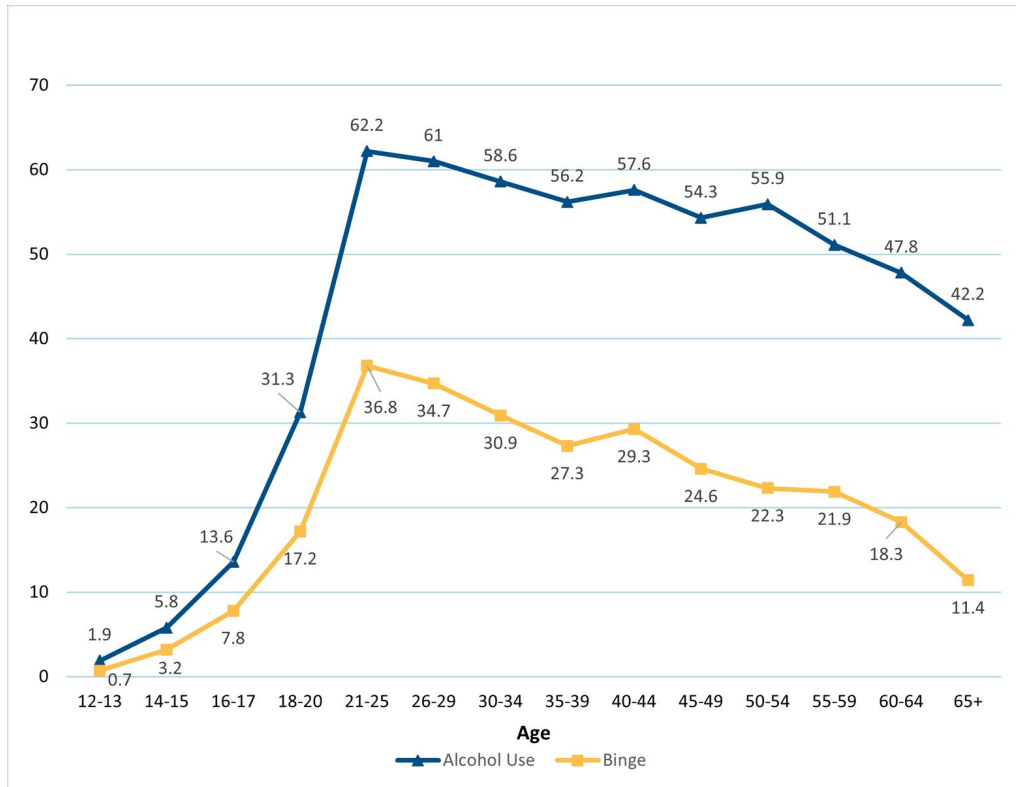
According to the 2021 MTF survey, 2.8 percent of 8th graders, 5.9 percent of 10th graders, and 11.8 percent of 12th graders reported having consumed five or more drinks in a row at some point in the 2 weeks prior to the survey (Miech et al., 2022).

YRBS data indicate that 10.5 percent of students in grades 9–12 reported having had four (for females) or five (for males) or more drinks in a row in the 30 days prior to the survey (CDC, 2023d).

Binge Drinking: NSDUH by Age and Gender

In 2021, binge drinking rates increased as age increased from 12 to 20, peaked at ages 21–25 (36.8 percent), and then decreased beyond young adulthood (Exhibit 2.9; CBHSQ, 2022a). The percentage of females reporting binge drinking in 2021 (9.3 percent) was significantly higher than the percentage of males (7.4 percent) for ages 12–20 combined (CBHSQ, 2023).

Exhibit 2.9: Alcohol Use and Binge Alcohol Use in Past Month by Age: 2021 NSDUH Data (CBHSQ, 2022a)



Binge Drinking Patterns: NSDUH

According to NSDUH data, underage people who drink tend to drink less often than adults; however, when they do drink, they drink more intensely. As part of NSDUH, participants were asked about the number of drinks consumed on their last occasion of alcohol use in the past month. Underage people who drank had consumed, on average, 3.4 drinks per occasion 4.2 times a month; adults ages 21 to 25 had consumed an average of 3.1 drinks approximately 6.7 times

per month, whereas adults age 26 or older who drank had averaged 2.6 drinks per occasion about 9.1 times a month (CBHSQ, 2023; Exhibit 2.10).

According to a theoretical analysis, youth ages 12–15 can reach the same BAC after consuming three to four drinks within 2 hours as people age 18 or older who consume four to five drinks during this same time period (Donovan, 2009). This suggests that binge and heavy alcohol use may be even more of a problem than what is reflected in survey data and that it may be particularly dangerous for younger adolescents.

In 2021, 48.6 percent of underage people who drank reported having consumed three or more drinks on a single occasion. Twenty-two and a half percent of underage youth had consumed five or more drinks, and 4.6 percent had consumed nine or more drinks (Exhibit 2.11; CBHSQ, 2023).

Exhibit 2.10: Number of Drinking Days Per Month and Usual Number of Drinks Per Occasion for Youth (12–20), Young Adults (21–25), and Adults (≥26): 2021 NSDUH Data (CBHSQ, 2023)

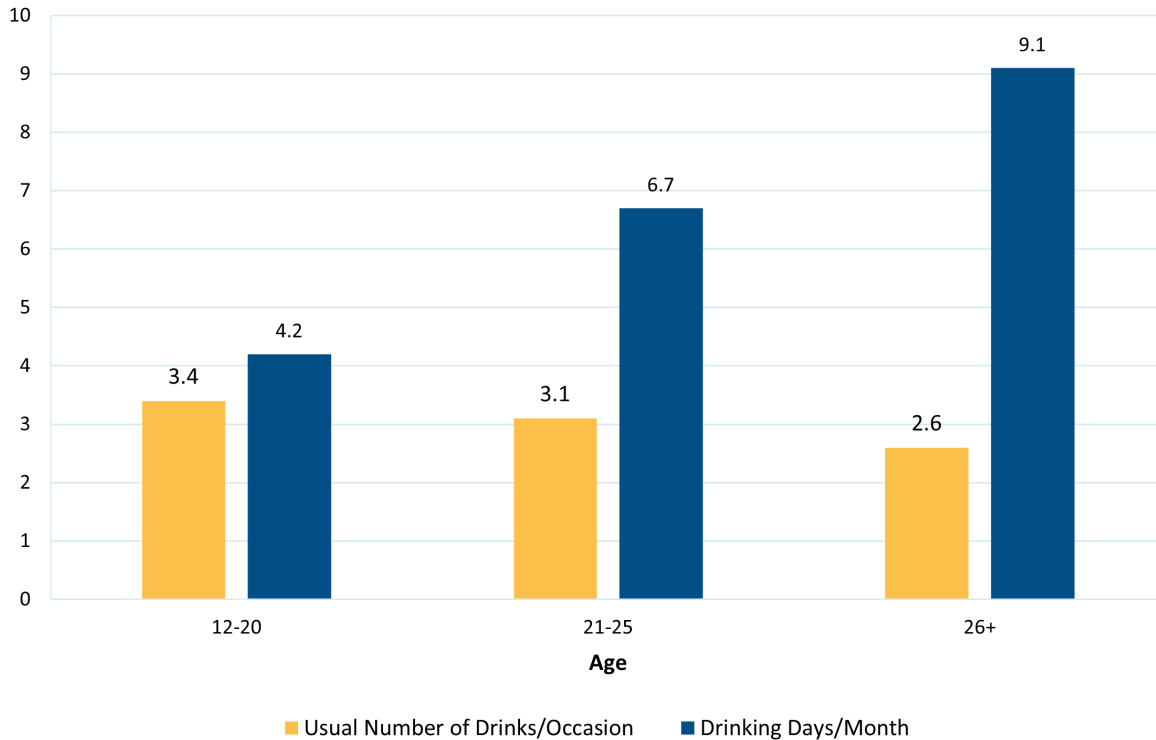
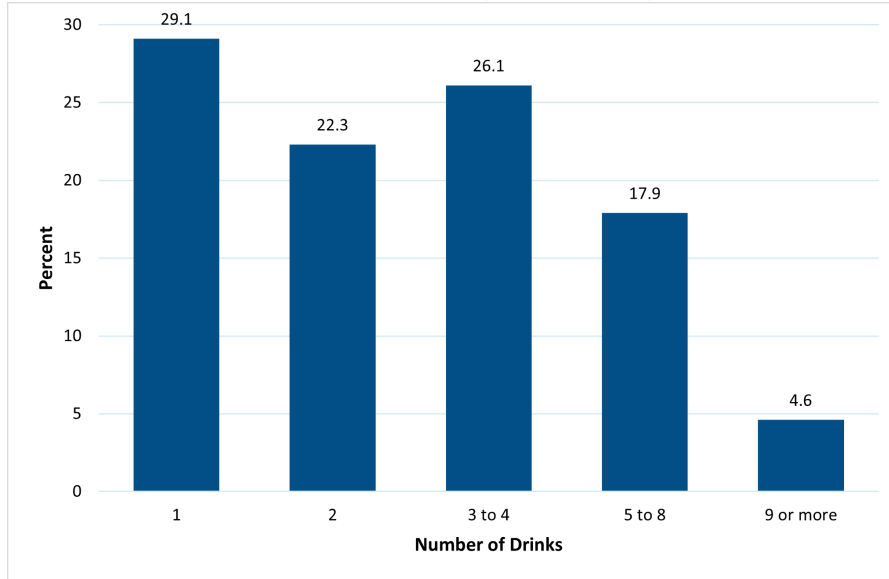
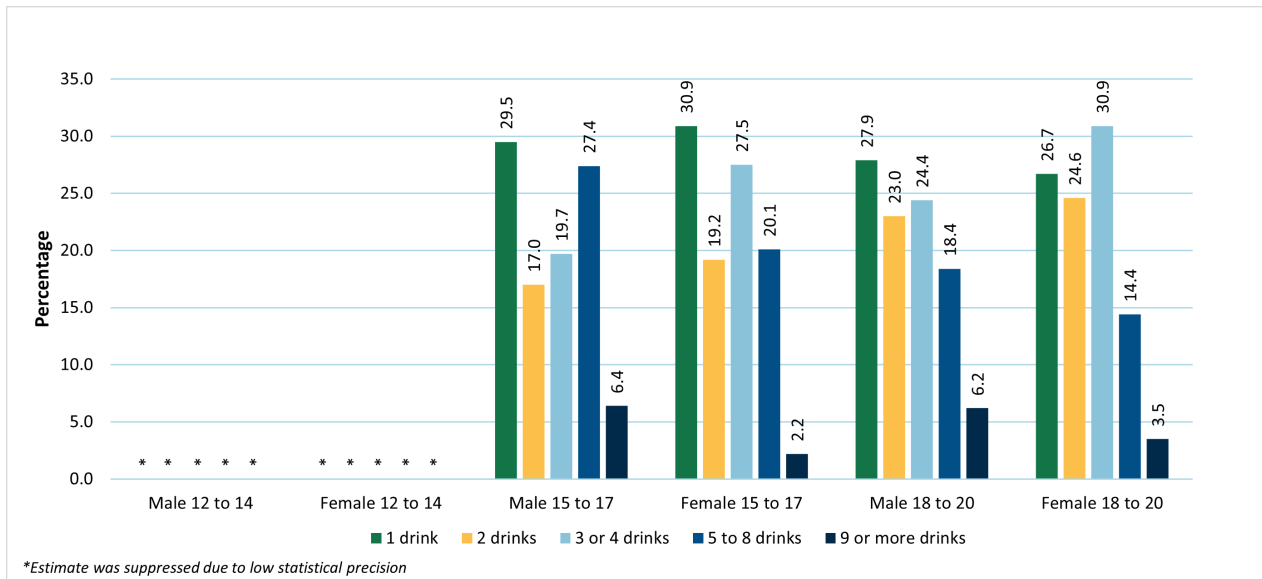


Exhibit 2.11: Number of Drinks Consumed on a Single Occasion by Underage (Ages 12–20) Youth: 2021 NSDUH Data (CBHSQ, 2023)



NSDUH data for 2021 on the number of drinks consumed by males and females ages 12–20 by gender and age group are shown in Exhibit 2.12 (CBHSQ, 2023). According to 2021 NSDUH data, the total number of drinks consumed on the most recent occasion of alcohol use differed by age. People with past-month alcohol use who were ages 12–20, 15–17, and 18–20 had consumed significantly more drinks per occasion than 12-to-14-year-olds; 18-to-20-year-olds and 15-to-17-year-olds did not differ significantly in the number of drinks they had consumed. Overall, females ages 12–20 were significantly more likely than males to report having consumed fewer drinks per occasion (one to four drinks); males ages 12–20 were more likely than females to have consumed five or more drinks (CBHSQ, 2023).

Exhibit 2.12: Number of Drinks Consumed on Last Occasion of Alcohol Use in the Past Month Among People With Past-Month Alcohol Use Ages 12–20 by Gender and Age Group: 2021 NSDUH Data (CBHSQ, 2023)



Binge Drinking: MTF by Age and Gender

As reported in the MTF survey, binge drinking rates for females in high school in 2021 were 3.2 percent of 8th graders, 5.9 percent of 10th graders, and 12.6 percent of 12th graders. For males, rates were 2.0 percent for 8th graders, 5.4 percent for 10th graders, and 11.1 percent for 12th graders (Miech et al., 2022). Binge drinking for female college students was 28.8 percent; for male college students, the rate was 33.9 percent (Patrick et al., 2022). For young adults of the same age (19–22) who were not in college, the female binge rate was 24.7 percent and the rate for males was 23.3 percent.

Heavy Alcohol Use: NSDUH

Approximately 1.6 percent of 12-to-20-year-old respondents (approximately 613,000) were classified as having engaged in heavy drinking in the 2021 NSDUH;³⁵ 1.7 percent of males ages 12–20 reported having drunk heavily, compared with 1.5 percent of females (CBHSQ, 2022a).

Extreme Binge Drinking: MTF and YRBS

A subset of binge drinking is high-intensity (also referred to as extreme binge) drinking (HID), defined by the MTF using two measures: the consumption of 10 or more drinks or 15 or more drinks on one or more occasions during the previous 2-week period. Such drinking represents an even higher level of a consumption pattern (binge drinking) that is already known to be dangerous. In 2021, 3.2 percent of 12th graders reported having had 10 or more drinks in a row; 1.3 percent of 12th graders reported having had 15 or more drinks in a row within the 2 weeks prior to the survey. Patrick et al. (2023) note that the predictors of HID differ somewhat from those for binge drinking, which may have implications for early screening/intervention.

YRBS data from 2021 indicated that 2.7 percent of high school students (grades 9–12) reported having consumed 10 or more drinks within a couple of hours at least once in the previous month (CDC, 2023d).

Alcohol Use and Sexual Identity: YRBS

A total of 24.5 percent of students responding to the 2021 YRBS survey reported their sexual identity as bisexual (12.1 percent), questioning (5.2 percent), other (3.9 percent), or gay or lesbian (3.2 percent; Mpofu et al., 2023). Students identifying as lesbian, gay, or bisexual had higher prevalence of lifetime alcohol use (58.0 percent), current alcohol use (29.3 percent), and binge drinking (13.6 percent) than students identifying as heterosexual (45.8 percent lifetime; 21.6 percent current use; 10.3 percent binge drinking) and those identifying as questioning or other (46.2 percent lifetime; 20.9 percent current use; 7.6 percent binge drinking; Hoots, et al., 2023). Students reporting having had same-sex partners were more likely than their peers to currently drink alcohol (46 percent) compared with those reporting having had only opposite-sex only sexual contacts (39 percent; CDC, 2023a).

Although the 2021 national YRBS did not have a question assessing gender identity, a 2017 YRBS pilot study of 10 states and nine urban school districts found that youth who identified as

³⁵ Heavy alcohol use is assessed in the NSDUH as binge drinking on five or more days in the past 30 days. By definition, all people who meet the criteria for heavy alcohol use also binge drink (CBHSQ, 2022b).

transgender were more likely than those identifying as cisgender to report lifetime use of alcohol (Johns et al., 2019).

Alcohol Use by Race and Ethnicity: NSDUH³⁶

According to 2021 NSDUH data, White individuals ages 12–20 were significantly more likely to report past-30-day alcohol use than Black, Asian, Hispanic, and Multiracial individuals of the same age; Asian adolescents ages 12–20 were least likely to report past-30-day alcohol use. The detailed prevalence of past-month alcohol use by gender and race/ethnicity was:

- White males (16.7 percent); White females (19.7 percent)
- Hispanic males (13.7 percent); Hispanic females (15.4 percent)
- Multiracial males (9.7 percent); Multiracial females (16.0 percent)
- Black males (8.0 percent); Black females (10.6 percent)
- Asian males (7.7 percent); Asian females (4.9 percent; CBHSQ 2023).

Data for Native Hawaiian/other Pacific Islander and American Indian/Alaska Native individuals ages 12 to 20 were suppressed for 2021 due to low statistical precision.

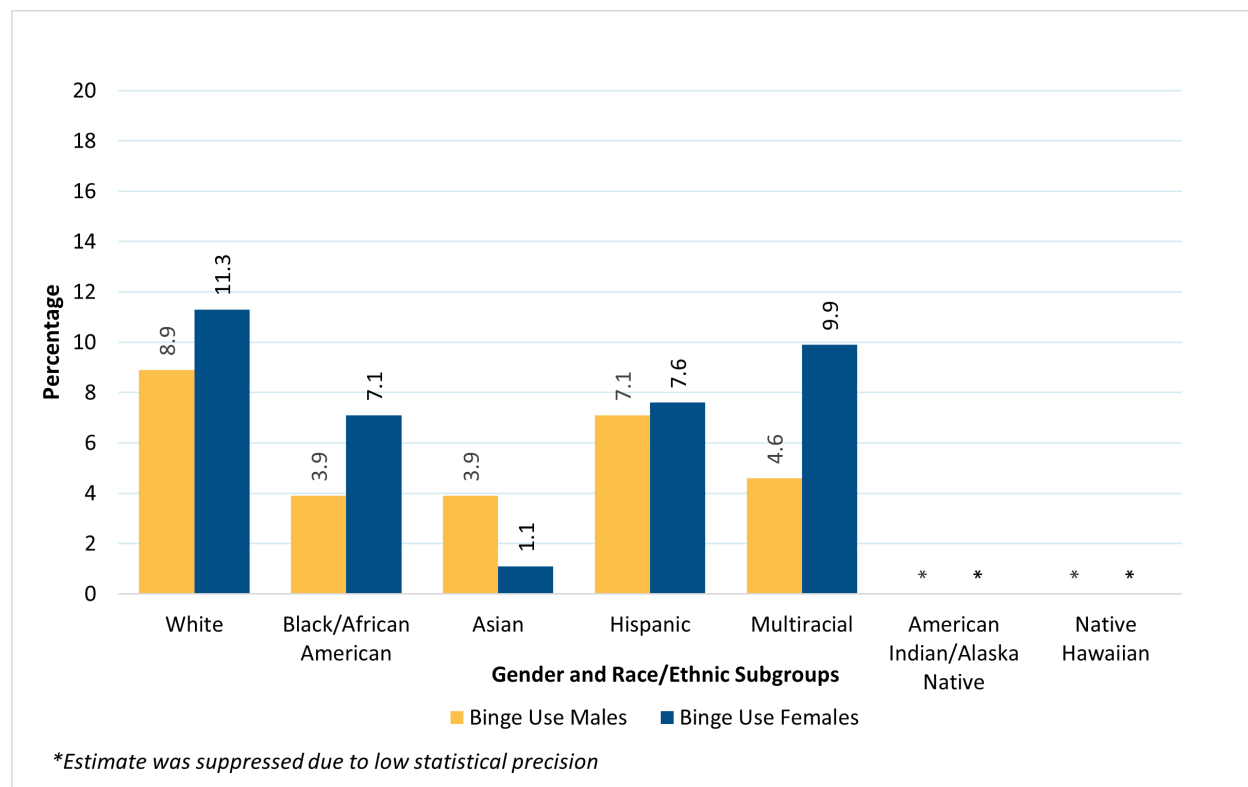
NSDUH data for 2021 on binge alcohol use among males and females ages 12–20 by gender and race/ethnicity are shown in Exhibit 2.13 (CBHSQ, 2023). Estimates of underage binge drinking by gender and race/ethnicity include:

- White males (8.9 percent); White females (11.3 percent)
- Hispanic males (7.1 percent); Hispanic females (7.6 percent)
- Multiracial males (4.6 percent); Multiracial females (9.9 percent)
- Black males (3.9 percent); Black females (7.1 percent)
- Asian males (3.9 percent); Asian females (1.1 percent; CBHSQ 2023).

Data for Native Hawaiian/other Pacific Islander and American Indian/Alaska Native individuals ages 12 to 20 were suppressed for 2021 due to low statistical precision.

³⁶ Racial and ethnic groups reported for NSDUH data are mutually exclusive. People who were of Hispanic or Latino ethnicity could be of any race but are not included in the estimates for any of the racial categories. Estimates for people who were not of Hispanic or Latino ethnicity are reported by race. People reporting two or more races and who were not of Hispanic or Latino ethnicity are noted as Multiracial. People reporting their race as Black or African American are subsequently referred to as Black. People reporting their ethnicity as Hispanic or Latino are subsequently referred to as Hispanic.

Exhibit 2.13: Binge Drinking in the Past Month Among People Ages 12–20 by Race/Ethnicity and Gender, Annual Averages: 2021 NSDUH Data (CBHSQ, 2023)



Early Initiation of Drinking and AUD

Youth who report drinking before age 15 are more likely to experience problems, including intentional and unintentional injury to themselves and others after drinking (Hingson et al., 2000; Hingson & Zha, 2009); violent behavior, including predatory and dating violence (Blitstein et al., 2005; Ellickson et al., 2003; Ramisetty-Mikler et al., 2004; Ramisetty-Mikler et al., 2006); criminal behavior (Eaton et al., 2007); prescription medication misuse (Hermos et al., 2008); unplanned and unprotected sex (Hingson et al., 2003); motor vehicle crashes (Hingson et al., 2002); and physical fights (Hingson et al., 2001).

Research funded by the National Institute on Alcohol Abuse and Alcoholism on the effects of alcohol on the developing brain indicates that heavy alcohol use is linked to disruptions in typical patterns of brain maturation and other structural changes associated with cognitive deficits (Meda et al., 2018; Pfefferbaum et al., 2017). Early-onset drinking is a marker for future problems, including heavier use of alcohol and drugs during adolescence (Buchmann et al., 2009; Hawkins et al., 1997; Liang & Chikritzhs, 2015; Robins & Przybeck, 1985) and alcohol dependence in adulthood (Grant & Dawson, 1998).

Age of First Use of Alcohol: NSDUH

Drinking often begins at a young age. The average age of first use in 2021 for people who had initiated drinking before age 21 in the past year was about 16.3 years old. However, among those who had initiated alcohol use in the past year, 705,000 reported being between 12 and 14 when

they initiated. This means that for every day in 2021, approximately 1,933 people ages 12–14 drank alcohol for the first time (CBHSQ, 2023).

The 2021 NSDUH survey (CBHSQ, 2023) indicates that the average age of initiation of alcohol use was:

- 15.0 years among people with lifetime alcohol use
- 15.2 years among people with past-year use
- 15.2 years among people with past-month use
- 14.9 years among people with past-month binge drinking

Age of First Use: MTF and YRBS

Alcohol use by the end of 6th grade was reported by 3.5 percent of 12th grade respondents (Miech et al., 2022).

2021 YRBS data show that 15.0 percent of high school students had begun drinking before age 13 (CDC, 2023b).

Prevalence of Alcohol Use Disorder Among Youth: NSDUH

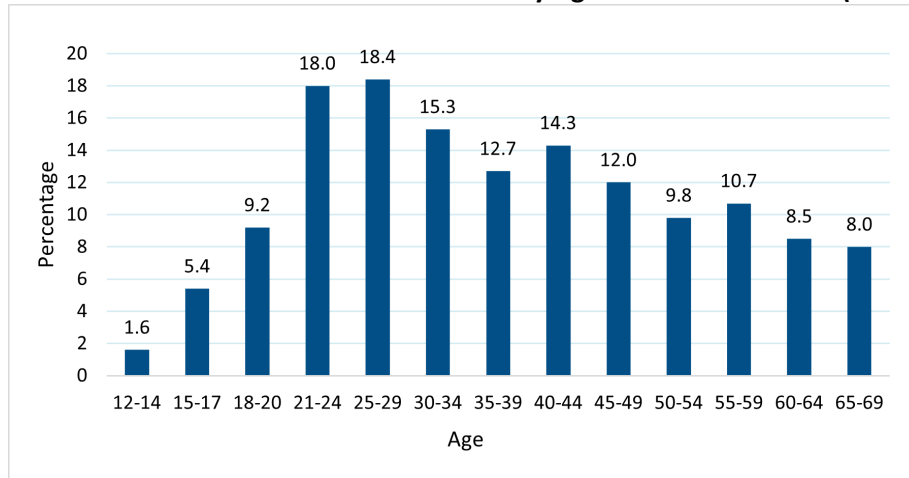
Problematic alcohol use, as defined by the NSDUH, is determined by the presence of a DSM-5 (American Psychiatric Association, 2013) AUD diagnosis.³⁷ According to 2021 NSDUH data, about 5.4 percent of 12-to-20-year-olds met criteria for DSM-5 AUD (CBHSQ, 2022a).

More than 5.0 percent of underage youth met criteria for AUD (CBHSQ, 2022a).

Prevalence of AUD: NSDUH by Age and Gender

As shown in Exhibit 2.14, according to 2021 NSDUH data, the prevalence of DSM-5 AUD for 18-to-20-year-olds (9.2 percent) was significantly lower than the prevalence for 21-to-24-year-olds (18.0 percent), 25-to-29-year-olds (18.4 percent), 30-to-34-year-olds (15.3 percent), and 35-to-39-year-olds (12.7 percent). In addition, 1.6 percent of 12-to-14-year-olds and 5.4 percent of 15-to-17-year-olds met criteria for AUD (CBHSQ, 2023).

Exhibit 2.14: Prevalence of Past-Year DSM-5 AUD by Age: 2021 NSDUH Data (CBHSQ, 2023)



³⁷ DSM-5 diagnostic criteria were used for the first time in the NSDUH in 2020.

Extent of Progress: Historical Trends in Underage Alcohol Consumption

An examination of historical trend data for the measures of underage alcohol consumption across the three federally sponsored surveys suggests that meaningful progress was made in reducing the extent of underage drinking in the 2 decades before the onset of the COVID-19 pandemic. In 2019, data from the NSDUH survey showed an overall decline compared with 2018 in the incidence of past-month, binge, and heavy alcohol use for youth ages 12–20 (CBHSQ, 2021).

Detailed descriptions of specific trends for the different measures of alcohol use overall and by demographic subgroups are provided below; as noted, NSDUH data for 2020 and 2021 cannot be compared with data from previous years; therefore, only historical trends (through 2019) are provided. MTF and YRBS findings through 2021 are given for these same measures; due to changes in methodology and the disruption in data collection, data for 2020 and 2021 for the MTF need to be viewed with caution. Because of ongoing school closures, the YRBS was administered in the fall of 2021 rather than in the spring.

Past-Month Alcohol Use: NSDUH Historical Trends

An assessment of NSDUH-based past-month use trends through 2019 indicates that there has been a general decline in underage past-month alcohol consumption over time among 12-to-20-year-olds. There was a 35.5 percent relative decline from 2004—when the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) was first convened—through 2019 (Exhibit 2.15; CBHSQ, 2021).³⁸ Although drinking increases with age, declines in past-month drinking have been substantial for most age groups over the years. Not unexpectedly, changes in past-month consumption among 18-to-20-year-olds were smaller but still statistically significant when comparing 2004 with 2019 (CBHSQ, 2021).

Past-month alcohol consumption by young people ages 12–20 declined 35.5 percent between 2004 and 2019 (CBHSQ, 2021).

Exhibit 2.15: Historical Past-Month Alcohol Use for 12-to-20-Year-Olds: 2004–2019 NSDUH Data (CBHSQ, 2021)

Age	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% Change 2004–2019
12–13	4.30%	4.20%	3.90%	3.5%*	3.4%*	3.5%*	3.2%*	2.5%*	2.2%*	2.1%*	2.1%*	1.3%*	1.4%*	1.6%*	1%*	1.7%*	-60.5%
14–15	16.40%	15.10%	15.60%	14.7%*	13.3%*	13.1%*	12.4%*	11.3%*	11.1%*	9.5%*	8.5%*	7.4%*	7.9%*	7.9%*	7.4%	7.3%*	-55.5%
16–17	32.50%	30.1%*	29.8%*	29.2%*	26.3%*	26.5%*	24.6%*	25.3%*	24.8%*	22.7%*	23.3%*	19.7%*	17.7%*	19.4%*	17.9%	19.3%*	-40.6%
18–20	51.10%	51.10%	51.60%	50.80%	48.6%*	49.50%	48.5%*	46.8%*	45.8%*	43.8%*	44.2%*	40.9%*	39.1%*	38.6%*	37.6%	35.7%*	-30.1%
12–17	17.60%	16.5%*	16.7%*	16.0%*	14.7%*	14.8%*	13.6%*	13.3%*	12.9%*	11.6%*	11.5%*	9.6%*	9.2%*	9.9%*	9.0%	9.4%*	-46.6%
12–20	28.70%	28.20%	28.40%	28.00%	26.5%*	27.2%*	26.2%*	25.1%*	24.3%*	22.7%*	22.8%*	20.3%*	19.3%*	19.7%*	18.8%	18.5%*	-35.5%

*Difference between 2004 estimate and this estimate is statistically significant at the 0.05 level.

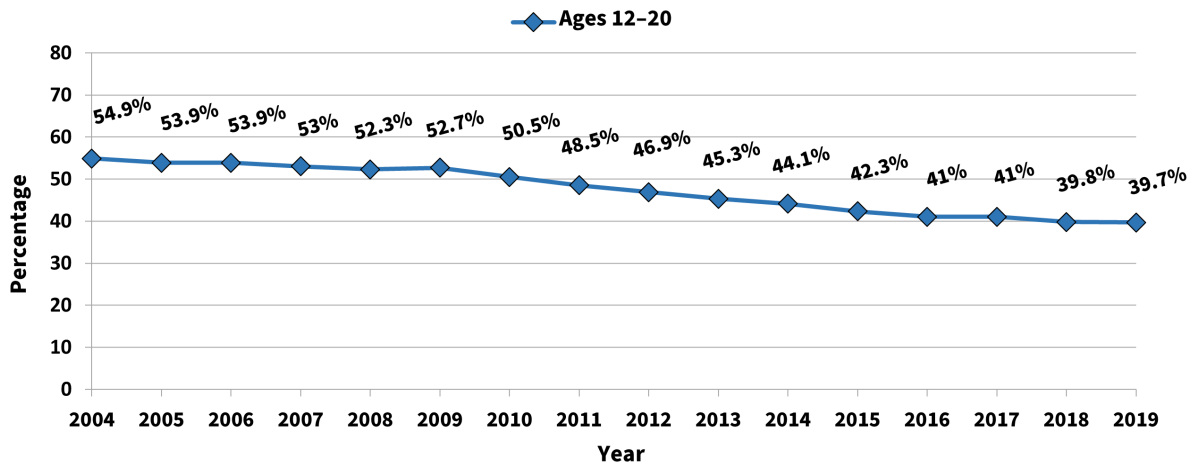
³⁸ This decrease is statistically significant at the 0.05 level.

Lifetime Alcohol Use: NSDUH Historical Trends

The lifetime alcohol use trend, as demonstrated in Exhibit 2.16, declined by 27.7 percent from 2004 to 2019 (CBHSQ, 2020).

The percentage of underage youth who had used alcohol in their lifetimes declined from 2004 to 2019 (CBHSQ, 2020).

Exhibit 2.16: Historical Trends in Lifetime Use of Alcohol by 12-to-20-Year-Olds: 2019 NSDUH Data (CBHSQ, 2020)



Binge Drinking: NSDUH Historical Trends

Trends in binge drinking among those ages 12–20 are shown in Exhibit 2.17. Due to a change in the definition of binge drinking in the 2015 NSDUH (which lowered the number of drinks for females from five to four), trend data from NSDUH are only available from 2015 forward. There was a significant relative decline overall for youth ages 12–20 for binge drinking in 2019 compared with 2015 (CBHSQ, 2021).³⁹

Exhibit 2.17: Historical Past-Month Binge Alcohol Use for 12-to-20-Year-Olds: 2015–2019 NSDUH Data (CBHSQ, 2021)

Age	2015	2016	2017	2018	2019
12–20	13.4%	12.1%*	11.9%*	11.4%*	11.1%*

*Difference between 2015 estimate and this estimate is statistically significant at the 0.05 level.

Binge Drinking: NSDUH Historical Trends by Age and Gender

Exhibit 2.18 provides a summary of trends for past-month binge alcohol use by selected age categories from 2015 to 2019. Significant declines in binge drinking during this time period are evident for all age groups. Rates of binge drinking in 2019 were significantly greater for females (11.8 percent) than males (10.4 percent) for ages 12–20 combined (CBHSQ, 2021).

³⁹ NSDUH questionnaire changes for 2015 included a revision of the definition of binge drinking for females from five to four drinks; therefore, data for males and females combined cannot be compared with those from years prior to 2015.

Exhibit 2.18: Historical Past-Month Binge Alcohol Use for 12-to-20-Year-Olds by Age: 2015–2019 NSDUH Data (CBHSQ, 2021)

Age	2015	2016	2017	2018	2019
12–13	0.7	0.3	0.6	0.3*	0.5
14–15	3.8	3.7	3.8	3.6	3.2
16–17	12.6	10.2	10.9*	9.8*	10.8*
18–20	27.8	26.2	24.9*	24.1*	22.9*
12–17	5.8	4.9	5.3	4.7*	4.9*
12–20	13.4	12.1	11.9*	11.4*	11.1*

*Difference between 2015 estimate and this estimate is statistically significant at the 0.05 level.

Heavy Alcohol Use: NSDUH Historical Trends

Trends in heavy alcohol use based on NSDUH survey results indicate that heavy consumption declined significantly between 2015 and 2019 (CBHSQ, 2021).

Age of First Use: NSDUH Historical Trends

Delaying the age of first alcohol use can mitigate some of the negative consequences of underage alcohol consumption, which means that trends in age of initiation of alcohol use are important to follow.

As shown in Exhibit 2.19, among past-year initiates of alcohol use who began drinking before age 21,⁴⁰ the overall trend in the mean age at first alcohol use went up from 15.6 in 2004 to 16.3 in 2019, with significant increases since 2006. This indicates a delay in initiation of drinking (CBHSQ, 2021).⁴¹

Exhibit 2.19: Historical Trend of Average Age of First Use Among Past-Year Initiates of Alcohol Use Who Initiated Before Age 21: 2004–2019 NSDUH Data (CBHSQ, 2021)

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Average Age at First Use	15.6	15.6	15.8*	15.8*	15.8*	15.9*	16.0*	15.9*	16.0*	16.2*	16.2*	16.3*	16.2*	16.4*	16.3*	16.3*

*Difference between 2004 estimate and this estimate is statistically significant at the 0.05 level.

Prevalence of AUD Among Youth: NSDUH Historical Trends

Trends in DSM-IV AUD (what was termed in the DSM-IV text revision [TR] alcohol abuse or alcohol dependence) among people ages 12–20 from 2004 to 2019 are provided in Exhibit 2.20. There was an ongoing and significant decline in AUD (a 65.6 percent decline since 2004) from 2004 to 2019 (CBHSQ, 2021).

Underage alcohol abuse and alcohol dependence disorders have declined since 2004 (CBHSQ, 2021)

⁴⁰ Past-year initiates are people who drank alcohol for the first time in their lives in the 12 months before the survey interview.

⁴¹ Appendix C further discusses methodological issues in measuring age at first use and other indicators of alcohol initiation.

Exhibit 2.20: (Historical) Past-Year DSM-IV-TR Alcohol Abuse or Alcohol Dependence for 12-to-20-Year-Olds: 2004–2019 NSDUH Data (CBHSQ, 2021)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% Change 2004–19
Ages 12–20	9.6	9.4	9.1	9	8.9*	8.2*	8.0*	7.1*	6.6*	5.6*	5.1*	4.7*	4.1*	3.8*	3.7*	3.3*	-65.6%

*Difference between 2004 estimate and this estimate is statistically significant at the 0.05 level.

Prevalence of AUD: NSDUH Historical Trends by Age and Gender

Exhibit 2.21 provides historical trends in DSM-IV-TR AUD diagnoses by age and gender from 2004 to 2019. There was a significant decline in prevalence for all groups between 2004 and 2019. Females were significantly more likely to have a diagnosis of AUD than males in 2019 (CBHSQ, 2021).

Exhibit 2.21 Past-Year DSM-IV-TR Alcohol Abuse or Alcohol Dependence for 12-to-20-Year-Olds by Age and Sex: 2004–2019 NSDUH Data (CBHSQ, 2021)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% Change 2004–19
Ages 12–20	9.6	9.4	9.1	9	8.9*	8.2*	8.0*	7.1*	6.6*	5.6*	5.1*	4.7*	4.1*	3.8*	3.7*	3.3*	-65.6%
Ages 12–17	6.0	5.5	5.4*	5.4*	4.9*	4.6*	4.6*	3.8*	3.4*	2.8*	2.7*	2.5*	2.0*	1.8*	1.6*	1.7*	-71.7%
Ages 18–20	16.8	16.9	16.5	15.8	16.4	14.7*	14.0*	13.1*	12.5*	11.0*	9.7*	8.8*	8.2*	7.8*	7.6*	6.5*	-61.3%
Males ages 12–20	10.8	10	9.6*	9.8*	9.5*	8.9*	8.7*	7.2*	6.5*	5.8*	5.2*	4.5*	3.7*	3.9*	3.7*	3.0*	-72.2%
Females ages 12–20	8.3	8.7	8.5	8.1	8.3	7.6	7.2*	6.9*	6.6*	5.4*	5.1*	4.8*	4.5*	3.7*	3.6*	3.7*	-55.4%

*Difference between 2004 estimate and this estimate is statistically significant at the 0.05 level.

Past-Month Alcohol Use: MTF and YRBS Trends

Data from the MTF survey reflected ongoing declines in past-month alcohol use for 8th, 10th, and 12th graders through 2021, which marked the lowest levels for alcohol use ever recorded by the study. For the three grades, combined 30-day prevalence fell to 15.1 percent, representing a significant decline between 2020 and 2021 (Johnston, Miech, et al., 2022b).⁴²

The 2021 YRBS showed that current alcohol use for both males and females had declined since 2011 (CDC, 2023a).

Binge Drinking: MTF and YRBS Trends

MTF trend data among students in grades 8, 10, and 12 indicated that binge drinking increased slightly in the 1990s, leveled off in the early 2000s, and then began a gradual decline in 2002. The declines in binge drinking from 1991 to 2016 were significant, with the rate for 8th graders declining by 70 percent, the rate for 10th graders declining by 50 percent, and the rate for 12th graders declining by 30 percent (Johnston et al., 2018).

Although there was some indication of a leveling-off in the rates in 2017, rates declined again in 2018 (Miech et al., 2020). In 2019, the 8th grade binge drinking rate was 3.8 percent, which is

⁴² 2021 was the first time MTF administered surveys to 8th, 10th, and 12th graders using a web-based questionnaire. In 2020, all students answered the questionnaire using internet-connected electronic tablets, which MTF brought to the schools. A main difference in 2021 was that students used their own electronic devices. In addition, students who were schooling remotely took the survey in their homes rather than in their school buildings.

near the lowest level ever recorded by the survey; 10th grade prevalence was at a historic low of 8.5 percent; and 12th grade prevalence was near a historic low of 14 percent in 2019. There were changes in survey administration, and rates for 2020 are not available because of small sample sizes. However, the MTF discussion on trends in binge drinking noted that binge drinking declined significantly in all grades in 2021, and “it would appear that COVID-19 had a substantial effect on binge drinking by teens in 2021” (Johnston et al., 2022; p. 52).

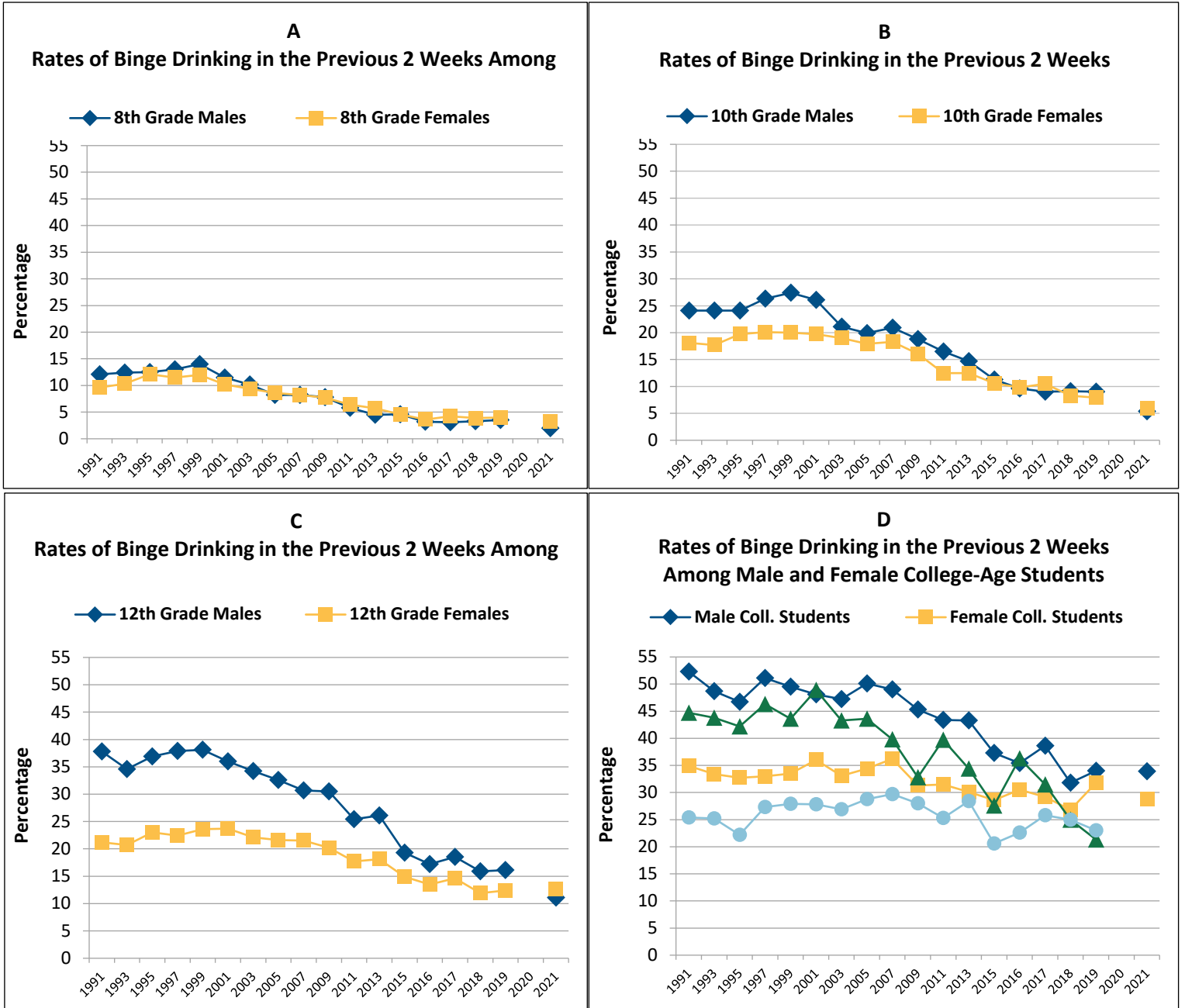
An assessment of binge drinking trends based on YRBS data indicates that binge drinking increased significantly from 1991 to 1999 and then declined significantly from 1999 to 2015. Using only people who were currently drinking in the denominator, it was determined that the majority of high school students who drank also binge drank (57.8 percent), and of those who binge drank, 43.8 percent had consumed eight or more drinks in a row (Esser et al., 2017). The prevalence of binge drinking, though it increased slightly in 2019, was not significantly different (at 13.7 percent) from the 2017 rate (13.5 percent; CDC, 2020).⁴³ Binge drinking rates showed a decline from 2017 to 2021 (Hoots et al., 2023).

Binge Drinking: MTF Historical Trends by Age and Gender

MTF trend data demonstrate that since 1991, rates of binge drinking have generally been decreasing across all grade groups and among college-age respondents (ages 19–22), with rates for males decreasing faster than rates for females (Exhibit 2.22). As a result, binge drinking rates among males and females have been converging since 1991. For example, in 1991, among 12th graders, there was a 16.6-percentage-point difference in the prevalence of binge drinking between males and females; in contrast, in 2021, the difference was only 1.5 percentage points (Miech et al., 2022).

⁴³ YRBS questionnaire changes for 2017 included a revision of the definition of binge drinking for females from five to four drinks; therefore, data for males and females combined for 2017 cannot be compared with those from years prior to 2017.

Exhibit 2.22: Rates of Binge Drinking in the Previous 2 Weeks Among Male and Female 8th, 10th, and 12th Graders and College-Age Students: 1991–2021 MTF Data (Johnston et al., 2022a; Miech et al., 2022) ^{44, 45}



⁴⁴ The MTF survey defines college students as follow-up respondents (i.e., high school graduates) 1–4 years past high school who report that they were taking courses as full-time students in a 2- or 4-year undergraduate college at the beginning of March in the year in question. Non-college students are those 1–4 years past high school not enrolled in college. Note that some of these respondents may be 21 or older.

⁴⁵ Data by gender are not available for 2020 due to small sample sizes.

Extreme Binge Drinking: MTF Historical Trends

Trends in extreme binge or high-intensity drinking have been tracked for 12th graders by the MTF survey since 2005. Between 2005 and 2021, there was a decline of 7.6 percentage points in the rate of 12th graders who had had 10 or more drinks in a row (from 10.6 percent in 2005 to 3.2 percent in 2021) and there was a decline of 4.4 percentage points in the rate of 12th graders who had had 15 or more drinks in a row (from 5.7 percent in 2005 to 1.3 percent in 2021), compared with a decline of 15.3 percentage points for all binge drinking. Although rates for 12th graders increased slightly in 2019 and 2020, rates in 2021 were at the lowest recorded levels (Miech et al., 2022).

Extent of Progress: Driving After Drinking

Approximately 53 percent of unintentional deaths of 12-to-20-year-olds in 2021 were from motor vehicle crashes (CDC, 2023f).

The 2021 NSDUH survey indicated that 2.6 percent of youth ages 16–20 reported having driven under the influence of alcohol at least once in the past year. This represents a troubling number of drivers (approximately 553,000 in 2021) likely to cause property damage, injuries, and deaths related to traffic crashes (CBHSQ, 2022c).

Driving After Drinking: Fatality Analysis Reporting System (FARS), MTF and YRBS Trends

One important sign of progress in addressing underage drinking is that the number of alcohol-related traffic deaths among young drivers ages 15–20 has declined by 78 percent since 1982, shortly before passage of the National Minimum Drinking Age Act in 1984 (NHTSA, 2023). Data since 1997 from NHTSA’s FARS are provided in Exhibit 2.23.

Using MTF data, O’Malley and Johnston (2013) reported—and the MTF team has subsequently updated through annual special analyses—longitudinal data for high school seniors who had reported any of the following behaviors in the 2 weeks before the survey: driving after drinking any alcohol; driving after having five or more drinks; being a passenger when the driver had had any alcohol; or being a passenger with a driver who had had five or more drinks. As demonstrated in Exhibit 2.24, these four behaviors have declined in the past two decades.⁴⁶ Rates remain unacceptably high, however, especially given the risks associated with driving after drinking even a small amount of alcohol.

YRBS trend data from 2013 to 2021 indicate that there was a significant linear decrease (from 10.0 percent in 2013 to 4.6 percent in 2021) in the prevalence of driving after drinking alcohol among high school students who had driven a car or another type of vehicle during the 30 days before the survey (CDC, 2023c).

Driving After Drinking: MTF and NSDUH by Age and Gender

Males in the 12th grade were more than twice as likely as 12th grade females to report driving after five or more drinks (Miech, 2022). O’Malley and Johnston (2013) reported that 43.2

⁴⁶ Special analysis provided by Dr. Richard Miech, January 2023.

percent of high school seniors who had driven after drinking five or more drinks had received a ticket or warning and that 30.2 percent had been involved in a crash.

Exhibit 2.23: Trends in Fatalities for 15-to-20-Year-Old Drivers: NHTSA, FARS 1997–2020 Final File and 2021 Annual Report File (NHTSA, 2023)

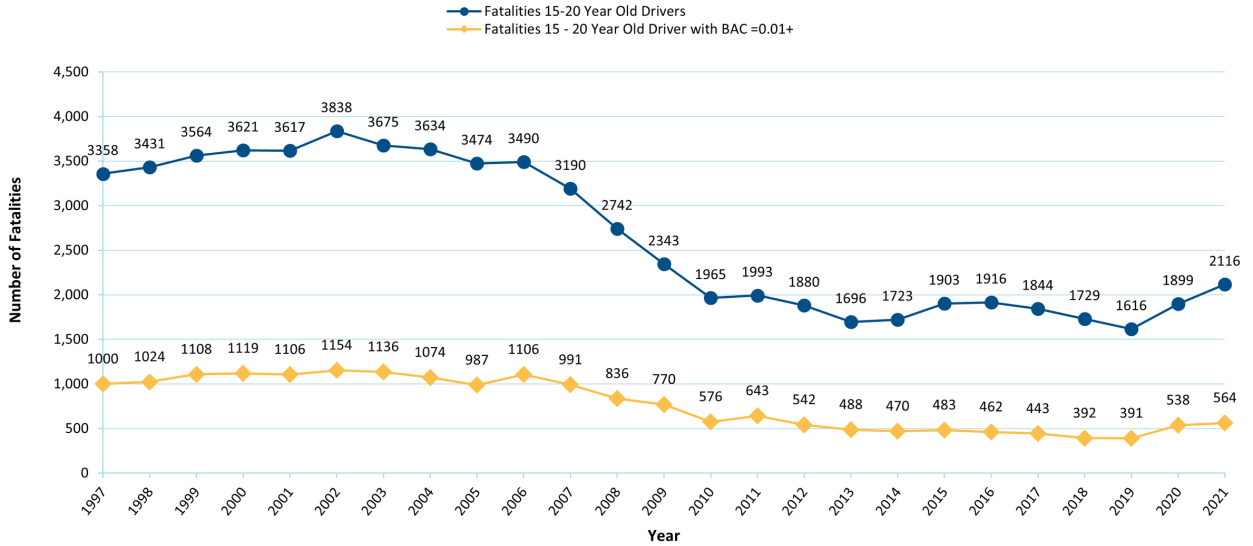
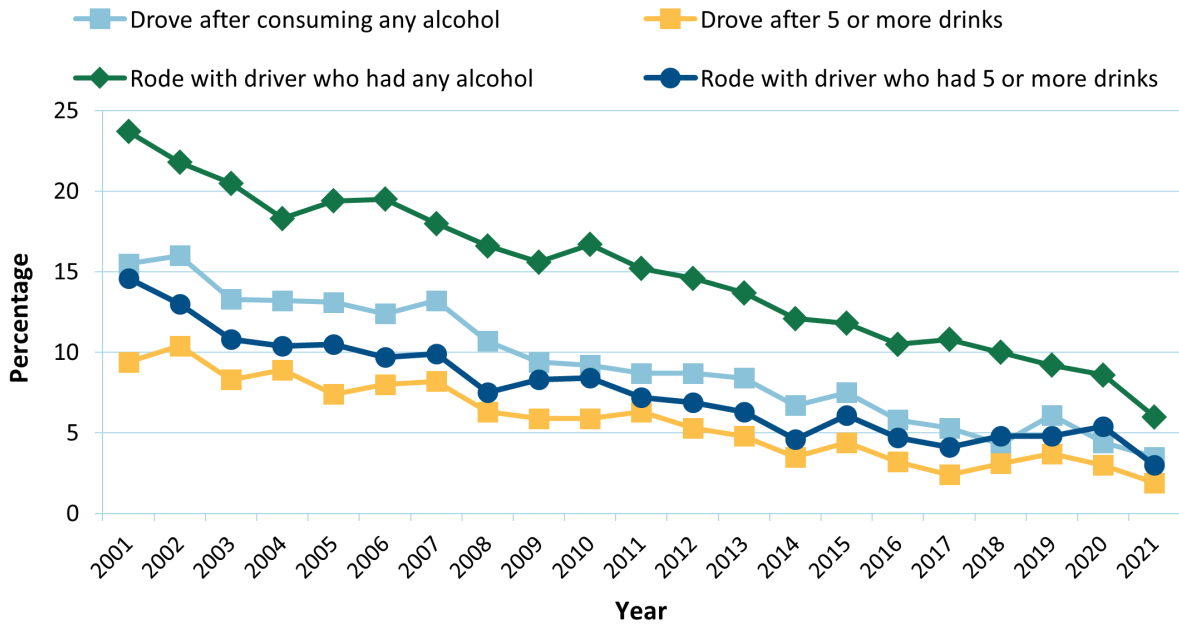


Exhibit 2.24: Driving After Alcohol Use by the Driver: 2021 MTF Data (Miech, 2022; O’Malley & Johnston, 2013)



High school seniors who drive more frequently are more likely to drive after drinking. Driving after drinking in college students is associated with living off campus (Quinn & Fromme, 2012), spending more evenings out (O’Malley & Johnston, 2013), having a higher socioeconomic status, and driving someone else’s car without permission (Delcher et al., 2013).

An analysis of NSDUH data on driving under the influence found that 7.5 percent of individuals ages 16–20 reported having driven under the influence of alcohol and/or illicit drugs during 2021 (CBHSQ, 2022a). Although impaired driving decreased from 2002 to 2014, it remains a concern (Lipari et al., 2016).

Summary of Progress

The above data demonstrate that meaningful progress has been made in reducing underage drinking prevalence and related problems, such as traffic fatalities. Although data collected during 2020 and 2021 cannot be compared with historical data, historical rates of past-month alcohol use among individuals ages 12–20 show a decline in use, with rates dropping from 28.7 percent in 2004 to 18.5 percent in 2019, a 35.5 percent decline (Center for Behavioral Health Statistics and Quality [CBHSQ], 2021a). Nevertheless, drinking rates for this group remain unacceptably high. Alcohol is still the most widely consumed substance among America’s youth—used more often than marijuana, tobacco, and illicit drugs. Alcohol use often begins at a young age, and underage youth who drink tend to binge drink and to consume more on a single drinking occasion than adults do. Approximately 54.8 percent of individuals ages 12–20 who reported having drunk in the past month on the 2021 National Survey on Drug Use and Health (NSDUH) also reported having engaged in binge drinking (CBHSQ, 2022a).

Factors that have contributed to this progress are varied and complex; however, one factor has most likely been increased attention to the risks of underage drinking over the past few decades. During this time period, federal initiatives—particularly adoption of 21 as the minimum legal drinking age—have lifted underage drinking to a more prominent place on the national public health agenda, supported the creation of a policy climate in which relevant legislation has been passed by states and localities, stimulated coordinated citizen action, and raised awareness of the importance of aggressive enforcement. Although room for improvement remains within national, state, and local policy environments, these changes have provided a framework for a national commitment to reducing underage drinking.

The benefits of reducing underage drinking are substantial, including saving lives and money and promoting the overall health of young people. Delaying the age at which young people begin drinking might reduce their chances of developing AUD and of experiencing other negative consequences in adulthood (Grant & Dawson, 1997). Proactively intervening on substance use behaviors at a young age has been shown to cut decades off the time required to reach a state of sustained recovery (Dennis, 2005). A recent study demonstrated that there are long-term consequences of adolescent substance use disorder (SUD) that are identifiable in adolescence (McCabe et al., 2022a). This points to the need to screen adolescents for SUD and associated risk factors and highlights the need for early intervention for adolescents, including interventions that are graded to SUD severity (Volkow & Wargo, 2022).

The implementation of effective policy and environmental strategies for reducing excessive alcohol use might help further reduce underage drinking while also reducing excessive drinking among adults, which has been increasing. Research has clearly shown a correlation between youth drinking behaviors and those of adults living in the same state, as well as a strong relationship between state alcohol policies affecting adult drinking and underage drinking rates (CDC, 2022b; Xuan et al., 2015). For example, in an older review assessing implementation and efficacy of various state policies over a 13-year period, Nelson et al. (2015) found that policies that were effective for addressing drinking by youth and alcohol-impaired driving were more

commonly implemented than policies restricting adult consumption. Although previous studies have found a relationship between adult and youth drinking rates, it is unclear what the effect of more recent changes in policies, enforcement strategies, and other environmental factors will be on this relationship.

Ongoing attention is needed to all factors to ensure rates continue to stay low or decline further. It is difficult to know at this time the implications of the COVID-19 pandemic, the increase in mental health issues in adolescents, and the loosening of alcohol-related policies. Therefore, the ICCPUD remains committed to an ongoing, comprehensive approach to preventing and reducing underage drinking.

Chapter 3: Factors Affecting Underage Alcohol Use

CHAPTER 3 KEY POINTS

- *Stronger state alcohol policies directed to the general population (e.g., alcohol taxes and regulations on alcohol outlet density) are associated with less youth drinking.*
- *The most significant alcohol policy related specifically to underage drinking is the age 21 minimum legal drinking age.*
- *Most underage people who drink reported last using alcohol in their own home (47.1 percent) or in someone else's home (41.4 percent).*
- *Rates of college student drinking and binge drinking exceed those of same-age peers who do not attend college.*
- *The COVID-19 pandemic resulted in significant changes in state alcohol policies, including increased online sales and direct-to-consumer home delivery and shipping.*

CHAPTER 3: FACTORS AFFECTING UNDERAGE ALCOHOL USE

Chapter Overview

Chapter 3 discusses factors influencing underage drinking, beginning with population-level factors, including the policy environment, adult drinking patterns, availability and access to alcohol, and alcohol advertising. The chapter then discusses social contexts, including where alcohol is consumed (e.g., underage drinking parties) and the college environment. This chapter also addresses the early impacts of the COVID-19 pandemic on alcohol consumption. The chapter concludes with a description of parent and peer influences and genetic factors.

Factors Influencing Underage People Who Drink

Adolescent alcohol consumption is a complex behavior influenced by multiple factors, including environmental factors that influence the availability and appeal of alcohol (e.g., alcohol policies and their enforcement, marketing practices, and media exposure); the broader physical, social, and cultural contexts in which adolescents live (e.g., family, peers, and school); the normal maturational changes that all adolescents experience; and genetic, neurobiological, psychological, and social factors specific to each adolescent. The discussion below begins with those factors that have the broadest population-level impact and ends with those that are specific to the individual.

Population-Level Factors

Factors that operate at the population level include:

- Local, state, tribal, and federal policies regarding alcohol and the enforcement of those policies, including laws limiting youth access to alcohol
- Perceived acceptance of alcohol use by society as exhibited by adult drinking patterns
- Cultural preferences for different types of alcohol
- Advertising and marketing, both nationally and locally

Effects of the Policy Environment

There is a large body of scientific literature on the effectiveness of alcohol policies—such as alcohol taxes, regulating alcohol outlet density, and commercial host (dram shop) liability—in reducing excessive drinking, including underage drinking.⁴⁷ Stronger state alcohol policies directed to the general population (e.g., alcohol taxes and regulations on alcohol outlet density) are independently associated with less youth drinking, and the effect of these policies on youth drinking is mediated, in part, through their effects on adults (CDC, 2022b; Xuan et al., 2015). Similarly, a study found that stronger alcohol policy environments are associated with lower mortality rates from alcohol-related motor vehicle crashes for drivers and passengers under the age of 21 (Hadland et al., 2017).

⁴⁷ For a detailed review of these and other alcohol-related policies, including data on their adoption by the 50 states and the District of Columbia, see the *State Performance & Best Practices Report*, produced concurrently with this report and available at <https://www.stopalcoholabuse.gov>.

The most significant alcohol policy related specifically to underage drinking is the age 21 minimum legal drinking age (MLDA). As described in Chapter 4, enactment and enforcement of that law has reduced underage fatalities and injuries, in large part through reductions in traffic crashes among underage drivers.

The higher MLDA in the United States in relation to other countries may be partially responsible for the lower binge drinking rates among U.S. teenagers. Data from 2019 indicate that in many European countries, young people ages 15–16 report heavy episodic drinking (binge drinking) at rates much higher than in the United States (Exhibit 3.1; European School Survey Project on Alcohol and Other Drugs [ESPAD] Group, 2020). In all other countries listed in Exhibit 3.1, the MLDA is lower than in the United States. These data call into question the common misconception that having a lower MLDA might result in less problem drinking by adolescents.

Alcohol Is Perceived as Being Readily Available by the Underage Population

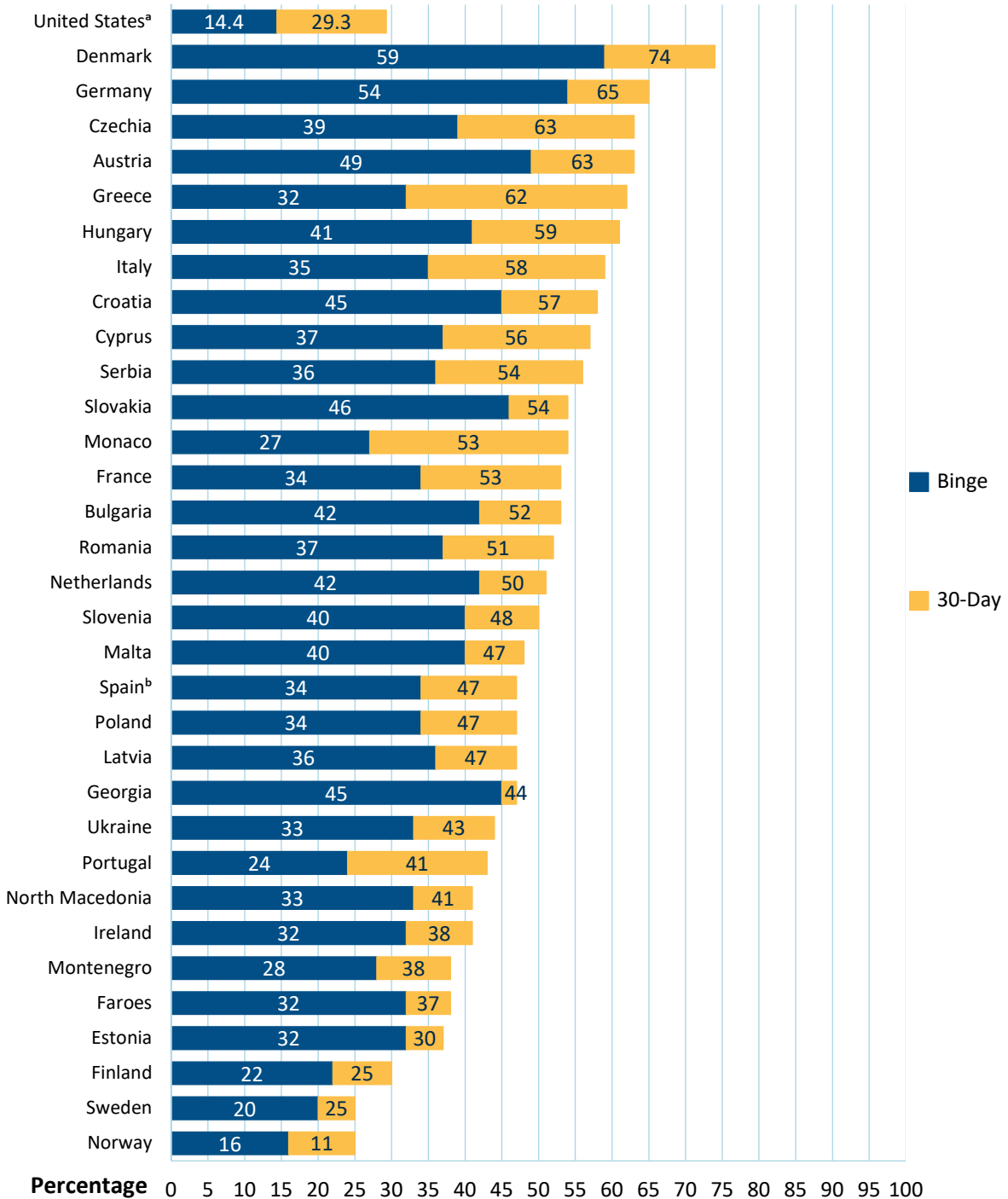
The relationship among alcohol availability, levels of consumption, and occurrence of alcohol-related problems is well documented in the *Surgeon General’s Call to Action* (Department of Health and Human Services, 2007). As shown in Exhibit 3.2, most teens currently see alcohol as being readily available; according to data collected from the 2021 MTF survey, the following percentage of students reported that alcohol would be “fairly easy” or “very easy” to get (Miech et al., 2022):⁴⁸

- 47.9 percent of 8th graders
- 60.2 percent of 10th graders
- 76.8 percent of 12th graders

Past trends show that perceived availability has generally declined since the 1990s (although there was a slight uptick for 2017 and 2018). These reductions in perceived availability may be attributable in part to the policies and enforcement practices described in the *State Performance & Best Practices for the Prevention and Reduction of Underage Drinking Report* ([SPBP Report], available at <https://www.stopalcoholabuse.gov>). Continued attention to these policies and practices might lead to further reductions in perceived availability.

⁴⁸ Given substantial decreases in sample size because of survey question experiments in the MTF in 2021, data on availability for 2021 are not comparable with data for previous years.

Exhibit 3.1: Percentage of European Students Ages 15–16 Who Reported Drinking in the Past 30 Days and Heavy Episodic Drinking in the Past 30 Days Compared With U.S. 10th Graders: Data from 2019 ESPAD (ESPAD Group, 2020)

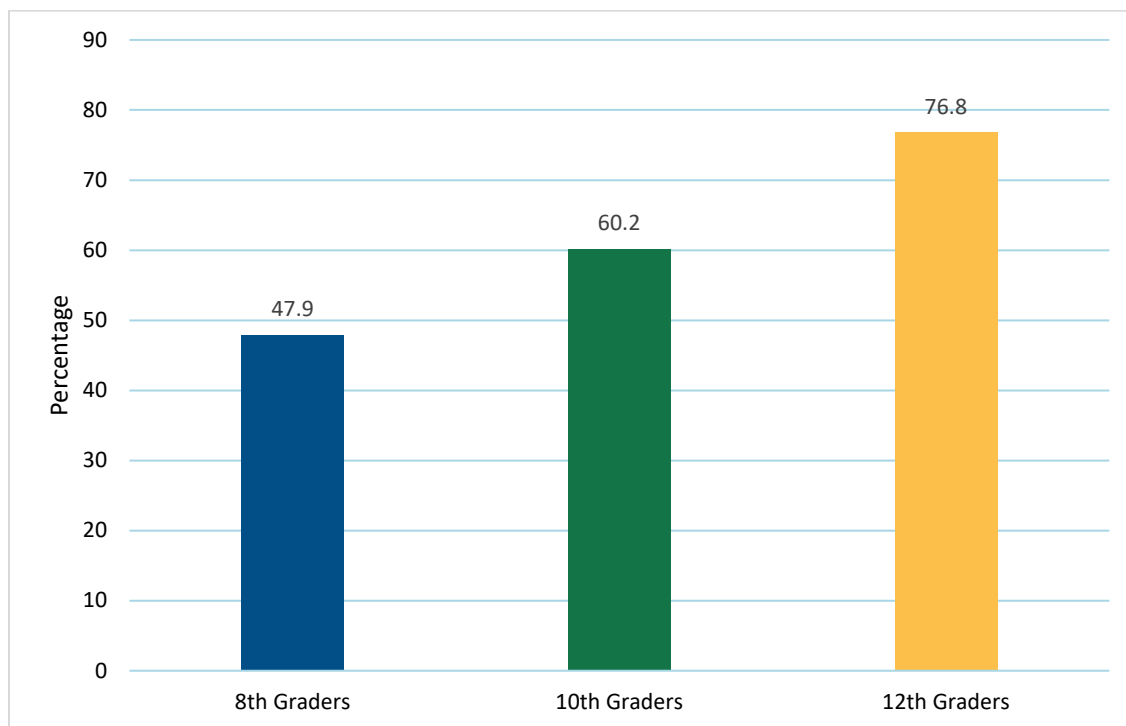


Notes: The survey question asks, “Think back again over the LAST 30 DAYS. How many times (if any) have you had five or more drinks on one occasion? (A ‘drink’ is [INSERT NATIONALLY RELEVANT EXAMPLES]).” Information on ESPAD data collection is available at www.espad.org.

^a U.S. data are from the Monitoring the Future (MTF) survey.

^b Number of days, not occasion

Exhibit 3.2: Percentage of 8th, 10th, and 12th Graders Who Say Alcohol Is “Fairly Easy” or “Very Easy” to Get: 2021 MTF Data (Miech et al., 2022)



Alcohol Is Available From a Variety of Sources

In 2021, according to NSDUH, the most common sources of alcohol varied by age,⁴⁹ as shown in Exhibit 3.3 (CBHSQ, 2022a). For youth ages 15–17, the most common sources were:

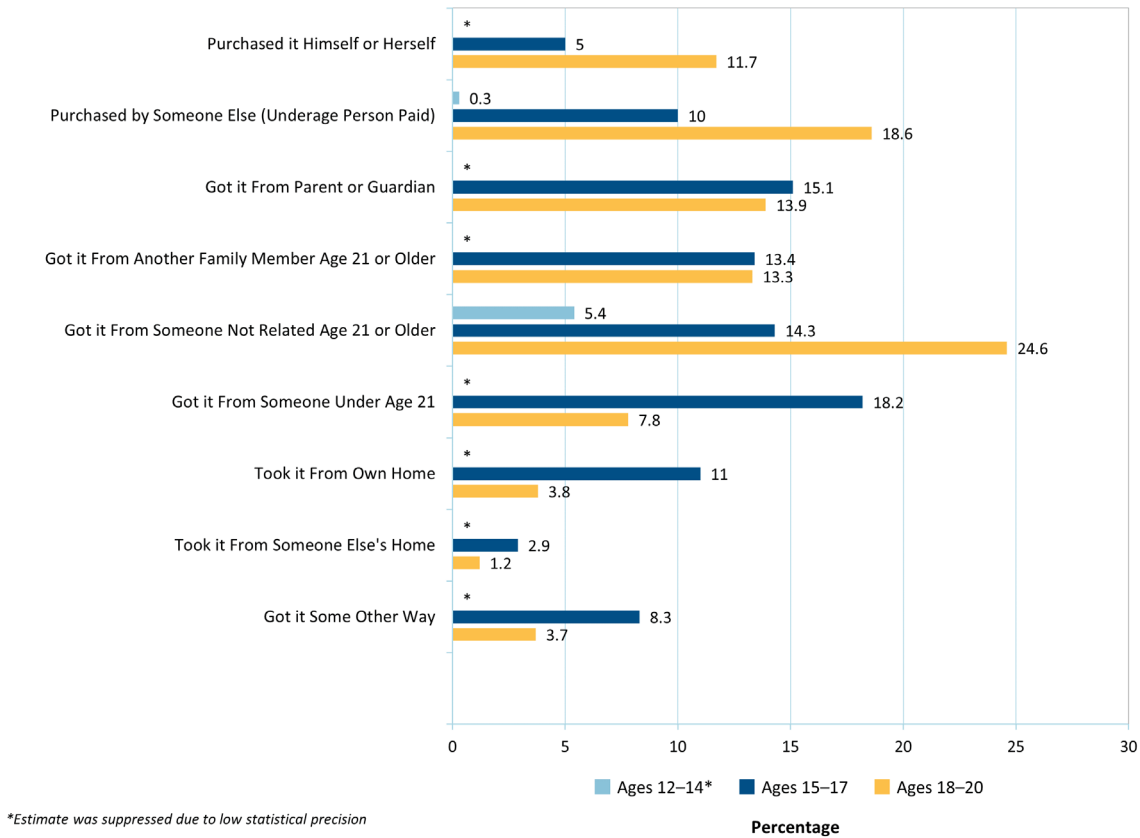
- Receiving it free from someone under age 21 (18.2 percent)
- Getting it from a parent or guardian (15.1 percent)
- Receiving it free from an unrelated person age 21 or older (14.3 percent)
- Getting it from another family member age 21 or older (13.4 percent)
- Taking it from their own home (11.0 percent)

For youth ages 18–20, the most common sources were (CBHSQ, 2022a):

- Receiving it free from an unrelated person age 21 or older (24.6 percent)
- Giving someone else money to purchase the alcohol (18.6 percent)
- Getting it from a parent or guardian (13.9 percent)
- Getting it from another family member age 21 or older (13.3 percent)

⁴⁹ Data for 12-to-14-year-olds for 2021 are not fully available due to suppression.

Exhibit 3.3: Source of Last Alcohol Used Among People Ages 12–20 With Past-Month Alcohol Use by Age Group: 2021 National Survey on Drug Use and Health (NSDUH) Data (CBHSQ, 2022a)



The NSDUH divides sources of last alcohol use into two categories: The underage person who drank (1) paid (i.e., the underage person purchased it or gave someone else money to do so) or (2) did not pay (i.e., the underage person received it free from someone or took it from their own home or someone else’s home). Data from 2021 show that among all underage people who were current drinkers, 25.0 percent had paid for alcohol the last time they had drunk, either purchasing the alcohol themselves (9.4 percent) or giving money to someone else to do so (15.5 percent; CBHSQ, 2022a).

Older underage people (ages 18–20) were more likely to have paid for alcohol themselves (either purchasing it themselves or paying someone else to purchase it) on their last drinking occasion; 30.4 percent of 18-to-20-year-olds had done so, compared with 15.3 percent of 15-to-17-year-olds. Underage males who were drinkers were more likely to have paid for alcohol themselves on their last drinking occasion (29.4 percent) than their female counterparts (21.1 percent; CBHSQ, 2022a).

Youth Risk Behavior Survey (YRBS) data showed that high school students who were drinkers usually had obtained alcohol from others, but those who had engaged in binge drinking were three times more likely than those who were current drinkers but had not engaged in binge drinking to have given others money to purchase alcohol for them and to have purchased alcohol themselves (Esser, 2017).

Enforcement of furnishing laws (i.e., laws that prohibit providing alcohol to minors) is one key to reducing youth access to alcohol. A number of studies have demonstrated that compliance checks can reduce the likelihood of alcohol sales to minors (Centers for Disease Control and Prevention [CDC], 2004; Preusser et al., 1994; Wagenaar et al., 2005). A 2013 multicomunity study found significant associations between the level of underage drinking law enforcement in the intervention communities and reductions in both 30-day use of alcohol and binge drinking (Flewelling et al., 2013). Similarly, a South Carolina program that increased retailer compliance checks showed a decline of drinking and driving–related crashes with drivers under age 21 (George et al., 2021).

Exposure of Underage Populations to Messages Regarding Alcohol in Advertising and Entertainment Media

As previously noted, many factors influence youth drinking decisions. There is a substantial body of evidence showing that youth exposure to alcohol advertising is associated with initiation of alcohol consumption by youth and with increased alcohol consumption by youth who drink. A review of 12 different longitudinal studies published since 2008 found significant associations between youth exposure to alcohol advertising and alcohol consumption in all 12 studies (Jernigan et al., 2017). A review by Weitzman and Lee (2020) explored the similarities between the current literature on alcohol and literature used to infer causality between tobacco advertising and tobacco use. Citing these reviews, as well as integrating the findings from several previous reviews (Jernigan et al., 2017; Sargent & Babor, 2020), Weitzman and Lee (2020) concluded that “when marketing research is assembled and evaluated according to the Bradford Hill criteria, there is persuasive evidence that exposure to alcohol marketing is one cause of drinking onset during adolescence and also one cause of binge drinking.”

Advertising may also play a role in underage brand preference. A study analyzing the population-level exposure of youth ages 12–20 to brand-specific advertising found that underage youth were five times more likely to consume brands that had advertised on national television and 36 percent more likely to consume brands that had advertised in national magazines (Siegel et al., 2016).

The Sober Truth on Preventing Underage Drinking Act (STOP Act) requires the *Report to Congress on the Prevention and Reduction of Underage Drinking* to include measures of the exposure of underage populations to messages regarding alcohol in advertising and the entertainment media as reported by the Federal Trade Commission (FTC). To date, FTC has conducted four formal studies of the exposure of those under 21 to alcohol advertising. In each case, FTC issued compulsory process orders to major alcohol marketers and required them to provide demographic data about the audience for each ad disseminated during the study period. These studies have resulted in significant improvements in industry self-regulation over time.

FTC’s 2014 *Self-Regulation in the Alcohol Industry: Report of the Federal Trade Commission*, the most recent available, evaluated industry compliance with the standard that 70 percent of the audience for each ad must consist of people who are 21 or older. Data for the study period (the first half of 2011) showed that 93.1 percent of the companies’ placements in measured media (i.e., television, radio, magazines, newspapers, and internet websites whose audience characteristics, including age, are measured by demographic services) had met the 70 percent standard (FTC, 2014).

When data were aggregated across companies and media, they showed that 85.4 percent of alcohol advertising impressions (individual ad exposures) were seen by adults (age 21 and older) and 14.6 percent were seen by underage people. Overall, ads on major social networks (e.g., Facebook, Twitter, and YouTube) exceeded the 70 percent standard; Facebook further limited alcohol ad viewing to people who had previously registered as 21 and older, and Twitter and YouTube offered age-gating technologies. The report also announced that in mid-2011, pursuant to an earlier FTC recommendation, the industry had adopted a 71.6 percent adult audience composition standard for future ad placements (reflecting 2010 U.S. census data on the percentage of the age 21 and older population).

A series of reports analyzing youth exposure to alcohol advertising found that underage youth had been exposed a total of 23.9 billion times to alcohol advertising on cable TV during 2018–2019. About 454 million (1.9 percent) of these exposures were because of alcohol advertising that did not comply with the alcohol industry voluntary guidelines (i.e., were noncompliant). Further analyses found most exposures exceeding voluntary alcohol industry guidelines had been from a small number of brands, programs, and network dayparts (Alger et al., 2021).

Despite improvements, underage youth are still collectively exposed to billions of alcohol advertisements annually on cable television alone (Alger et al., 2021). Therefore, given the strong association between youth exposure to alcohol advertising and underage drinking, some advocates have proposed additional limits on alcohol marketing. However, current public health efforts to reduce youth exposure to alcohol advertising remain focused on encouraging alcohol advertisers to avoid placing alcohol ads on cable television programs and in other media that have been found to result in high levels of noncompliant alcohol advertising exposures while also encouraging research to further assess the impact of reductions in youth exposure to cable television alcohol advertising on underage drinking and the shift toward advertising on the internet and social media.

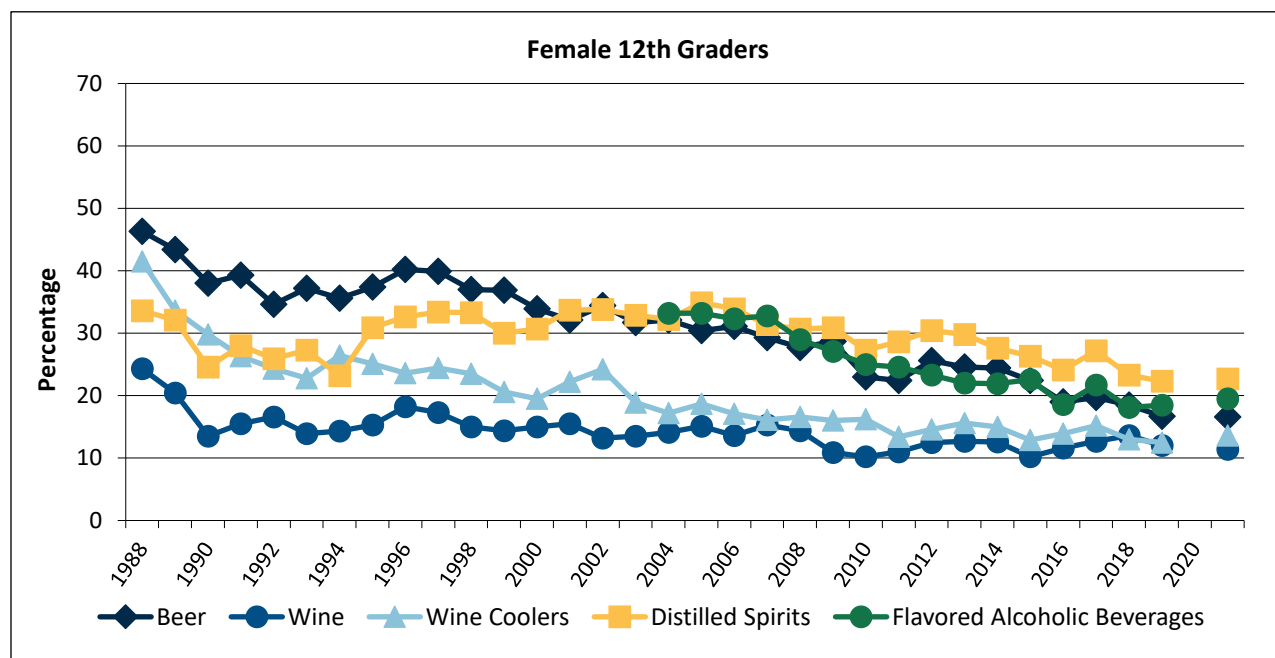
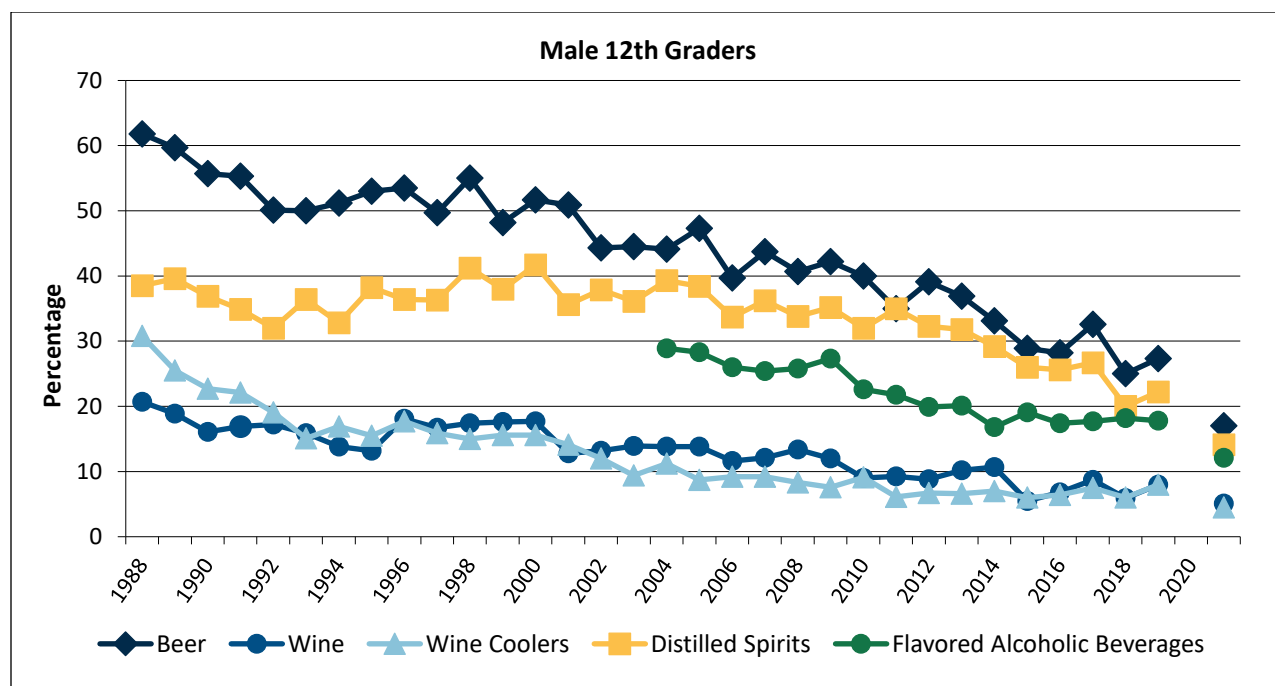
Alcohol Use by Beverage Type

Different alcoholic beverage types are likely associated with different patterns of underage consumption. For example, spirits and beer are most likely to be consumed during binge drinking episodes in youth ages 13–20 (Naimi et al., 2015). College-age students who drink appear to underestimate pour sizes for both liquor and wine, potentially resulting in overpouring and subsequent intoxication (Kohn et al., 2017). Tracking young people’s beverage preferences is thus an important aspect of prevention policy.

Between 1988 and 2021, data from the MTF survey indicate that beverage choices have shifted markedly for both male and female 12th graders (Exhibit 3.4; Patrick et al., 2022)). In 1988, beer was the alcoholic beverage of choice for both sexes by a large margin. However, by 2011, for males, beer consumption had declined and distilled spirits consumption had increased, such that the two were equally reported that year. In subsequent years, the choice of beer has slightly exceeded the choice of spirits for males. A similar change occurred for females in 2005, with the choice of spirits exceeding the choice of beer, and females continue to choose distilled spirits over beer by a slight margin (Johnston et al., 2020; Johnston et al., 2022a). In 2004 (the first year that flavored alcoholic beverages were included in the survey), female choice of beer, distilled spirits, and flavored alcoholic beverages did not differ across these beverages. Female consumption of flavored alcoholic beverages has declined since then. Male consumption of

flavored alcoholic beverages, which has not been as high as female consumption, has also declined since then (Johnston et al., 2019b). In 2021, 12th graders reported slightly higher levels of binge drinking liquor (11 percent) than binge drinking beer (9 percent; Miech et al., 2022).

Exhibit 3.4: Trends in the Percentage of Male and Female 12th Graders Using Specific Types of Alcoholic Beverages in the Past 30 Days: 1988–2021 MTF Data (Johnston, O’Malley, et al., 2022)



Data from eight states (a subset of YRBS data) indicate that among students in grades 9–12 who reported having engaged in binge drinking, distilled spirits were the most prevalent beverage type (Siegel et al., 2011). In a study of a nationally representative sample of youth ages 13–20 who had consumed at least one alcoholic drink in the past 30 days, distilled spirits accounted for 43.8 percent of binge drinking prevalence, the highest percentage of any beverage type (Naimi et al., 2015).

Several studies (Albers et al., 2015; Fortunato et al., 2014; Naimi et al., 2015; Siegel, DeJong, Naimi, et al., 2013) have focused on brand preferences of underage people who drink, consistently finding that underage people who drink prefer a limited number of brands. Naimi and colleagues (2015), using a nationally representative internet panel, found that the 25 brands consumed most frequently during binge drinking account for 46.2 percent of binge drinking reports. Siegel and colleagues (2013) found that the top 25 brands account for about half of underage alcohol consumption by volume.

High-Potency Grain Alcohol

Although high-potency grain alcohol products have a reported market share among youth of 0.7 percent, their retail availability is of considerable concern (Siegel et al., 2013). These products are cheap, and given that they are twice as strong (151–190-proof) as standard spirits (80–101-proof), underage consumers may find it very difficult to gauge their alcohol consumption, increasing the likelihood of injury.

Epidemiological data on the use of high-potency grain alcohol are currently limited. Siegel and colleagues (2013), utilizing an internet panel of youth ages 13–20, found that 5.8 percent reported having consumed high-alcohol-content grain alcoholic beverages in the past 30 days. Naimi and colleagues (2015) reported that when underage people who drink consume grain alcohol, they are significantly more likely to binge. Given the dangers of high-potency grain alcohol, some states have banned its sale.⁵⁰ Improved data on these products, including underage use and related injury, would help policymakers evaluate appropriate responses.

Mixing of Caffeine and Alcohol

The Food and Drug Administration ordered the removal of premixed caffeinated alcoholic beverages from the marketplace in November 2010. However, young people continue to mix alcohol and energy drinks on their own. A research study supported by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) assessed the extent of this practice and its public health and safety effects on college students (Patrick & Maggs, 2014). It found that heavier drinking, more prolonged drinking episodes, and increased negative effects had occurred when alcohol had been combined with energy drinks compared with drinking occasions without energy drinks.

Another study found that underage individuals ages 13–20 who drank and had self-mixed alcoholic beverages with energy drinks, energy shots, or caffeine pills were more likely to have engaged in heavier drinking, including binge drinking, and were also at increased risk for adverse alcohol-related outcomes compared with people who had mixed alcohol with caffeine in

⁵⁰ Maryland (MD Code, Art. 2B, § 16-505.2), California (West's Ann.Cal.Bus. & Prof.Code § 23403), and Florida (West's F.S.A. § 565.07) have all enacted such laws.

traditional ways (i.e., combining alcohol with soft drinks, coffee, or tea) and people who had not drunk caffeinated alcoholic beverages (Kponee et al., 2014).

Research suggests that continued attention to this issue is needed among policymakers and educators.

Social Contexts for Underage Drinking

Number of People Present at a Drinking Event

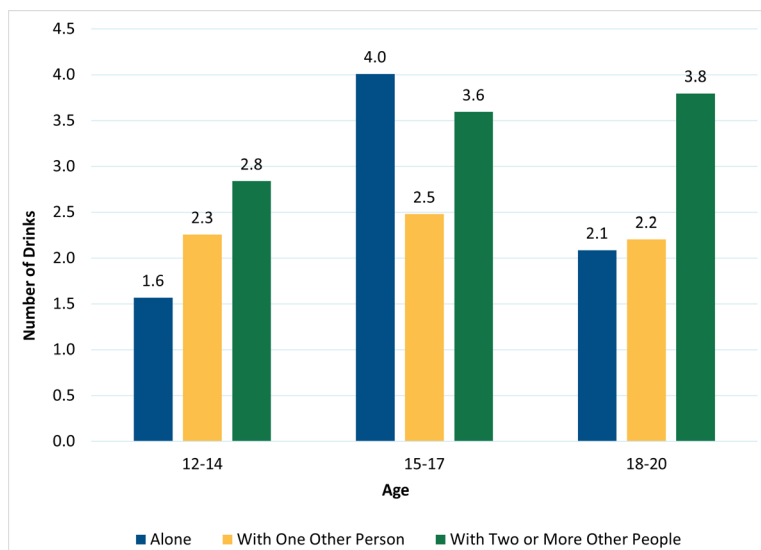
Underage alcohol use is strongly affected by the context in which drinking occurs. Of particular concern is underage drinking at large parties. According to 2021 NSDUH data, most (70.0 percent) people ages 12–20 who had consumed alcohol in the past month had been with two or more people the last time they had drunk, 18.6 percent had been with one other person the last time they had drunk, and 11.4 percent had been alone (CBHSQ, 2022a).

Most underage males and females who drank had been with two or more other people on their last drinking occasion (70.4 percent of males who drank and 69.6 percent of females who drank). The percentage of females who reported having drunk with one other person was 20.0 percent, compared with 17.0 percent of males. The percentage of males who reported having drunk alone was 12.6 percent, compared with 10.4 percent of females (CBHSQ, 2022a).

Social context also influences the number of drinks consumed. Based on an analysis of 2021 NSDUH data, underage people who drank with two or more other people on the last occasion in the past month had had more drinks on the last occasion on average (3.7 drinks) than those who had drunk with one other person (2.3 drinks) or had drunk alone (2.6 drinks; CBHSQ, 2023).

Males reported having consumed significantly more drinks than females when drinking with two or more people. When the last drinking occasion had been with two or more other people, males had averaged 4.0 drinks, whereas females had averaged 3.4 drinks (CBHSQ, 2023). The number of drinks consumed by social context also varied by age group, as shown in Exhibit 3.5.

Exhibit 3.5: Average Number of Drinks Consumed on Last Occasion of Alcohol Use in the Past Month Among People With Past-Month Alcohol Use Ages 12–20, by Social Context and Age Group: 2021 NSDUH Data (CBHSQ, 2023)



Location of Alcohol Use

Most underage people who drank reported last used alcohol in their own homes (47.1 percent) or in someone else’s home (41.4 percent) in the 2021 NSDUH. The next-most popular drinking locations were at a restaurant, bar, or club (6.4 percent); at some other place (5.4 percent); and at a park, beach, or parking lot (4.5 percent; CBHSQ, 2022a).

Thus, most young people drink in social and retail contexts that appear to promote heavy consumption and where people other than the person drinking may be harmed by the behavior of the person who is drinking. Some locations—such as unsupervised homes of individuals other than the person drinking, bars, and nightclubs—are more likely to be associated with an increased risk of alcohol-related violence (Mair et al., 2015).

People ages 18–20 who drank were significantly more likely than those in younger age groups to have been in a restaurant, bar, or club on their last drinking occasion (8.2 percent for ages 18–20 versus 2.3 percent for ages 15–17) or at a concert or sporting event (1.5 percent for ages 18–20 versus 0.1 percent for ages 15–17; Exhibit 3.6; CBHSQ 2023). The number of drinks consumed was also affected by location and age group (Exhibit 3.7).

Exhibit 3.6: Drinking Location of Last Alcohol Use Among People With Past-Month Alcohol Use Ages 12–20 by Age Group: 2021 NSDUH Data (CBHSQ, 2023)

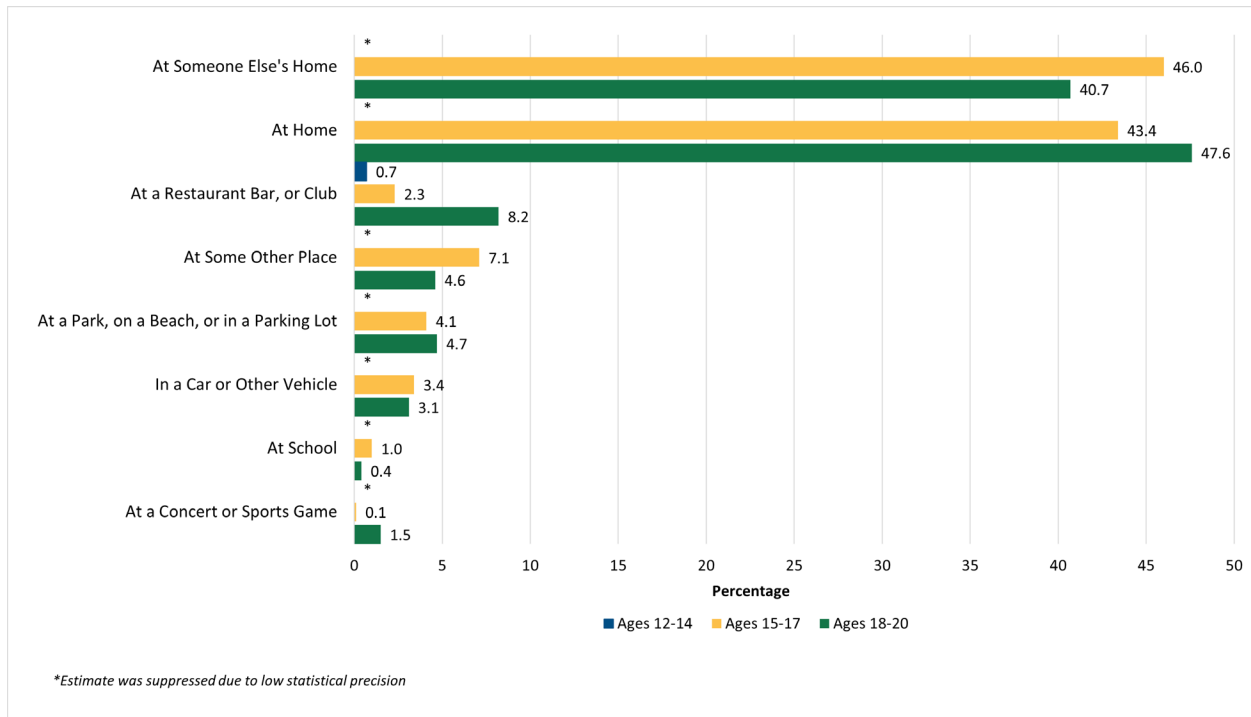


Exhibit 3.7: Mean Number of Drinks per Location by Age Group: 2021 NSDUH Data (CBHSQ, 2023)

Ages	At a Concert or Sports Game	At School	In a Car or Other Vehicle	At a Park, on a Beach, or in a Parking Lot	At Some Other Place	At a Restaurant Bar, or Club	At Home	At Someone Else's Home
Ages 18–20	3.3	*	3.7	4.5	4.1	4.1	2.7	4.1
Ages 15–17	*	*	4.1	3.9	3.3	3.6	3.0	4.1
Ages 12–14	*	*	*	*	2.3	*	2.6	2.3

*Estimate was suppressed due to low precision.

Underage Drinking Parties

Data cited above suggest that underage drinking occurs primarily in a social context (with three or more people drinking). Such drinking occasions include parties at which large numbers of youth are present. High-intensity drinking is more likely to occur in social settings involving large groups, “pregaming,” drinking games, and drinking at multiple locations (Terry-McElrath et al., n.d.). Cox et al. (2019) also found that as the size of the party and the number of males attending the party increase, the risk for high-intensity alcohol consumption also increases. Drinking parties attract those age 21 or older, as well as significant numbers of underage people who drink (Wells et al., 2005). For this reason, parties are a common environment in which young people who drink are introduced to heavy drinking by older and more experienced people who drink (Wagoner et al., 2012).

Drinking parties are also often settings for aggression, including serious arguments, pushing, fights, and sexual assault (Wagoner et al., 2012). Because large numbers of youth are drinking outside their own homes, drinking parties may significantly increase the risk of driving under the influence of alcohol (Gonzales, 2015).

Drinking parties pose serious problems for law enforcement officers. These include breaking up parties without allowing people who have drunk to flee to their cars (Pacific Institute for Research and Evaluation [PIRE], 2000), processing large numbers of underage offenders (PIRE, 2000), and identifying the individuals who have furnished alcohol to minors (Wagoner et al., 2012).

One policy approach aimed specifically at underage drinking parties is social host laws, which impose criminal or civil liability on adults who host such events or allow them to take place on their property. Paschall and colleagues (2014) rated such policies for comprehensiveness and stringency. They found a small but significant negative relationship between the strength of the policies and less frequent underage drinking at parties among people who had engaged in past-year drinking. (For more information on state social host laws and on party-related enforcement practices, see the *SPBP Report* at <https://www.stopalcoholabuse.gov>.)

The College Environment

In its landmark 2002 report, *A Call to Action: Changing the Culture of Drinking at U.S. Colleges* (NIAAA, 2002), the Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism said the following:

The tradition of drinking has developed into a kind of culture—beliefs and customs—entrenched in every level of college students’ environments. Customs handed down through generations of college drinkers reinforce students’ expectation that alcohol is a necessary ingredient for social success. These beliefs and the expectations they engender exert a powerful influence over students’ behavior toward alcohol.⁵¹

Colleges and universities vary widely in their student drinking and binge drinking rates; however, overall rates of college student drinking and binge drinking tend to exceed those of same-age peers who do not attend college.

Although college-bound 12th graders were consistently less likely than non-college-bound counterparts to report binge drinking through 2019, in 2021 the percentages were similar (11.3 percent for those with college plans versus 11.8 percent for those without college plans). However, individuals in college reported higher rates of binge drinking (30.4 percent) than individuals of the same age who were not attending college (24.5 percent; Exhibit 3.8; Johnston et al., 2022).⁵² Binge drinking rates among college students declined from 40.2 percent in 1993 to 30.4 percent in 2021 (Patrick et al., 2022); however, drinking patterns among young adults remain a concern.

In 2021, full-time college students reported having drunk more often in the 30 days prior to the survey and having engaged in binge drinking more often than their non-college-attending peers. Of full-time college students, 59.6 percent were current drinkers, compared with 48.4 percent of their non-college-attending peers. Of full-time college students, 30.4 percent reported having engaged in binge drinking behavior in the 2 weeks before the survey, compared with 24.5 percent of their non-college peers (Patrick et al., 2022).

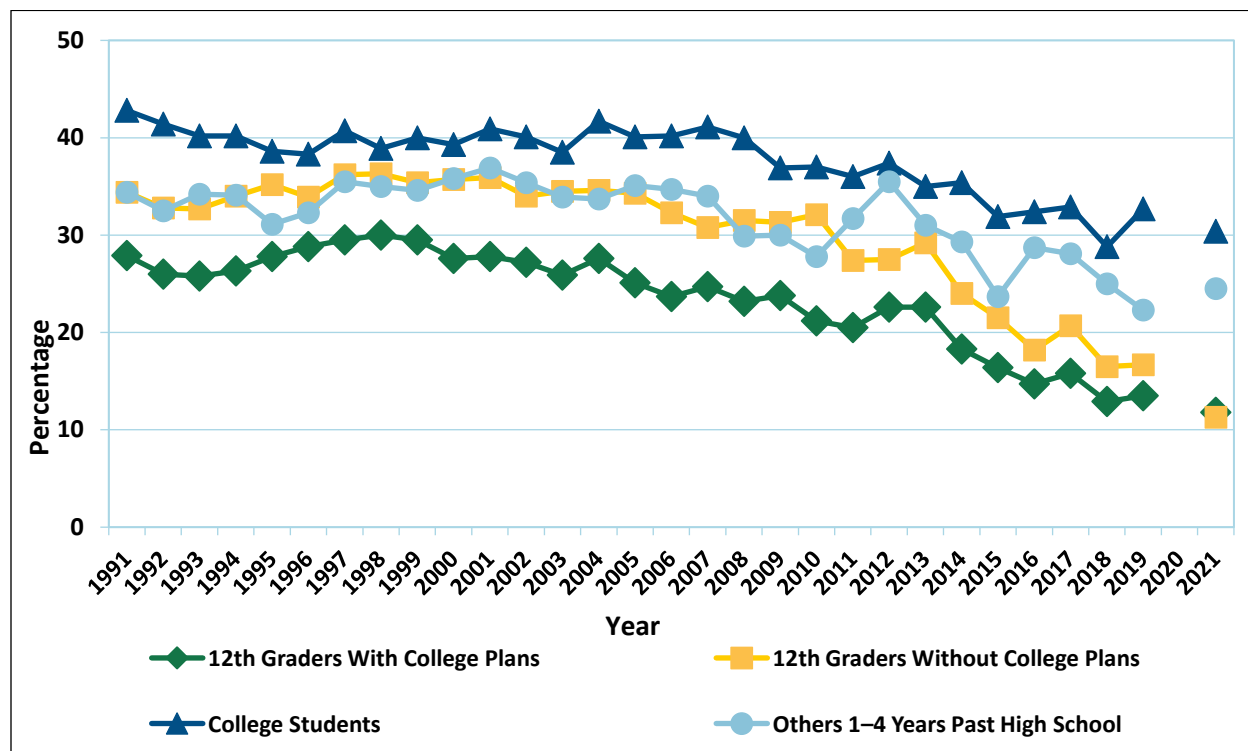
According to 2021 MTF data, non-college students are less likely to drink and binge drink, but when they do drink, they tend to drink more heavily. In 2021, 10.5 percent of college students (18.0 percent of males, 6.1 percent of females) reported having consumed 10 or more drinks in a row in the 2 weeks before the survey. In comparison, 15.1 percent (20.9 percent of males and 10.6 percent of females) of their non-college peers reported having consumed 10 or more drinks in the previous 2 weeks (Patrick et al., 2022).

College environments influence drinking behaviors (Hingson et al., 2002; Kuo et al., 2003; LaBrie et al., 2011). However, as Carter and colleagues noted, college attendance is only one factor potentially influencing alcohol consumption during this period of emerging adulthood (Carter et al., 2010).

⁵¹ For many students, alcohol use is not a tradition. Students who drink the least attend 2-year institutions, religious schools, commuter schools, and historically Black colleges and universities (Meilman et al., 1994; 1995; 1999).

⁵² College students are defined as those follow-up MTF respondents 1–4 years past high school who reported that they were taking courses as full-time students in a 2- or 4-year undergraduate college at the beginning of March of the year in question. Non-college same-age peers are follow-up MTF respondents 1–4 years past high school who did not report taking courses. Both groups include a percentage of individuals who had reached the legal drinking age.

Exhibit 3.8: Prevalence of Binge Drinking in the Past 2 Weeks by 12th Graders With and Without College Plans, College Students, and Others 1–4 Years Past High School: 1991–2021 MTF Data (Miech et al., 2022; Patrick et al., 2022)



It is also important to recognize that there is a strong correlation between binge drinking by college students and by adults living in the same state and that binge drinking by both college students and adults is strongly influenced by the alcohol policy environment at the state and local levels (Nelson et al., 2005). These findings emphasize the need to implement effective population-based strategies to reduce excessive drinking among youth and adults, such as those included in The Community Guide (<https://www.thecommunityguide.org/topic/excessive-alcohol-consumption>). However, an analysis in 2015 found that implementation of state alcohol policies that are more politically palatable, such as those targeting youth and alcohol-impaired driving, is more likely to occur, whereas policies directed at the adult population, which might have the greatest effect on overall public health, are underused because of their less palatable political impact (Nelson et al., 2015).

Family, Peer, and Individual Factors

Social factors (e.g., family, peers, school, and the overall culture) and biological factors (e.g., genes and hormones) interact and influence the likelihood that an adolescent will use alcohol. Consequently, the risk that young people will initiate underage drinking—and the amount they drink when they do—can vary on an individual basis and a societal basis. The next sections address some of the social and individual factors correlated with alcohol consumption and related outcomes.

Cultural, Parental, and Peer Influences

Underage alcohol use occurs in a context of significantly problematic adult use nationwide. More than 140,000 individuals (of all ages) in the United States die from excessive alcohol use each year (CDC, 2022a), making excessive alcohol use a leading preventable cause of death in the United States.⁵³ The economic burden of excessive alcohol use was \$249 billion in 2010, when it was most recently assessed (Sacks et al. 2015). Adjusting for inflation, the estimated economic burden would have been \$323 billion in 2022. Another study estimated that hospital costs alone related to AUD are \$7.6 billion annually (Peterson et al., 2021).

Over the past 2 decades, alcohol use, binge drinking,⁵⁴ and AUD have increased in segments of the adult population, especially among women, older adults, racial/ethnic minorities, and the socioeconomically disadvantaged (Gruza et al., 2018; Han et al., 2017). Related to the increases in alcohol consumption, recent data show a significant decrease in life expectancy during 2014–2017 in the United States, reversing the trend of increasing life expectancy since 1959. A significant contributor to declining life expectancy is increases in midlife and young adult (ages 25–34) mortality rates for alcohol-related liver diseases. Rates for chronic liver disease and cirrhosis increased from 0.6 deaths/100,000 to 1.7 deaths/100,000 between 1999 and 2017 (Woolf & Schoemaker, 2019). A 2020 analysis of death certificate data found that alcohol-related mortality increased from 1999 to 2017 for all age groups except those ages 16–20 and those age 75 or older (White et al., 2020).⁵⁵ Males ages 45–74 had the highest alcohol-related mortality. Although chronic alcohol use accounted for the majority of deaths overall, 9 in 10 alcohol-related deaths among youth ages 16–20 involved acute alcohol consumption,⁵⁶ likely because of the number of years it takes for chronic conditions to develop. Deaths associated with injuries and overdoses increased significantly from 1999 to 2017 for females ages 16–20 but did not change for males (White et al., 2020). This narrowing gap between males and females in alcohol-related deaths is consistent with a contracting gap between the sexes in alcohol use among young people (White, 2020).

Generational transmission has been widely hypothesized as one factor shaping the alcohol consumption patterns of young people. Whether through genetics, social learning, cultural values, community norms, or the overall influence of policy and environmental factors on the drinking behaviors of adults and youth, researchers have repeatedly found a correlation between youth drinking behaviors and those of their adult relatives, other adults living in their households or communities, or some combination of these.

Nelson et al. (2009) demonstrated this relationship at the population level, using YRBS state-based estimates for youth and data from the Behavioral Risk Factor Surveillance System for adults. When pooled across years, state estimates of youth and adult current drinking and binge drinking from 1993 to 2005 were significantly correlated. Analyzing YRBS data from 1999 to 2009, Xuan and colleagues (2013) found a positive correlation between state-level adult binge drinking and youth binge drinking and showed how these behaviors were affected by state

⁵³ Excessive alcohol use, as defined by CDC, includes binge drinking, heavy drinking, and any drinking by pregnant women or people younger than 21.

⁵⁴ Binge drinking definitions varied according to the survey data reviewed. See Exhibit E.1 for more detail regarding definitions of binge drinking and related terms.

⁵⁵ Data for the White 2020 study was based on assessment of contributing causes of death. Alcohol-related disease impact calculations are based on underlying causes of death.

⁵⁶ Acute alcohol consumption generally refers to consumption within 6 hours of admission to an emergency department.

alcohol policies. Based on their findings, a 5 percent increase in binge drinking prevalence among adults was associated with a 12 percent relative increase in the odds of alcohol use among youth. These findings underscore both the influence of parental modeling and the need for parents to set a good example for youth by not drinking excessively (e.g., binge drinking), as well as the need to implement effective alcohol policies that reduce the risk of excessive drinking among youth and adults, such as those recommended by The Community Guide (<https://www.thecommunityguide.org/topic/excessive-alcohol-consumption>).

Paschall et al. (2014) examined relationships between characteristics of the local alcohol environment and adolescent alcohol use and beliefs in 50 California cities. A greater increase in past-year alcohol use and heavy drinking (which they defined as five or more drinks on a single occasion) over a 3-year period was observed among adolescents living in cities with higher levels of adult drinking (measured at baseline) compared with adolescents not living in such cities.

Parental monitoring and parental attitudes and perceptions about drinking (e.g., seeing underage drinking as a rite of passage) have been shown to be very important influences on underage drinking. Studies have found that some parenting practices have proved to be beneficial in reducing adolescent alcohol use (Beck et al., 2003; Ennett et al., 2001; Resnick et al., 1997; Watkins et al., 2006).

Youth drinking is correlated with adult drinking behaviors (Nelson et al., 2009a; Xuan et al., 2015).

Parental monitoring, communication, and emotional support have a positive effect on adolescent alcohol use and are predictive of reduced adolescent alcohol problems (Ennett et al., 2001; Wood et al., 2004). At least one study suggests that parental disapproval of any alcohol use during high school is correlated with reduced alcohol use in college (Abar et al., 2009).

Some parents believe that providing alcohol to their children at home under supervision will lead to more moderate drinking practices. However, a meta-analysis of 22 studies found that parental provision of alcohol was associated with increased adolescent alcohol use, heavy episodic drinking, and higher rates of alcohol problems (Kaynak et al., 2014). The authors concluded that allowing children to drink underage, even when supervised by a parent, is always associated with a greater likelihood of drinking during adolescence over time.

A parent or caregiver's substance use disorder (SUD) is an adverse childhood experience (ACE) that can contribute to a continued cycle of multigenerational substance use. Children with specific ACEs, including having one or more parents with an SUD, may initiate drinking earlier than their peers and may be more likely to drink to cope with problems. (Rothman et al., 2008). Adolescents (ages 12 to 17) were four times more likely to drink if their parents reported either frequent drinking or binge drinking (Bohm & Esser, 2023). Parental SUD was one of the three strongest predictors of developing any SUD as an adult (Bryant et al., 2003).

Adolescents whose parents engaged in binge drinking were more likely to adopt the negative drinking patterns of their peers (Olson & Crosnoe, 2018). Peer selection may also play a significant role in facilitating drinking behavior similarity in adolescents' friendship networks; a study demonstrated that adolescents preferred to form friendships with those who displayed similar levels of alcohol use (Wang et al., 2015). A 2013 review by Chassin and colleagues noted that there appears to be an interaction between neurobiological factors and peers. The presence

of peers seems to activate the same reward centers that lead to risky behavior in adolescents; the presence of peers may therefore accentuate reward seeking and make alcohol use particularly rewarding for adolescents (Chassin et al., 2013).

Genetic Influences

Children whose families include individuals who misuse alcohol are at increased risk for alcohol dependence throughout their lives. Genes account for more than half the risk for alcohol dependence; environmental factors and gene–environment interactions account for the rest. However, no single gene accounts for the majority of risk. Development of a complex behavioral disorder, such as alcohol dependence, most likely depends on specific genetic factors interacting with one another, multiple environmental factors, and the interaction between genetic and environmental factors (Meyers & Dick, 2010).

Research suggests that genes have a stronger influence on the development of problematic use, whereas environment seems to play a greater role in initiation of use (Rhee et al., 2003).⁵⁷ For example, the college environment may increase the likelihood that people with genetic predispositions to alcohol use disorder will have those predispositions expressed (Timberlake et al., 2007). This suggests that policies and practices should be adopted in and around college campuses to reduce the risk of excessive alcohol consumption and help protect all students, including those who may be most vulnerable to drinking excessively because of genetic factors or prior exposure to excessive drinking in their homes.

Emerging Issues in Underage Drinking

There is a need for ongoing monitoring of trends in the marketplace and emerging public health issues at the national level. Not only are new products continually introduced but also youth behavior and experimentation with different ways to consume alcohol change over time.

Effects of the Coronavirus Disease 2019 (COVID-19) Pandemic

The emergence in 2019 of SARS-CoV-2, the coronavirus that causes COVID-19, initiated rapid changes in multiple areas that have had an impact on alcohol use and potential misuse. Concurrent with the changes in social factors resulting from COVID-19, significant changes in state alcohol policies occurred, including increased online sales and direct-to-consumer home delivery and shipping. There have also been policy changes in some states allowing restaurants and bars to sell alcohol for carryout and/or curbside pickup (National Institute on Alcohol Abuse and Alcoholism, n.d.).

The impact of these changes overall—and specifically on underage drinking rates and other alcohol-related harms, such as impaired driving, among underage youth—is not yet fully known. There is evidence that adolescents are experiencing pandemic-related mental health challenges, with increases in depression and anxiety (Jones et al., 2021; YRBS, 2023). The combined effects of remote or no schooling, increased stress, social isolation, boredom, anxiety, and depression are known risk factors for alcohol and substance use disorders. At the same time, social distancing, closure of gathering places, and restrictions on movement make alcohol and other substances less available (McKetta et al., 2021). A survey of adolescents in 2020 indicated that

⁵⁷ “Problematic use” was defined as having at least one *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition abuse or dependence symptom for alcohol.

although perceived availability of alcohol had declined during the early stages of the pandemic to the lowest level ever recorded in 46 years, prevalence of adolescent binge drinking had not significantly changed (Miech et al., 2021). Data from the Adolescent Behaviors and Experiences Survey indicate that for adolescents who had already reported consuming alcohol, about one-third reported having drunk more alcohol during the COVID-19 pandemic (Brenner, 2022). Both the YRBS data and the MTF survey data showed declines in past-30-day alcohol consumption in 2021 (Chaffee et al., 2021; Johnston et al., 2022b).

Data from beverage sales indicate there was a significant increase in alcohol consumption from 2019 to 2021 for those age 14 and older (Slater & Alpert, 2023). Several surveys also suggest there were substantial increases in adult alcohol consumption between 2019 and 2021. For example, Pollard et al. (2020) found that three-quarters of adults had increased their alcohol consumption by 1 day more per month, on average, during the initial months of the pandemic when compared to the same time period the previous year. A large cross-sectional study of adults in 2020 indicated that a greater proportion of women were exceeding drinking limits compared with men, and a greater proportion of non-Hispanic Black respondents were exceeding drinking limits compared with non-Hispanic White respondents (Barbosa et al., 2020). An analysis of data from a survey of young adults (ages 18–25) indicated that alcohol consumption, particularly among those who had already consumed alcohol, increased after the arrival of the pandemic (Sharma et al., 2020).

Adult drinking is known to affect youth drinking, as increased parental use means more exposure of adult drinking behavior to teens, including drinking as a coping response to stress (Rossow et al., 2016). It also potentially means increased accessibility to alcohol in the home. Research from 2020 found an increase in the number of parents who allowed their adolescent children to consume alcohol in the home after the start of the pandemic. Parents who were light or heavy drinkers and adolescents who reported having already consumed alcohol were more likely to receive new permission to consume in the home compared with parents who did not drink at all (Maggs et al., 2021).

The overall net effect of these changes in consumption patterns is not yet known. However, alcohol use has direct implications on health, including COVID-19 susceptibility and harms; alcohol misuse can result in impairment in immune system function and an increased susceptibility to respiratory illness. These can potentially lead to more severe COVID-19 and greater risk of mortality and long-term effects (Allen et al., 2020; Baillargeon et al., 2020). For example, having a substance use disorder is suggestive of higher risk for a severe COVID-19 case, and having alcoholic liver disease puts individuals at greater risk of a more severe COVID-19 case (Stone et al., 2021). Alcohol-related emergency department visits involving acute alcohol use were higher in 2020 than in the two years prior (Esser et al., 2020).

At the policy level, many states designated restaurants and bars as “essential businesses” during the pandemic, which precipitated significant changes in state policies regarding alcohol, such as allowing curbside pickup and/or carryout of alcohol, online sales, and direct-to-consumer home delivery and shipping. In 2020, per capita consumption of ethanol from all alcoholic beverages combined demonstrated the largest single-year increase (at 2.9 percent from 2019) since 1968 (Slater & Alpert, 2022). In 2021, per capita consumption of ethanol from all alcoholic beverages combined again showed a 2.9 percent increase from 2020, resulting in a 5.5 percent increase from 2019. This was the largest two-year increase since 1969 (Slater & Alpert, 2023). Recent

census data indicate that continued off-premises retail sales from beer, wine, and liquor stores continued at a higher level through the beginning of 2022 (Exhibit 3.9; U.S. Census Bureau, 2023).

Over 30 states authorized “to-go” cocktails during the pandemic; several of the states quickly moved to make these changes permanent (Associated Press & Durbin, 2020). According to data from the Alcohol Policy Information System (APIS), as of January 1, 2022, 22 states had codified delivery of one or more alcoholic beverage types, including to-go cocktails, by on-premises retailers to consumers’ homes (NIAAA, 2022). Home delivery has the potential to change the epidemiology of alcohol-related harms, as these harms may be more likely to occur in a private environment rather than in public. Not only the types of harm but the ability to track and assess their impact may be affected, as hidden occurrences of harm are more likely to be underreported. Online sales and home delivery present a number of challenges to enforcement of the minimum drinking age laws (Matthay & Schmidt, 2020). For example, the California Department of Alcoholic Beverage Control found that youth were consistently able to purchase alcohol to be delivered from restaurants. This was true even when the alcohol was delivered by restaurant employees, but it was much more common when delivered through third-party applications (CA Alcoholic Beverage Control, 2020). The effects of policy changes and their impact on adult and underage drinking will continue to be monitored.

Policy changes are also apparently interacting with state-specific characteristics. In one recent study, the average number of drinking days increased in adults in states with low COVID-19 rates during the first wave of the pandemic. States with higher rates did not show increased consumption. State policies such as drink specials, taxes, opening and closing times, alcohol outlet density, and alcohol delivery and takeout influence consumption. Policies developed in response to COVID-19, such as restrictions on social gatherings, also have an effect. It is theorized that consumption will vary in response to an interaction of COVID-19 burden with the various state policies (McKetta, 2021).

The effects of policy changes and their impact on adult and underage drinking will continue to be monitored.

Products That Appeal to Adolescents

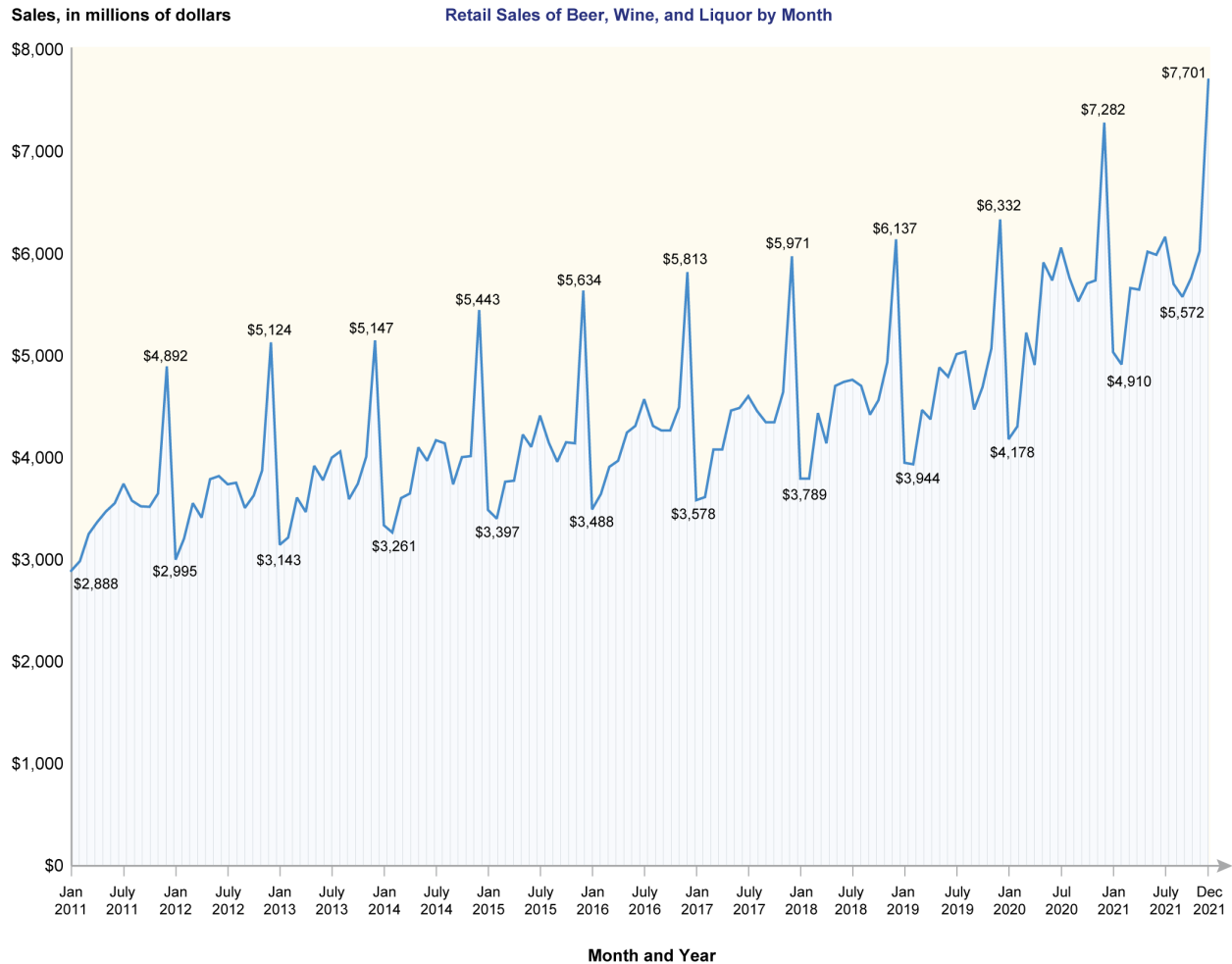
Public health experts have raised concerns about alcoholic products with characteristics that appeal to youth, such as sweetness (Albers, 2015). Examples of such products include canned cocktails; alcohol-infused edibles, including gummy candies, cakes, whipped cream, popcorn, and ice cream; alcoholic Jell-O shots; high-alcohol-content grain alcohol; and cannabis-infused alcohol (Wachsman, 2019). The market of confections with liquor—which include alcohol-infused chocolates, candies, and gums—is projected to grow in the United States and globally through 2025, according to an industry analysis (Grand View Research, 2022).

There is a recent crossover of branding from food products known to appeal to youth to alcohol. Examples include the introduction of Arby’s curly fry– and crinkle fry–flavored vodkas, potato vodka from Lay’s, and Sonic Hard Slush (Lindenberger, n.d.).

Hard seltzers have recently surged in popularity; sales of all hard seltzers increased by 368 percent from 2019 to mid-2020 (Bakker, 2019; Prokop, 2020). Newer products include hard kombucha and hard lemonade (Micallef, 2021). Although these drinks are marketed as a healthier alternative to other alcoholic beverages and have a lower alcohol content, they tend to

be consumed in greater quantities (*U.S. News & World Report*, 2019). Products marketed as having no or low alcohol content (NoLos), although still a minor share of the alcohol market, are increasing (World Health Organization, 2023). The effects of these products on overall alcohol consumption and public health are not yet known. There is a concern that these products—which may contain some alcohol and may be misleading in their statements of actual alcohol content— could appeal to minors, possibly normalizing a culture of alcohol consumption.

Exhibit 3.9: United States Off-Premise Retail Sales of Beer, Wine, and Liquor Stores by Month, 2010–2021 (U.S. Census Bureau, 2022)



Chapter 4: A Coordinated Federal Approach to Preventing and Reducing Underage Drinking

CHAPTER 4 KEY POINTS

- *The Sober Truth on Preventing Underage Drinking Act (STOP Act), reauthorized by the Consolidated Appropriations Act, 2023 (Pub. L. 117–328), established the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD). ICCPUD’s vision is to provide national leadership in federal policy and programming to support state and community activities that prevent and reduce underage drinking.*
- *The federal government can influence public opinion and increase public knowledge about underage drinking; enact and enforce relevant laws; fund programs and research that increase understanding of the causes and consequences of underage alcohol use; monitor trends in underage drinking and the effectiveness of strategies designed to reduce demand, availability, and consumption; and lead the national effort.*
- *There are a number of major national-level initiatives that provide an evidence base for underage drinking prevention policies, programs, and practices.*

CHAPTER 4: A COORDINATED FEDERAL APPROACH TO PREVENTING AND REDUCING UNDERAGE DRINKING

Chapter Overview

Chapter 4, in conjunction with Appendix D, provides a brief history of underage drinking prevention efforts at the national level. It describes the coordinated approach of the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) to addressing underage drinking, including the federal agencies involved and how the agencies and programs work together. ICCPUD's commitment to evidence-based policies, programs, and practices is described. (Appendix B provides a brief description of federal ICCPUD agencies, along with a detailed inventory of their relevant activities.) This chapter includes a table showing federal agency expenditures on underage drinking prevention by year. It concludes with a discussion of the ongoing coordinated federal efforts to address emerging issues at a national level.

The Coordinated Federal Approach

The congressional mandate to develop a coordinated approach to preventing and reducing underage drinking and its adverse consequences recognizes that alcohol consumption by those under age 21 is a serious, complex, and persistent societal problem with significant financial, social, and personal costs. Congress also recognizes that a long-term solution will require a broad, deep, and sustained national commitment to reducing the demand for and access to alcohol among young people. Solutions must address not only youth themselves but also the larger society that provides a context for such drinking and in which images of alcohol use are pervasive and drinking is seen as normative.

The responsibility for preventing and reducing underage drinking involves government at every level, institutions and organizations in the private sector, colleges and universities, public health and consumer groups, the alcohol and entertainment industries, schools, businesses, parents and other caregivers, other adults, and adolescents themselves.

The federal government has a unique role in preventing and reducing underage drinking. Through leadership and financial support, the federal government can influence public opinion and increase public knowledge about underage drinking; enact and enforce relevant laws; fund programs and research that increase understanding of the causes and consequences of underage alcohol use; monitor trends in underage drinking and the effectiveness of strategies designed to reduce demand, availability, and consumption; and lead the national effort.

A comprehensive national effort to address underage drinking was initiated and subsequently intensified as the multidimensional consequences associated with underage drinking have become more apparent. As detailed in Appendix D and summarized in Exhibit 4.1, the federal government has a long history of working on underage drinking; the approach has been more coordinated in recent years.

The federal government enacts policies, conducts research and surveillance, and develops or supports programs aimed at underage alcohol prevention, intervention, treatment, and recovery. The government has also increased and supported the involvement of communities through grants and other mechanisms and collaborated with private agencies, such as the Robert Wood Johnson Foundation.

A Brief History of Policies Addressing Underage Drinking

Highlights of legislation relevant to the minimum legal drinking age (MLDA) and subsequent national efforts aimed at the reduction of alcohol-related deaths and disability are summarized in Exhibit 4.1, with additional details provided in Appendix D. There is significant evidence that reducing access to alcohol has a significant effect on mortality rates, particularly for young adults (Carpenter & Dobkin, 2011), and that it reduces the rates of nonfatal injuries (e.g., alcohol overdoses, unintentional injuries, and injuries deliberately inflicted by others) in youth younger than 21 as well (Carpenter & Dobkin, 2016). There is also consistent evidence that the enactment of the MLDA in the United States contributed to a reduction in youth suicide (Xuan et al., 2016). Additional details on policies, programs, and practices for individual states are provided in the *State Reports — Underage Drinking Prevention and Enforcement (State Reports)*, available at <https://www.stopalcoholabuse.gov>.

The STOP Act, ICCPUD, and the Comprehensive Plan

The conference report accompanying the Consolidated Appropriations Act of 2004 directed the HHS Secretary to establish the ICCPUD (see the member list in the sidebar) and to issue an annual report summarizing all federal agency activities related to the prevention of underage drinking. The HHS Secretary directed the Administrator of the Substance Abuse and Mental Health Services Administration (SAMHSA), now known as the Assistant Secretary for Mental Health and Substance Use, to convene the ICCPUD in 2004.

In December 2006, Congress passed the STOP Act (Pub. L. 109–422). The act states:

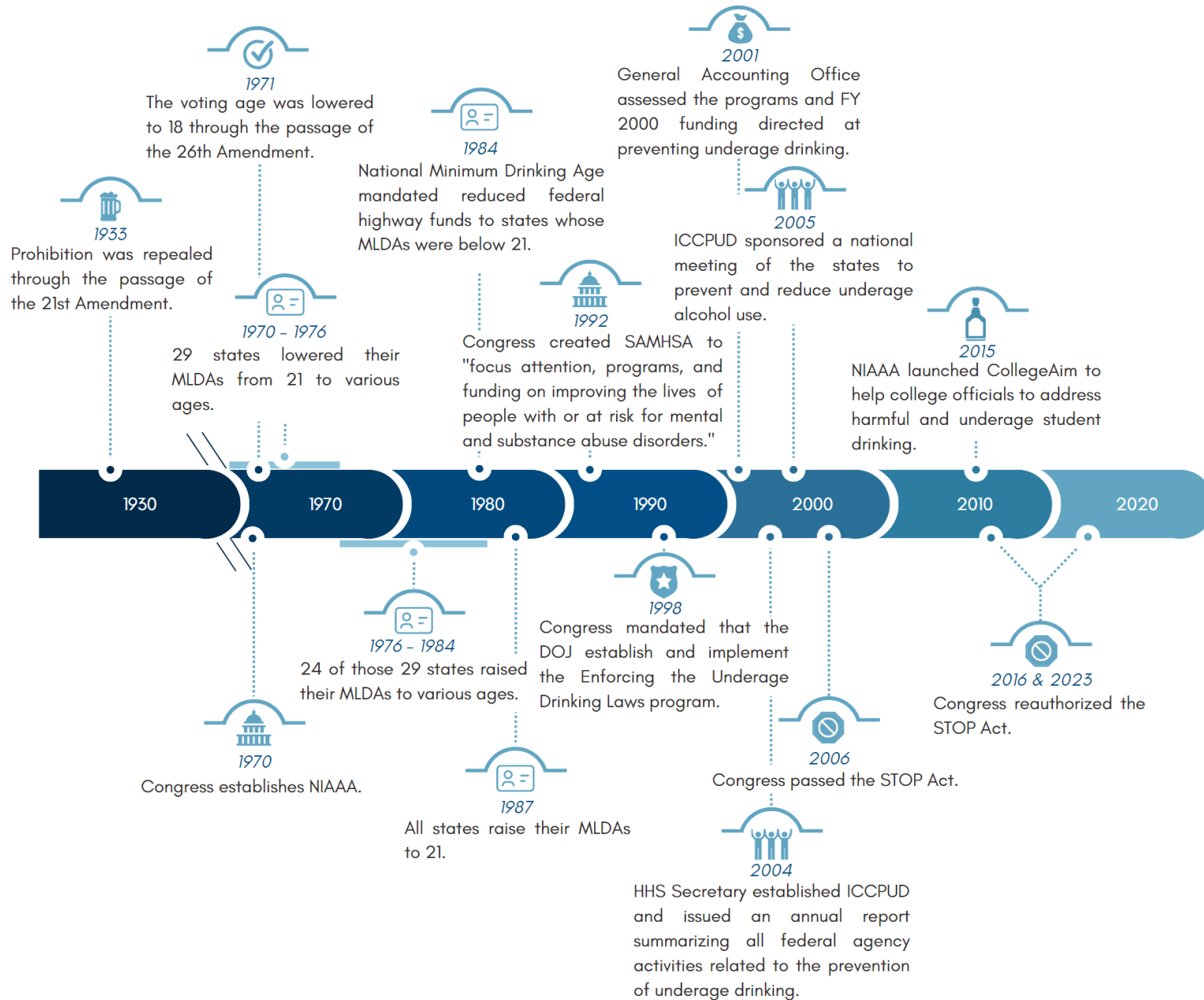
A multi-faceted effort is needed to more successfully address the problem of underage drinking in the United States. A coordinated approach to prevention, intervention, treatment, enforcement, and research is key to making progress. This Act recognizes the need for a focused national effort, and addresses particulars of the federal portion of that effort, as well as federal support for state activities.

The STOP Act requires the HHS Secretary, in collaboration with other federal officials enumerated in the act, to “continue to support and enhance the efforts of the [ICCPUD, which] began operating in 2004, focusing on underage drinking.”

ICCPUD includes the following officials, as specified in the STOP Act:

- Secretary of Health and Human Services (HHS)
- Secretary of Education
- Attorney General
- Secretary of Transportation
- Secretary of the Treasury
- Secretary of Defense
- Assistant Secretary for Mental Health and Substance Use
- Assistant Secretary for Children and Families
- Surgeon General
- Director of the Centers for Disease Control and Prevention (CDC)
- Director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA)
- Director of the National Institute on Drug Abuse (NIDA)
- Director of the Office of National Drug Control Policy
- Administrator of the National Highway Traffic Safety Administration (NHTSA)
- Administrator of the Office of Juvenile Justice and Delinquency Prevention
- Chairman of the Federal Trade Commission
- Director of the Agency for Healthcare Research and Quality

Exhibit 4.1: History of Federal Involvement in Reducing Underage Drinking



ICCPUD’s role was thus formalized in the 2006 STOP Act, which was reauthorized in 2016 as part of the 21st Century Cures Act (Pub. L. 114–255), reauthorized again through the Consolidated Appropriations Act, 2023 (Pub. L. 117–328), and codified into law in 42 U.S.C. 290bb–25b: “Programs to reduce underage drinking.” SAMHSA was directed by the HHS Secretary to convene ICCPUD and serve as the lead agency. In keeping with the STOP Act’s requirement that ICCPUD “shall actively seek the input of and consult with all appropriate and interested parties,” quarterly virtual meetings are held to engage with community members, practitioners, government agency representatives, and others on topics related to the STOP Act, such as how data presented in the reports to Congress might be used to serve the work of underage drinking prevention. In addition, an annual stakeholders meeting is hosted by ICCPUD, which includes interested parties such as representatives from government agencies at all levels, the alcoholic beverage industry, and public health and consumer groups.

The ICCPUD principals meet annually to discuss the federally coordinated approach to preventing underage drinking, changes to the Comprehensive Plan, and updates on the reports to Congress. Those meetings are convened by the designated ICCPUD Chair, the HHS Assistant Secretary for Mental Health and Substance Use. Staff representatives from each agency participate in monthly meetings convened by the ICCPUD Chair to discuss current issues and trends and to develop and review materials, including annual reports to Congress and learning products.

ICCPUD provides guidance on the development of the reports to Congress through its Data Committee, composed of staff from member agencies that conduct research on underage alcohol use, its adverse consequences, and the effectiveness of programs designed to prevent and reduce use. The Data Committee provides specialized, expert guidance on facts and statistics on underage drinking, in particular the data cited in the reports to Congress and other documents.

ICCPUD’s vision is to provide national leadership in federal policy and programming to support state and community activities that prevent and reduce underage drinking.

The mission of ICCPUD is twofold:

1. To facilitate collaboration among the federal ICCPUD member agencies; state, tribal, and local governments; private and public national organizations; and agencies with responsibility for the health, safety, and wellbeing of America’s children and youth.
2. To provide resources and information on underage drinking prevention, intervention, treatment, enforcement, and research.

Members of ICCPUD and other federal partners commit to the following principles:

- Speak with a common voice on the prevalence, risks, and consequences of underage drinking.
- Increase public awareness about underage drinking and its consequences.
- Reinforce effective evidence-based practices (EBPs) as part of a federally coordinated approach to preventing and reducing underage drinking.

ICCPUD developed *A Comprehensive Plan for Preventing and Reducing Underage Drinking* (the *Comprehensive Plan*), which Congress called for in 2004 (SAMHSA, 2006). ICCPUD received input from experts and organizations representing a wide range of stakeholders, including public health advocacy groups, the alcohol industry, ICCPUD member agencies, and Congress. The latest research at the time was analyzed and incorporated into the plan, which

HHS reported to Congress in January 2006. It included three general goals, a series of federal action steps, and three measurable performance targets for evaluating national progress in preventing and reducing underage drinking. The three goals were to:

1. Strengthen a national commitment to addressing underage drinking
2. Reduce demand for, availability of, and access to alcohol by people younger than 21
3. Use research, evaluation, and scientific surveillance to improve the effectiveness of policies and programs designed to prevent and reduce underage drinking

In 2018, the ICCPUD principals (the statutorily designated members or their appointed representatives) met to discuss an update to the 2006 Comprehensive Plan. The group approved a new plan with updated targets (described more fully below) for reduction of underage past-month alcohol use and binge drinking and for increasing the average age of initiation of alcohol use based upon the latest available federal survey data. The 2018 Comprehensive Plan also set out the vision, mission, and principles of ICCPUD. The most recent update of the Comprehensive Plan was approved by ICCPUD in 2022.

ICCPUD Guidance and Coordination of Federal Efforts to Prevent Underage Drinking

ICCPUD aims to increase coordination and collaboration in program development and dissemination among member agencies, so the resulting programs and interventions are complementary and synergistic.

A graphic representation of this intended coordinated and collaborative approach is provided in Exhibit 4.2. The graphic reflects the language from the STOP Act regarding prevention, intervention, treatment, enforcement, and research activities and displays the varied environmental influences and involved entities.⁵⁸

Exhibit 4.2: Multifaceted Effort to Reduce Underage Drinking



⁵⁸ “Recovery” is not in the original language of the STOP Act. It has been added to update the language to be more inclusive of the continuum of care.

Underage Drinking–Related Goals

ICCPUD has set three broad underage drinking–related goals and three data-based targets in its 2018 Comprehensive Plan, as discussed in the Executive Summary and in this chapter, above. In addition, the HHS Healthy People 2020 program provided science-based national 10-year objectives for improving health. It was developed by the Federal Interagency Workgroup, which includes representatives from numerous federal departments and agencies. SAMHSA and the National Institutes of Health served as co-leaders in developing Healthy People 2020 objectives for substance misuse, including underage drinking.⁵⁹

Reducing binge drinking was a leading health indicator in the Healthy People 2020 program. In August 2020, HHS released the next iteration of Healthy People—Healthy People 2030. Several of the programs listed in the Appendix B “Inventory of Federal Programs for Underage Drinking by Agency” will advance the following Healthy People 2030 objectives related to underage drinking:

- Reduce the proportion of adolescents reporting use of alcohol during the past 30 days
- Reduce the proportion of persons under 21 years of age engaging in binge drinking of alcoholic beverages during the past 30 days
- Increase the proportion of adolescents who perceive great risk associated with substance abuse

For more information on Healthy People 2030, please visit

<https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents>.

Targets for Reducing Underage Drinking

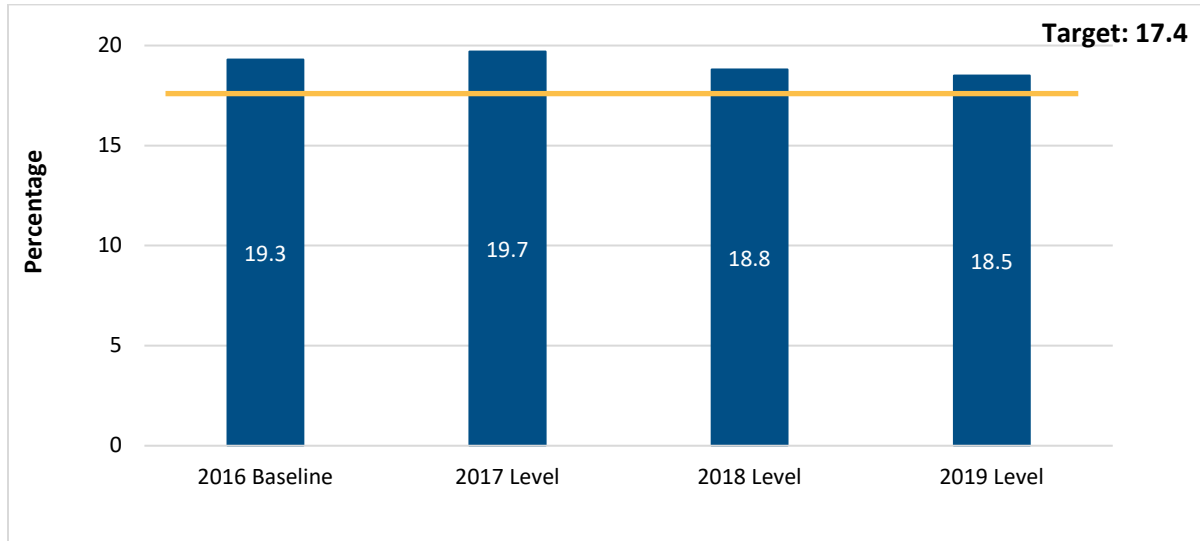
ICCPUD set targets in 2016 for accomplishment by 2021 to ensure that trends of reducing alcohol use would continue. Because of COVID-19 pandemic–related changes in the methodology used to obtain these measures, 2020 and 2021 NSDUH data are not comparable with data from previous years; therefore, ICCPUD was not able to assess whether these goals had been met by 2021. Although data were trending in the right direction for two of the three objectives, changes since the pandemic may have further affected these trends. The targets will be reconsidered by ICCPUD when new NSDUH baseline data are available.

Historical data through 2019 related to the original targets are provided below.

Target 1: Reduce the prevalence of past-month alcohol use by 12- to 20-year-olds to 17.4 percent compared with the 2016 baseline of 19.3 percent (a reduction of 10 percent; Exhibit 4.3).

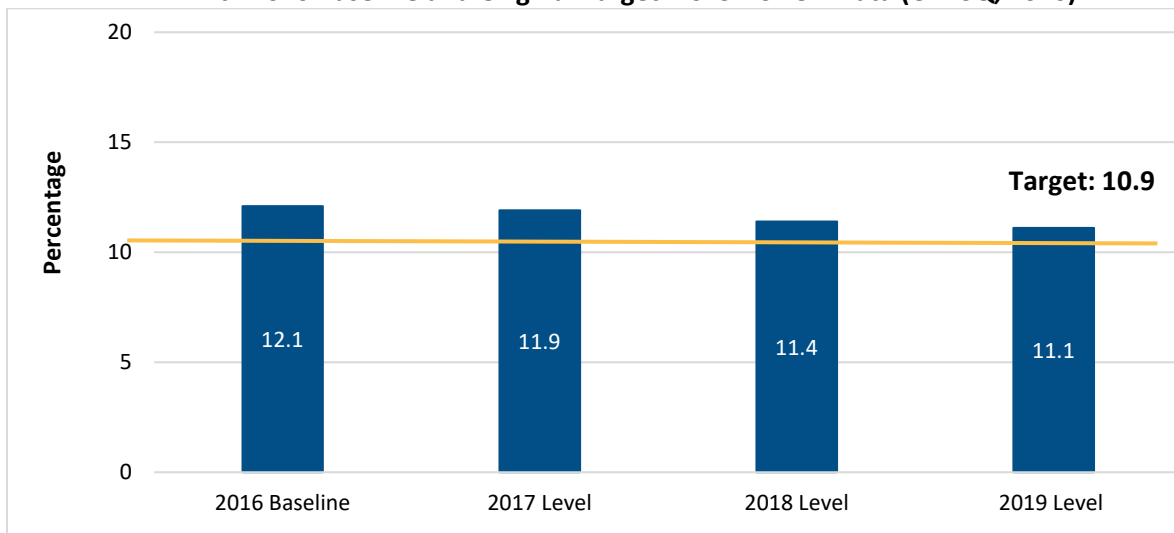
⁵⁹ For details regarding these substance use–related objectives, go to <https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents>.

Exhibit 4.3: 2019 Prevalence of Past-Month Alcohol Use Compared With 2016 Baseline and Original Target: 2019 NSDUH Data (CBHSQ, 2020)



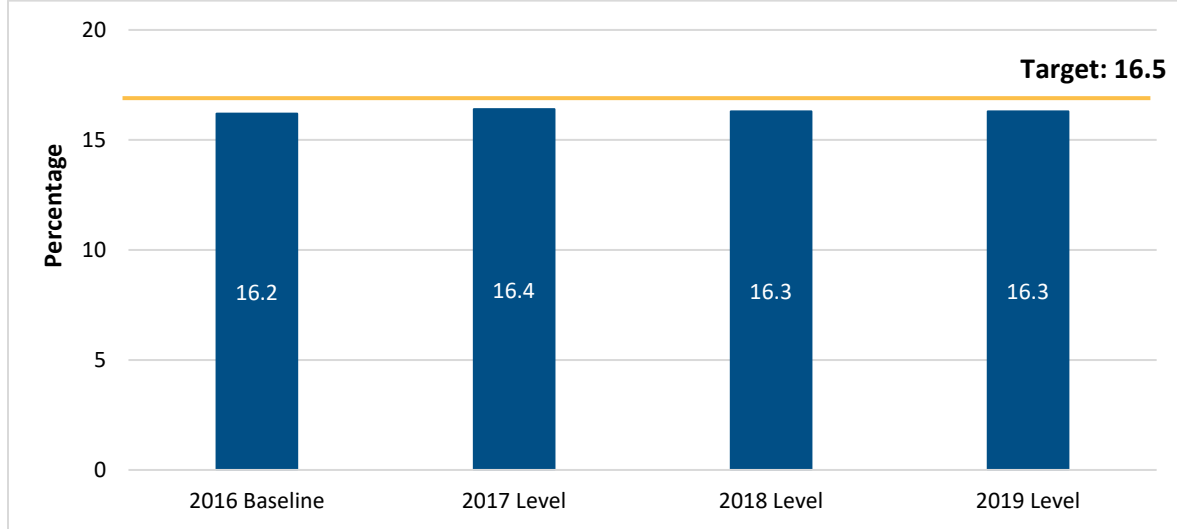
Target 2: Reduce the prevalence of 12- to 20-year-olds reporting binge alcohol use in the past 30 days to 10.9 percent compared with the 2016 baseline of 12.1 percent (a reduction of 10 percent; Exhibit 4.4).

Exhibit 4.4: 2019 Prevalence of Past-Month Binge Alcohol Use Compared With 2016 Baseline and Original Target: 2019 NSDUH Data (CBHSQ, 2020)



Target 3: Increase the average age of first use of alcohol among those who begin drinking before age 21 to 16.5 years of age compared with the 2016 baseline of 16.2 years of age (an increase of 2 percent; Exhibit 4.5).

Exhibit 4.5: 2019 Average Age of First Alcohol Use Among Those Who Began Drinking Before Age 21 Compared With 2016 Baseline and Original Target: 2019 NSDUH Data (CBHSQ, 2020)



A Commitment to Evidence-Based Policies, Programs, and Practices

All federal agencies are required to use data to assess the efficiency and effectiveness of activities in their departments, agencies, and bureaus.⁶⁰ In line with these requirements, the STOP Act requires ICCPUD to include in the *Report to Congress (RTC)* EBPs to prevent and reduce underage drinking and evidence-based treatment services for youth who need them.

The general concepts underlying an evidence-based policy, program, or practice is that some form of scientific evidence must support the proposed practice, policy, or program; the practice, policy, or program itself must be practical and appropriate given the circumstances under which it will be implemented and the population to which it will be applied; and it must have a statistically significant effect on the outcome(s) to be measured. A best practice, on the other hand, can be defined as “an intervention that has shown evidence of effectiveness in a particular setting and is likely to be replicable to other situations” (Ng & de Colombani, 2015). Such interventions are validated as EBPs through documented scientific testing for efficacy. The gold standard of scientific evidence is the randomized controlled trial, but it is not always possible to conduct such trials, particularly in the policy arena. Many strong, widely used quasi-experimental designs have produced and will continue to produce credible, valid, and reliable evidence; these should be relied on when randomized controlled trials are not possible.

It is also important to recognize that the science and evidence base for best practices continue to expand and change. One of the key principles of evidence-based policymaking is evaluation—the ongoing gathering of data on what works, under which circumstances, and at what cost. Accordingly, the recommended policies, programs, and practices for addressing underage drinking will also evolve over time. ICCPUD, through its members and the convening of an advisory committee, continues to identify evidence-based policies, programs, and practices in prevention, intervention, treatment, recovery, and enforcement.

⁶⁰ Requirements are detailed in the Government Performance and Results Act of 1993 and its subsequent amendment, the Government Performance and Results Modernization Act of 2010.

EBP Resource Center

In 2018, SAMHSA launched the EBP Resource Center, which aims to provide communities, clinicians, policymakers, and others in the field with the information and tools they need to incorporate EBPs into their communities or clinical settings. The EBP Resource Center contains a collection of scientifically based resources for a broad range of audiences, including Treatment Improvement Protocols, toolkits, resource guides, clinical practice guidelines, and other science-based resources. Several resources specific to underage drinking prevention and treatment, including a guide on alcohol policy, are currently on the EBP Resource Center’s website: <https://www.samhsa.gov/ebp-resource-center>.

In addition to the SAMHSA EBP Resource Center, there are other important national-level initiatives that guide work to address underage drinking. These are described below.

Major National-Level Initiatives Addressing the Evidence Base for Underage Drinking Prevention Policies, Programs, and Practices

Several documents have provided evidence related to underage drinking prevention. These are summarized below.

Reducing Underage Drinking: A Collective Responsibility

As national concern about underage drinking grew—in part because of advances in science that increasingly revealed adverse consequences—Congress appropriated funds for a study by the National Academies to examine the relevant literature and “review existing federal, state, and nongovernmental programs, including media-based programs, designed to change the attitudes and health behaviors of youth.” The National Research Council (NRC) and the Institute of Medicine (IOM) issued the report, *Reducing Underage Drinking: A Collective Responsibility*, in 2004. The report concluded that underage drinking occurs within a societal context in which alcohol use is considered normative behavior. Underage drinking prevention efforts need to include adults and the general society (NRC & IOM, 2004).

The 2007 Surgeon General’s Call to Action to Prevent and Reduce Underage Drinking

The Office of the Surgeon General (OSG) worked closely with SAMHSA and NIAAA to develop the 2007 *Call to Action* (HHS, 2007). The *Call to Action* outlined a wide-ranging national effort to prevent and reduce underage alcohol consumption based on the latest and most authoritative research, particularly on underage drinking as a developmental issue.

Strategies for implementing these goals for parents and other caregivers, communities, K–12 schools, colleges and universities, businesses, the healthcare system, juvenile justice and law enforcement, and the alcohol and entertainment industries are included in the full *Call to Action*, available at <https://www.ncbi.nlm.nih.gov/books/NBK44360>.

The Community Preventive Services Task Force (CPSTF)

The CPSTF was created by HHS in 1996 to develop guidance on which community-based health promotion and disease prevention intervention approaches are effective based on available scientific evidence.

The Community Guide is a collection of evidence-based recommendations and findings from the CPSTF. The CPSTF is an independent, nonfederal panel of public health and prevention experts that receives technical, scientific, and administrative support from CDC. The CPSTF oversees systematic reviews of the effectiveness and economics of public health programs, services, and other interventions used in real-world settings. The systematic reviews use a formal process to identify all relevant studies, assess their quality, and summarize the evidence. The CPSTF issues recommendations and findings based on these reviews and identifies gaps in the body of evidence where additional research is needed. CPSTF findings, the systematic review evidence on which they are based, and supporting materials are available online at <https://www.thecommunityguide.org/topic/excessive-alcohol-consumption>. The systematic reviews are also published in peer-reviewed journals.

The CPSTF recommends the following intervention approaches:

- [Dram Shop Liability](#)
- [Increasing Alcohol Taxes](#)
- [Maintaining Limits on Days of Sale](#)
- [Maintaining Limits on Hours of Sale](#)
- [Regulation of Alcohol Outlet Density](#)
- [Electronic Screening and Brief Intervention \(e-SBI\)](#)
- [Enhanced Enforcement of Laws Prohibiting Sales to Minors](#)

The CPSTF recommends **against** privatization of retail alcohol sales in settings with current government control of retail sales. This finding is based on strong evidence that privatization results in increased per capita alcohol consumption.

More information about CPSTF recommendations for preventing excessive alcohol consumption and related harms is online at <https://www.thecommunityguide.org/topic/excessive-alcohol-consumption>.

The CPSTF also recommends the following intervention approaches for preventing alcohol-impaired driving:

- [Lower BAC Laws for Young \(under age 21\) or Inexperienced Drivers \(also known as zero tolerance laws\)](#)
- [Maintaining Current MLDA Laws](#)
- [School-Based Instructional Programs \(to reduce riding with alcohol-impaired drivers\)](#)
- [Blood Alcohol Concentration \(BAC\) Laws](#)
- [Publicized Sobriety Checkpoint Programs](#)
- [Ignition Interlocks \(or devices installed in motor vehicles to prevent operation by any driver who has been drinking alcohol by detecting alcohol on the would-be driver's breath\)](#)
- [Mass Media Campaigns \(which are most effective when combined with other effective laws and programs\)](#)
- [Multicomponent Interventions with Community Mobilization](#)

More information about CPSTF interventions for preventing alcohol-impaired driving can be found at <https://www.thecommunityguide.org/content/task-force-findings-motor-vehicle-injury>.

NIAAA’s College Alcohol Intervention Matrix (CollegeAIM; 2015, 2019)

As described in more detail in Chapter 3, the problem of college drinking has been particularly persistent. However, knowledge about best practices with this population continues to grow, as NIAAA has invested substantial resources in research on individual and environmental interventions to address college drinking.


In 2015, NIAAA launched a major new resource—CollegeAIM—to help college officials address harmful and underage student drinking. The centerpiece of CollegeAIM is a comprehensive, easy-to-use matrix-based tool that informs college staff members about potential alcohol interventions and guides them to evidence-based interventions. Although college officials have numerous options for alcohol interventions, these are not all equally effective. CollegeAIM is designed to help schools make informed choices among available strategies, thereby increasing schools’ chances for success and helping to improve student health and safety.

Revised and updated in 2019, CollegeAIM compares and rates more than 60 types of interventions on effectiveness, anticipated costs and barriers to implementation, public health reach, and research amount and quality (NIAAA, 2019).

Matrix interventions are classified as either environmental- or individual-level strategies (Exhibits 4.6 and 4.7). Environmental-level strategies (e.g., increasing alcohol taxes) target the campus community and student population as a whole. Individual-level strategies focus on individual students, including those in higher-risk groups, such as first-year students, student athletes, and members of Greek organizations. (For more details about these strategies, see <https://www.collegedrinkingprevention.gov/collegeaim.>)

Exhibit 4.6: NIAAA CollegeAIM Individual-Level Strategies (NIAAA, 2019)

INDIVIDUAL-LEVEL STRATEGIES:
Estimated Relative Effectiveness, Costs, and Barriers; Public Health Reach; Research Amount; and Primary Modality¹



COSTS: Combined program and staff costs for adoption/implementation and maintenance				
	Lower costs \$	Mid-range costs \$\$	Higher costs \$\$\$	
EFFECTIVENESS: Success in achieving targeted outcomes	Higher effectiveness ★★★	IND-3 Normative re-education: Electronic/mailed personalized normative feedback (PNF)—Generic/other ² [#], F, ●●●, online/offsite IND-10 Skills training, alcohol focus: Self-monitoring/self-assessment alone ¹ [#], F, ●●, online/offsite IND-21 Personalized feedback intervention (PFI): eCHECKUP TO GO (formerly, e-CHUG) ² [#], B, ●●●, online	IND-9 Skills training, alcohol focus: Goal/intention-setting alone ¹ [#], F, ●●, IP] IND-12 Skills training, alcohol plus general life skills: Alcohol Skills Training Program (ASTP) ² [#], F, ●●●, IPG] IND-16 Brief motivational intervention (BMI): In-person—Individual (e.g., BASICS) [#], F, ●●●, IP] IND-22 Personalized feedback intervention (PFI): Generic/other ² [#], B, ●●●●, online]	IND-17 Multi-component education-focused program (MCEFP): AlcoholEdu [®] for College ² [#], B, ●●, online] Interventions Delivered by Health Care Professionals Strategies in which health care professionals identify and help students whose drinking patterns put them at risk for harm, or who are already experiencing alcohol-related problems: IND-23 Screening and behavioral treatments IND-24 Medications for alcohol use disorder These approaches can reduce harmful drinking, according to studies conducted mainly in general adult populations (ages 18–65). <i>The differences in research populations, along with wide variations in costs and barriers across campuses, precluded ratings relative to other strategies. See page 18 for more information.</i>
	Moderate effectiveness ★★		IND-8 Skills training, alcohol focus: Expectancy challenge interventions (ECI)—Experiential [#], F, ●●●, IPG] IND-13 Skills training, alcohol plus general life skills—Parent-based alcohol communication training [#], F, ●●, offsite] IND-14 Skills training, alcohol plus general life skills or general life skills only: Generic/other ² [#], F, ●●●●, IPG] IND-15 Brief motivational intervention (BMI): In-person—Group [#], F, ●●, IPG]	Legend Effectiveness rating, based on percentage of studies reporting any positive effect: ●●● = 75% or more ●● = 50% to 74% ● = 25% to 49% X = Less than 25% Public health reach: B = Broad F = Focused Research amount: ●●●● = 11+ studies ●●●● = 7 to 10 studies ●● = 4 to 6 studies ● = 3 or fewer studies
	Lower effectiveness ★	IND-2 Normative re-education: Electronic/mailed personalized normative feedback (PNF) Event-specific prevention (21st birthday cards) [#], B, ●●, online/offsite]	IND-4 Normative re-education: In-person norms clarification alone ¹ [#], F, ●●, IPG]	Barriers: ### = Higher # = Moderate # = Lower Primary modality: IP = In-person individual IPG = In-person group Online Offsite
	Not effective X	IND-7 Skills training, alcohol focus: Expectancy challenge intervention (ECI)—By proxy/didactic/discussion alone ¹ [#], F, ●●, IPG]	IND-1 Information/knowledge/education alone ¹ [#], B, ●●●●, IPG] IND-5 Values clarification alone ¹ [#], F, ●●, IPG]	
	Too few studies to rate effectiveness ?	IND-11 Skills training, alcohol plus general life skills: Alcohol 101 Plus™ ² [#], B, ●, online] IND-19 Personalized feedback intervention (PFI): CheckYourDrinking (beta 1.0 version) ² [#], B, ●, online] IND-20 Personalized feedback intervention (PFI): College Drinker's Check-up ² [#], B, ●, online]	IND-6 Skills training, alcohol focus: Blood alcohol concentration feedback alone ¹ [#], F, ●, IP] IND-18 Multi-component education-focused programs (MCEFP): Miscellaneous ² [#], B, ●, online]	

See brief descriptions and additional ratings for each individual-level strategy on the summary table beginning on page 13.

¹ **Effectiveness** ratings are based on the percentage of studies reporting any positive outcomes (see legend). Strategies with three or fewer studies were not rated for effectiveness due to the limited data on which to base a conclusion. **Cost** ratings are based on the relative program and staff costs for adoption, implementation, and maintenance of a strategy. Actual costs will vary by institution, depending on size, existing programs, and other campus and community factors. **Barriers** to implementing a strategy include cost and opposition, among other factors. **Public health reach** refers to the number of students that a strategy affects. Strategies with a broad reach affect all students or a large group of students (e.g., all underage students); strategies with a focused reach affect individuals or small groups of students (e.g., sanctioned students). **Research amount** refers to the number of randomized controlled trials (RCT) of a strategy (see legend).

² Strategies are listed by **brand name** (e.g., CheckYourDrinking) if they were evaluated by at least two RCTs; strategies labeled **generic/other** have similar components and were not identified by name in the research or were evaluated by only one RCT; strategies labeled **miscellaneous** have the same approach but very different components.

³ Although this approach is a component of larger, effective programs such as BASICS and ASTP, it is evaluated here as a stand-alone intervention.

Exhibit 4.7: NIAAA CollegeAIM Environmental-Level Strategies (NIAAA, 2019)

ENVIRONMENTAL-LEVEL STRATEGIES:

Estimated Relative Effectiveness, Costs, and Barriers; Public Health Reach; and Research Amount/Quality¹



		COSTS: Combined program and staff costs for adoption/implementation and maintenance		
		Lower costs \$	Mid-range costs \$\$	Higher costs \$\$\$
EFFECTIVENESS: Success in achieving targeted outcomes	Higher effectiveness ★★★	ENV-16 Restrict happy hours/price promotions [###, B, ●●●] ENV-21 Retain ban on Sunday sales (where applicable) [##, B, ●●●●] ENV-22 Retain age-21 drinking age [##, B, ●●●●]	ENV-11 Enforce age-21 drinking age (e.g., compliance checks) [##, B, ●●●●] ENV-23 Increase alcohol tax [###, B, ●●●●]	
	Moderate effectiveness ★★	ENV-17 Retain or enact restrictions on hours of alcohol sales [##, B, ●●●●] ENV-34 Enact social host provision laws [##, B, ●●●]	ENV-3 Prohibit alcohol use/sales at campus sporting events [##, F, ●●●●] ENV-25 Enact dram shop liability laws: Sales to intoxicated [##, B, ●●●●] ENV-26 Enact dram shop liability laws: Sales to underage [##, B, ●●●] ENV-30 Limit number/density of alcohol establishments [###, B, ●●●●] ENV-35 Retain state-run alcohol retail stores (where applicable) [###, B, ●●●●]	ENV-31 Enact responsible beverage service training laws [##, B, ●●●]
	Lower effectiveness ★		ENV-1 Establish an alcohol-free campus [###, B, ●●●] ENV-7 Conduct campus-wide social norms campaign ² [#, B, ●●●●]	ENV-12 Restrict alcohol sponsorship and advertising [##, B, ●●●] ENV-14 Implement beverage service training programs: Sales to intoxicated [C = #, S/L = ##, B, ●●●] ENV-15 Implement beverage service training programs: Sales to underage [C = #, S/L = ##, B, ●●●●] ENV-28 Enact keg registration laws [##, B, ●●●]
	Too few robust studies to rate effectiveness—or mixed results ?	ENV-4 Prohibit alcohol use/service at campus social events [##, B, 0] ENV-5 Establish amnesty policies ² [#, F, ●●●] ENV-8 Require Friday morning classes ² [#, B, ●●] ENV-9 Establish standards for alcohol service at campus social events [#, B, ●●●] ENV-10 Establish substance-free residence halls ² [#, F, ●●] ENV-13 Prohibit beer kegs [C = #, S/L = ###, B, ●●●] ENV-18 Establish minimum age requirements to serve/sell alcohol [##, B, ●●●●] ENV-19 Implement party patrols [##, B, ●●●] ENV-24 Increase cost of alcohol license [##, B, 0] ENV-27 Prohibit home delivery of alcohol [##, B, ●●] ENV-29 Enact noisy assembly laws [##, B, 0]	ENV-6 Implement bystander interventions ² [#, F, 0]	ENV-2 Require alcohol-free programming ² [#, F, ●●] ENV-20 Implement safe-rides program ² [##, F, ●●] ENV-32 Conduct shoulder tap campaigns [##, B, ●●] ENV-33 Enact social host property laws [##, B, 0] ENV-36 Require unique design for state ID cards for age < 21 [##, B, 0]
		<p>Legend</p> <p>Barriers: ### = Higher # = Moderate # = Lower C = Barriers at college level S/L = Barriers at the state/local level</p> <p>Public health reach: B = Broad F = Focused</p> <p>Research amount/quality: ●●●● = 5 or more longitudinal studies ●●● = 5 or more cross-sectional studies or 1 to 4 longitudinal studies ●● = 2 to 4 studies but no longitudinal studies ● = 1 study that is not longitudinal</p> <p>0 = No studies</p>		

See brief descriptions and additional ratings for each environmental-level strategy on the summary table beginning on page 19.

¹ Effectiveness ratings are based on estimated success in achieving targeted outcomes. Cost ratings are based on a consensus among research team members of the relative program and staff costs for adoption, implementation, and maintenance of a strategy. Actual costs will vary by institution, depending on size, existing programs, and other campus and community factors. Barriers to implementing a strategy include cost and opposition, among other factors. Public health reach refers to the number of students that a strategy affects. Strategies with a broad reach affect all students or a large group of students (e.g., all underage students); strategies with a focused reach affect individuals or small groups of students (e.g., sanctioned students). Research amount/quality refers to the number and design of studies (see legend).

² Strategy does not seek to reduce alcohol availability, one of the most effective ways to decrease alcohol use and its consequences.

Dietary Guidelines for Americans

The *Dietary Guidelines for Americans* are published jointly by HHS and the U.S. Department of Agriculture (USDA). The 2020–2025 guidelines specifically recommend that alcohol should be consumed only by those of legal drinking age and do not recommend that people not currently drinking start drinking for any reason. The guidelines also state that drinking less is better for health than drinking more. For those who choose to drink, the guidelines indicate that men should limit their intake to two drinks or fewer in a day, and women should limit their consumption to one drink or less in a day. An additional caveat included in the latest guidelines is an acknowledgment that emerging evidence suggests that even drinking within the recommended limits might increase the overall risk of death from various causes, such as cancer and cardiovascular disease. Additional recommendations include avoiding excessive drinking, and the guidelines also note that calories from alcoholic beverages can easily contribute to excess calorie intake (USDA & HHS, 2020).

The 2016 Surgeon General’s Report on Alcohol, Drugs, and Health

In 2016, OSG released *Facing Addiction in America: The Surgeon General’s Report on Alcohol, Drugs, and Health*, addressing the use and misuse of substances, including alcohol (HHS, 2016). The report is broad and covers substance use by all age groups, along with public health

consequences, prevention, and treatment. It describes the extent of the substance use problem in the United States; the neurobiology of substance use, misuse, and addiction; prevention programs and policies; early intervention, treatment, and management of substance use disorders (SUDs); the many services and systems that support the recovery process; the integration of healthcare systems and substance use services; and a vision for the future (including a public health approach and concrete recommendations for reducing substance misuse and related harms).

In addition, the report lists risk and protective factors for substance initiation and misuse by adolescents and young adults at the individual, family, school, and community levels. It describes evidence-based prevention policies and programs for various groups of underage people, including the 0–10 age group, the 10–18 age group, college students, and other young adults.

Screening, Brief Intervention, and Referral to Treatment (SBIRT)

A recent analysis of National Survey on Drug Use and Health (NSDUH) data indicates that adolescents are more likely to transition to an SUD within 12 months of marijuana and prescription misuse initiation than adults. This finding underscores the importance of screening for substance misuse in adolescents (Volkow et al., 2021). A longitudinal analysis of the trajectory of SUDs from age 18 through age 50 concluded that most adolescents with severe SUD symptoms do not transition out of symptomatic substance use. In addition, the more serious the SUD symptoms in adolescents, the worse the long-term outcomes are for adolescents compared with those with no or low SUD symptom severity (McCabe et al., 2022b). Volkow (2022) notes that contrary to expectations that adolescents with SUD will age out of their disorders, the association of adolescent SUD with later SUD in midlife “may reflect underlying vulnerabilities that manifest early and persist throughout life” (p. 1). Screening for SUD in adolescence could help identify these vulnerabilities and lead to early appropriate interventions, as well as guiding prevention activities.

SBIRT definitions:

Screening: using validated patient interview techniques to identify and assess the existence and extent of alcohol use in a patient.

Brief intervention: after screening a patient, providing the patient with brief advice and other brief motivational enhancement techniques designed to increase the insight of the patient regarding the patient’s alcohol use, and any realized or potential consequences of such use, to effect the desired related behavioral change. (Pub. L. 117–328, 2023)

The severity of the SUD also seems to be a critical factor; interventions may need to be graded to the intensity of the SUD, from mild to moderate to severe (Volkow, 2022). As demonstrated by Dennis et al. (2014), severity of adolescent SUD is associated with a wide range of problems related to mental and physical health, healthcare utilization, employment, and legal problems. The use of alcohol and marijuana is most common at all levels of SUD severity; severity goes up when opioid use disorder, stimulant use disorder, cocaine use disorder, and other drug use disorders are present. Early identification and referral to treatment in school-based settings are feasible and effective. Programs such as “Talk. They Hear You.”[®] and Screen4Success (discussed in Chapter 5) provide the resources to implement early identification programs (Dennis et al., 2023).

Recommendations on whether to use SBIRT with adolescents vary. The importance of SBIRT was recognized by Congress in the 2016 and 2022 reauthorizations of the STOP Act, which

authorizes grants to pediatric healthcare providers to improve the use of SBIRT, including via training and dissemination of best practices. Considerable literature has been published indicating that SBIRT offered by a provider such as a physician, nurse, psychologist, or counselor can be effective in reducing adolescent drinking and related problems. Several reviews have also been published on this topic (Scott-Sheldon et al., 2014; Tanner-Smith & Lipsey, 2015). However, the U.S. Preventive Services Task Force concluded in 2019 that the current evidence was insufficient to assess the balance of benefits and harms of screening and brief behavioral counseling interventions for alcohol use in primary care settings for all adolescents ages 12–17. These interventions are recommended for adults age 18 or older, which includes older underage individuals who drink. Further research regarding the use of SBIRT in the 12-to-17-year-old population is needed, and it has been suggested that adaptation of the interventions for younger age groups might increase their effectiveness (Curry et al., 2018).

The American Academy of Pediatrics recommends that pediatricians become familiar with adolescent SBIRT practices and their potential to be incorporated into universal screening and comprehensive care of adolescents in the medical home (Committee on Substance Use and Prevention, 2016). NIAAA has developed a screening guide titled *Alcohol Screening and Brief Intervention for Youth: A Practitioner’s Guide* (NIAAA, 2011), which is available at <https://www.niaaa.nih.gov/sites/default/files/publications/YouthGuide.pdf>. An NIAAA-supported study demonstrated that adolescent patients who received alcohol SBIRT in pediatric primary care settings had improved mental health and substance use outcomes over a 3-year follow-up period (Sterling et al., 2019).

A 2017 study examined the effectiveness of two interventions delivered separately or in combination in the Cherokee Nation in Oklahoma: screening and brief intervention delivered in schools for youth (CONNECT) and an intervention focused on community efforts to target alcohol access (Communities Mobilizing for Change on Alcohol [CMCA]). The study was one of the largest alcohol prevention trials ever conducted with an American Indian population and demonstrated the effectiveness of both interventions in significantly reducing youth alcohol use at a community level. CMCA was found to reduce alcohol use among high school students by 25 percent and alcohol-related consequences by 22 percent; CONNECT reduced alcohol use by 22 percent (Komro et al., 2017). More such research could help to identify successful interventions for preventing alcohol use among racial and ethnic minorities.

ICCPUD State Performance & Best Practices for the Prevention and Reduction of Underage Drinking Report (SPBP Report)

ICCPUD has developed a report that reviews evidence-based and promising policies, programs, and practices to prevent and reduce underage drinking. The *SPBP Report* summarizes and compares the states’ performance in implementing evidence-based policies, programs, and practices. The *SPBP Report* includes a description and analysis of legal policies addressing underage drinking and related problems for which there is mixed, promising, or strong evidence of effectiveness (see Exhibit 4.8). As required by the STOP Act, states’ adoption of these policies is tracked in the *SPBP Report* and the individual *State Reports*. Seventeen of these policies were specified in the original STOP Act legislation or in congressional appropriations language. The remaining nine policies were added after ICCPUD review. Additionally, the majority of these policies were identified as best practices by one or more of the five sources detailed above.

Exhibit 4.8: Underage Drinking Prevention Policies—Best Practices

Source Identifying Policy as a Potential Best Practice						
Underage Drinking Prevention Policies	ICCPUD Determination Based on Input From Stakeholders and Literature Review	CPSTF	Surgeon General's Call to Action	NRC & IOM Report, Reducing Underage Drinking: A Collective Responsibility	CollegeAIM (NIAAA)	Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health
Policies addressing minors in possession of alcohol						
Possession by minor	X		X	X	X	
Consumption by minor	X		X	X	X	
Internal possession by minor	X					
Purchase or attempt to purchase alcohol by minor	X		X	X	X	
False identification/incentives for retailers to use identification scanners or other technology	X		X	X	X	
Policies targeting underage drinking and driving						
Youth BAC limits (zero tolerance)	X	X	X	X	N/A ⁶¹	X
Loss of driving privileges for alcohol violations by minors (use/lose law)	X				N/A	X
Graduated driver's licenses	X		X	X	N/A	
Policies targeting alcohol suppliers						
Furnishing or sale to a minor	X		X	X	X	
Compliance checks	X	X	X	X	X	X
Penalty guidelines for violations of furnishing laws by retailers	X					
Mandatory/voluntary server-seller training (responsible beverage service programs)	X		X	X	X	
Minimum age for off-sale server	X					

⁶¹ CollegeAIM did not address traffic crashes.

Source Identifying Policy as a Potential Best Practice						
Underage Drinking Prevention Policies	ICCPUD Determination Based on Input From Stakeholders and Literature Review	CPSTF	Surgeon General's Call to Action	NRC & IOM Report, Reducing Underage Drinking: A Collective Responsibility	CollegeAIM (NIAAA)	Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health
Minimum age for on-sale server	X					
Outlet siting near schools	X					
Dram shop liability	X	X		X	X	X
Social host liability	X			X	X	X
Hosting underage drinking parties	X		X	X	X	X
Retailer interstate shipment	X					
Direct sales/shipment from producer	X					
Keg registration	X		X	X	X	
Home delivery	X			X		
High-proof grain alcoholic beverages	X					
Policies affecting alcohol pricing						
Increasing alcohol tax rates	X	X		X	X	X
Restrictions on drink specials	X		X	X	X	
Wholesaler pricing provisions, including limits on price and extension of credit	X					

Major National-Level Initiatives Addressing the Evidence Base for Underage Drinking Treatment Programs and Practices

Treatment of Adolescent Substance Use

The need for adolescent substance use treatment is urgent and ongoing. Proactively intervening on substance use risk factors at a young age has been shown to cut decades off the time it takes to reach a state of sustained recovery (Dennis et al., 2005). As detailed in Chapter 3, in 2021, 2,097,000 (5.4 percent) of adolescents ages 12–20 had an alcohol use disorder, whereas 3,708,000 (9.5 percent) had a drug use disorder (including misuse of prescription medications). There were 4,7729,000 adolescents who reported having an SUD (related to alcohol and/or other drugs), representing 12.1 percent of adolescents ages 12–20 (CBHSQ, 2022a).

Current substance use intervention and treatment programs are not addressing the needs of most adolescents; 97 percent of adolescents who needed treatment for alcohol use in a specialized facility had not received this treatment, according to 2021 NSDUH data (CBHSQ, 2023). Because adolescents commonly present with multiple SUDs and the literature on adolescent alcohol treatment is limited, this section discusses adolescent substance use treatment in general, with specific details on alcohol treatment as available.

The possible reasons for non-treatment are varied. Adolescents are less cognitively aware and may simply not be conscious of their need for intervention (Conrad et al., 2007; NIDA, 2014). Generally, they will have experienced fewer adverse consequences at this point from alcohol and drug use than adults because of their shorter duration of use. They may also have had direct protection from consequences because of parental intervention. Parents may ignore some substance use, considering it a “rite of passage” or something that will disappear with maturation. On screening assessments, adolescents are less likely than adults to report withdrawal symptoms, being unable to stop using a drug, or continued use of a drug despite physical or mental health problems. Symptoms that adolescents are more likely to report than adults include hiding their substance use, getting complaints from others about their substance use, and continuing to use in spite of fights or legal trouble. Unlike adults, who enter treatment primarily through self-referral, adolescents are more likely to enter into treatment because of a referral by the justice system, a parent, a mental health clinician, or a school staff member (Winters et al., 2018).

Systemic factors are also involved in adequately addressing the challenges of adolescent treatment. In addition to service delivery that is oriented toward adolescents, there is a need for service providers who understand adolescent development and funding to ensure program availability. Pertinent research needs to be translated into practice. Programs need to be evaluated for effectiveness in practice. As in many healthcare systems, the coordination of care is often lacking (Kraft et al., 2006). Currently, few, if any, local treatment options are available for adolescents, and many individuals have little or no health coverage that covers treatment needs (Winters et al., 2018).

In addition, adolescents entering treatment are likely to have multiple comorbid conditions, such as mental disorders, homelessness, and engagement in criminal activity or violence, as well as varying risk and protective factors. In adolescents, transitional-age youth, and adults, these factors have been shown to affect the course of treatment at all levels—initiation, engagement, and subsequent adherence (Baumer et al., 2018; B. Han, Compton, Blanco, & Colpe, 2017).

History of Development of Adolescent Treatment Programs and Federal Involvement

To address the high level of unmet needs for services in adolescents, models of prevention and early intervention outside the traditional service-delivery model approach were developed, implemented, and evaluated in early 2000. One widely used support service model that is still in place is the Student Assistance Program (SAP), which is a community-based model of intervention that essentially conceives of the school as the adolescent’s community. Assessment, intervention, and treatment services occur within the “natural” environment of the adolescent (Wagner & Macgowan, 2006). Based on the Employee Assistance Program model developed in the 1960s and 1970s—which sought to remove impediments to work performance—this model, developed in the 1980s, is focused on the removal of all barriers to school performance. Initially, SAPs addressed substance use in students, but the focus soon expanded to helping address a wide

range of issues that could potentially impede adolescent academic achievement. These include, in addition to alcohol and substance use, violence and mental health problems (California Department of Education, 2021). SAPs are now designed to provide a variety of services to students in kindergarten through grade 12, including services that address normal developmental issues, as well as those related to substance use, psychological distress, suicide, and mental illness (SAMHSA, 2019). Student assistance is prominently featured in the 2022 National Drug Control Strategy. The focus is on delaying the age of initiation for substance use and providing skills for children that build resilience.

One framework available to school districts for developing these systems, to ensure the supports and strategies are available to all students, is multitiered systems of support (MTSS; Exhibit 4.9). The approach is proactive and data-driven and focuses on identifying and addressing the strengths and needs of all students (Harlacher et al., 2014). The advantages of a school-based system are that the environment is familiar to both teens and their families, which may facilitate engagement; assessment includes the school context, which constitutes a critical peer environment; evaluation can occur within the school setting; and the treatment may be more responsive to the changing needs of the individual (Wagner & Macgowan, 2006).

Although the effort in schools was originally focused on prevention and early intervention, these programs have also been evaluated as screening, treatment, and continuing care sites. Even though adolescents with SUDs are more likely to drop out of school, over 90 percent of them are still in school. The severity of their SUD can be readily assessed with screening and is correlated with a wide range of other clinical problems, academic performance, and service costs (Dennis et al., 2014).

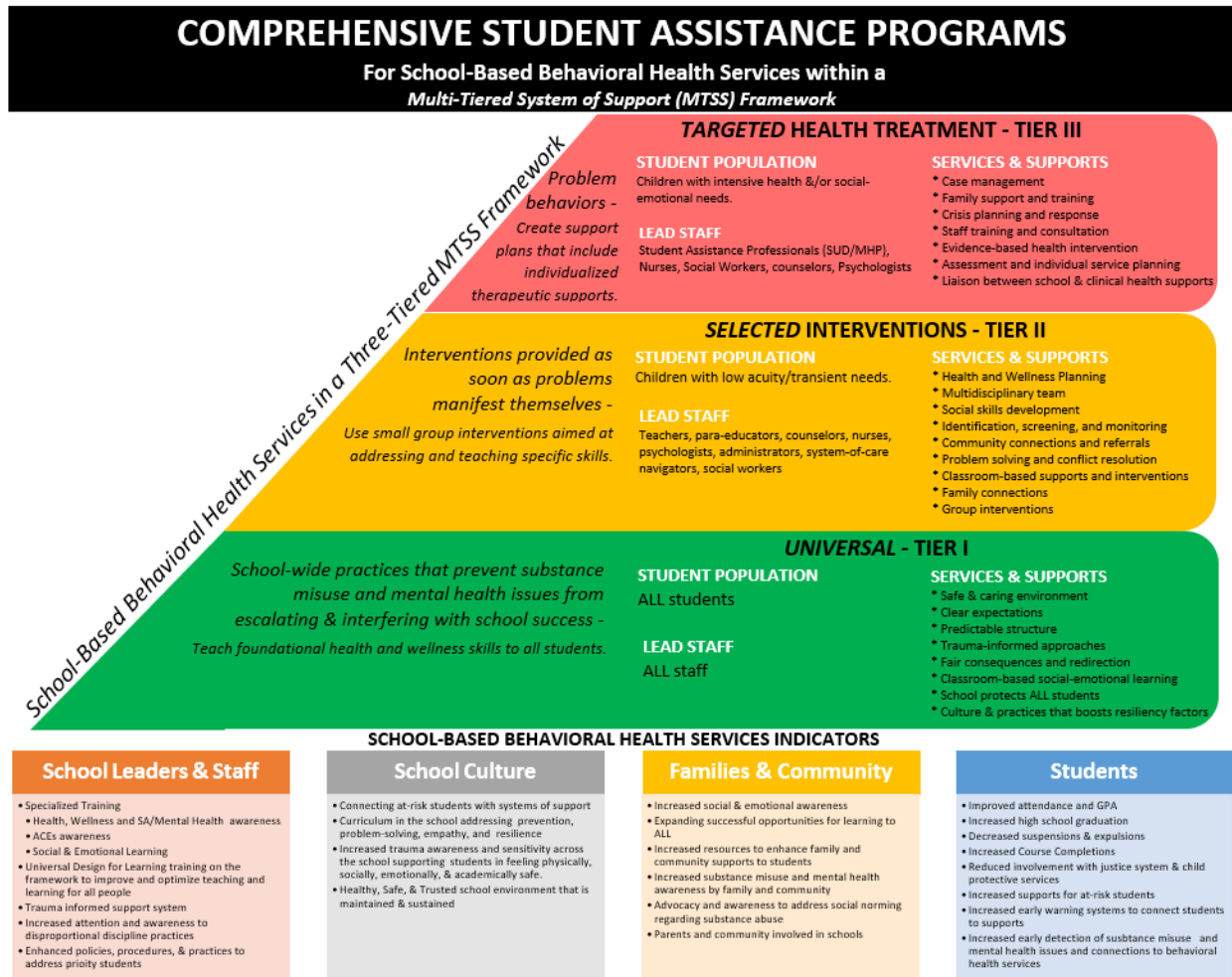
SAPs appear to be most effective when they are integrated into school-based support systems that also address academic success. Integrating SAP services with an existing complementary multitiered system of support (such as Response to Intervention and School-Wide Positive Behavior Supports) provides the most positive outcomes (SAMHSA, 2019).

Summary of Underlying Principles of Evidence-Based Approaches

Based on evaluations of multiple programs, NIDA issued *Principles of Addiction Treatment* in 1999, providing treatment principles for adults using illicit drugs or misusing prescription drugs, alcohol, and tobacco, as well as addressing the special treatment needs for people ages 12–17. NIDA subsequently issued *Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide* in 2014 to highlight adolescent substance use disorder treatment issues specifically (NIDA, 2014). The principles, as summarized by Winters et al. (2018), are provided in Exhibit 4.10.⁶²

⁶² Used with permission of the author.

Exhibit 4.9: Student Assistance Programs (Walker et al., 1996)



Adapted from Walker et al., 1996

Exhibit 4.10: Principles of Adolescent Substance Use Treatment

Principle	Description
1. Identify and address substance use as soon as possible.	Identifying and addressing adolescent substance use as soon as possible is important due to the negative effects early use can have on the brain. Additionally, adults with substance use disorders often report using drugs as adolescents or young adults.
2. Adolescents do not have to be addicted to benefit from a substance use intervention.	Interventions can successfully treat a range of substance use disorders from problematic use to severe addiction. Youth in particular can benefit from intervention at early stages. Even use that does not seem problematic can lead to heavier use and other risky behaviors.

Principle	Description
3. Medical visits are an opportunity to ask about drug use.	Medical doctors (e.g., pediatricians, emergency room doctors, dentists) can use standardized screenings to determine if an adolescent is using substances and if an intervention is warranted. In some instances, it is possible to provide a brief intervention in the physician's office and in other cases referral to treatment is more appropriate.
4. Legal or family pressure may be an important influence on adolescent's involvement in treatment.	Most adolescents with a substance use disorder do not think they need treatment and rarely look for treatment. Treatment can be successful even if the adolescent is legally mandated to treatment or goes due to family pressures.
5. Treatment should be tailored to the adolescent's needs.	Many factors need to be considered when developing a treatment plan for an adolescent including sex, family, and peer relationships, and community environment. Therefore, it is necessary to begin with a comprehensive assessment.
6. Treatment should not focus on just substance use.	Treatment is most successful when it focuses on the whole person. Treatment should address housing, medical, social, and legal needs.
7. Behavioral therapies can effectively treat substance use disorders.	Behavioral therapies have been shown to be an effective treatment. These therapies help build motivation to change by providing incentives for abstinence, teaching skills to deal with cravings, and finding positive and rewarding activities.
8. Family and community support are important features of treatment.	There are several evidence-based interventions for adolescent substance use that involve family members and individuals in the community. These interventions try to improve family communication and provide the adolescent with support.
9. Mental health conditions need to be addressed in order to effectively treat substance use.	Adolescents with a substance use disorder often have co-occurring mental health conditions. It is important that adolescents are screened and treated for these other conditions in order for substance abuse treatment to be successful.
10. Sensitive issues should be addressed, and confidentiality maintained when possible.	It is common for adolescents with substance use disorders to have a history of abuse or other trauma. Whereas maintaining confidentiality with respect to sensitive issues is important in the therapeutic setting, appropriate authorities need to be informed if abuse is suspected.
11. Drug use should be monitored during treatment.	It is important to monitor an adolescent's drug use while in treatment and identify a relapse early on. The relapse could indicate that treatment should be intensified or needs to be altered to better meet the adolescent's needs.

Reducing Underage Drinking: Looking Forward

As noted above, multiple federal agencies are involved in preventing and reducing underage drinking. A graphical representation of the agencies, with brief descriptions of their roles in underage drinking prevention, is provided in Exhibit 4.11. The federal officials who make up ICCPUD (see Appendix A) either lead or have designated responsibility in the agencies listed below. Details for each agency and a list of programs are provided in Appendix B.

ICCPUD agencies are committed to using a comprehensive approach to preventing and reducing underage drinking and the associated costs and consequences that burden both individuals and society. Working as an interagency group, ICCPUD can support effective programs and strategies, eliminate duplication, and address programming gaps.

Exhibit 4.11: Federal Agencies in the ICCPUD



Topics that will be monitored closely by ICCPUD include:

- The effects of the COVID-19 pandemic on adolescent alcohol use. This includes:
 - Continued assessment of the intersection of mental health issues in adolescents and related changes in drinking patterns because of stress, anxiety, and depression.
 - The potential connection between alcohol use, COVID-19 susceptibility and severity, and long COVID.
 - Changes in state policies related to alcohol delivery and off-premises consumption instituted during the pandemic, including changes that are made permanent.
- The effects on both adult and adolescent drinking and alcohol-related harms caused by the increased availability of alcohol products related to recent changes in laws governing the sale of alcohol products on the internet.
- The development of new products that especially appeal to youth.

- The sale of high-alcohol-content grain beverages.
- Changes in cannabis policies and laws and possible resulting changes in consumption patterns and perception of risk of substance use.
- Changes in youth drinking behavior, such as combining alcohol with other substances (e.g., prescription opioids).
- The systems of care (or lack of them) for underage drinkers.

Chapter 5: Evaluation of the National Media Campaign “Talk. They Hear You.”[®]

CHAPTER 5 KEY POINTS

- *The “Talk. They Hear You.”[®] (TTHY) campaign works to prevent and reduce both underage drinking and other substance use by helping parents and caregivers, educators, and community members get informed, be prepared, and take action.*
- *The TTHY campaign includes public service announcements; brochures; fact sheets; a mobile application; a website; a podcast; “Parents’ Night Out” educational sessions; a health, wellness, and wellbeing curriculum; and motivational interviewing trainings and guides.*
- *In 2022, the TTHY campaign developed Screen4Success (S4S), an interactive self-screening and referral management service for parents, caregivers, and others who are concerned about substance use, mental health, or other determinants of health and wellness for youth under 21 and adults.*
- *The TTHY earned media campaign has yielded a little more than a \$14 return for every dollar invested.*

CHAPTER 5: EVALUATION OF THE NATIONAL MEDIA CAMPAIGN “TALK. THEY HEAR YOU.”®

Chapter Overview

Chapter 5 provides the *2023 Report to Congress on the Prevention and Reduction of Underage Drinking (2023 RTC)* with information on the national media campaign “Talk. They Hear You.”® (TTHY), as required by the Sober Truth on Preventing Underage Drinking Act (STOP Act). Chapter 5 details the annual production, broadcasting, and evaluation of TTHY and details the effectiveness of the campaign in reducing underage drinking, the need for and likely effectiveness of an expanded adult-oriented media campaign, and the feasibility and likely effectiveness of a supplemental national youth-focused media campaign to combat underage drinking. The chapter begins by providing background information and an overview of TTHY and then describes the campaign’s target audience and components. The chapter also presents a detailed description of the campaign’s evaluation and subsequent refinement.

Background

The Substance Abuse and Mental Health Services Administration’s (SAMHSA) mission is to lead public health and service delivery efforts that promote mental health, prevent substance misuse, and provide treatments and supports to foster recovery while ensuring equitable access and better outcomes. In particular, SAMHSA works to prevent underage drinking by supporting state and community efforts, promoting the use of evidence-based practices, educating the public, and collaborating with other agencies and interested parties.

Under the leadership of the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD), SAMHSA’s Center for Substance Abuse Prevention developed the TTHY campaign in response to directives set forth in Section 2(d) of 42 U.S.C. 290bb–25b(d)(2), requiring the Secretary of the U.S. Department of Health and Human Services (HHS) to fund and oversee a national adult-oriented media public service campaign and to report annually on the production, broadcasting, and evaluation of this campaign.⁶³ ICCPUD has been instrumental in the overall development of TTHY, using input from experts and organizations representing a wide range of parties, including public health advocacy groups, the alcohol industry, ICCPUD member agencies, the U.S. Congress, and subject matter experts (SMEs). TTHY addresses all three of the core goals laid out in ICCPUD’s 2021 Comprehensive Plan, as well as several topics for ICCPUD consideration and recommendations for new activities:

- Goal 1: Strengthen a national commitment to address the problem of underage drinking;
- Goal 2: Reduce demand for, the availability of, and access to alcohol by persons under the age of 21; and
- Goal 3: Use research, evaluation, and scientific surveillance to improve the effectiveness of policies and programs designed to prevent and reduce underage drinking.

The original goal of TTHY was to provide parents and caregivers with the resources they need to address the issue of alcohol with their children. Through strategic expansion, the campaign now

⁶³ The STOP Act has a provision specifying the content of the national media campaign report, which includes “the need for and likely effectiveness of an expanded adult-oriented media campaign.” 42 U.S.C. 290bb–25b(d)(2).

supports SAMHSA’s efforts to prevent and reduce both underage drinking and other substance use by helping parents and caregivers, educators, and community members:

1. Get Informed: Increase their awareness of the prevalence and risks of underage drinking and other substance use;
2. Be Prepared: Equip them with the knowledge, skills, and confidence to prevent underage drinking and other substance use; and
3. Take Action: Encourage and increase their actions to prevent underage drinking and other substance use.

The TTHY campaign objectives include the following:

1. Increase *awareness of and receptivity to campaign messages* (knowledge);
2. Increase *awareness of the prevalence of underage drinking and other substance use* (knowledge);
3. Increase *disapproval of underage drinking and other substance use* (attitudes);
4. Increase *knowledge, skills, and confidence in how to talk with kids* about—and prevent—underage drinking and other substance use (attitudes); and
5. Increase *actions to prevent underage drinking and other substance use* by talking with kids about alcohol and other substances (behaviors).

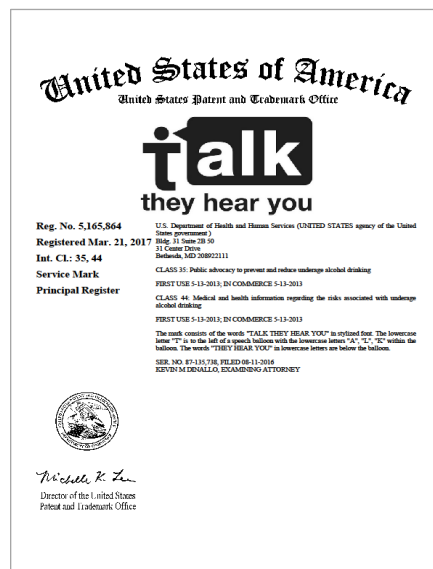
In 2021–2022, the campaign expanded its messaging and materials to reinforce the important role community members can play in a child’s life and how we all can step up to be a community for others. Specifically, the messages and materials focus on how your community—your home, neighborhood, school, workplace, faith community, social groups, arts organizations, athletic teams, etc.—is a valuable resource for support that can help improve the health, wellness, and wellbeing of young people.

TTHY also received additional funding in 2021–2022 to start developing Screen4Success (S4S), an interactive self-screening and referral management service for parents, caregivers, and others who are concerned about substance use, mental health, or other determinants of health and wellness for youth under 21 and adults. This new campaign tool will be a critical resource for parents and caregivers, educators and schools, community members, and others who may be concerned about the health, wellness, and well-being of a child(ren), student(s), or adult(s).

The campaign is currently in its 10th year and has evolved into an ongoing communications initiative. In that time, TTHY has also become a well-recognized brand, with 1,488 licensed campaign partners in all 50 states and the U.S. territories.

Underage drinking and other substance use/misuse are national public health issues with serious implications, especially among adolescents. The TTHY campaign has become an important part of SAMHSA’s prevention efforts. One of the campaign’s key goals is to prevent underage drinking and other substance use by providing parents and caregivers of children under the age

Exhibit 5.1: TTHY Service Mark Certificate



of 21 with information and resources to discuss the issues of alcohol and other drugs with their kids (see Exhibit 5.2).

The literature on prevention suggests that parental interaction with youth regarding underage drinking and other substance use provides a unique opportunity for prevention and early intervention (Nash et al., 2005; Wood et al., 2004). TTHY was designed to capitalize on this theory and add to the current knowledge base about underage drinking and other substance use prevention. It also empowers parents and caregivers to address the issue by increasing their level of comfort with the topic and encouraging open communication with their kids.

TTHY Target Audience

Research suggests that one of the most influential factors in child development is a strong, open relationship with a parent (*Young Children Develop in an Environment of Relationships*, 2004). It stands to reason that parents who do not discourage underage drinking may have an indirect influence on young people’s alcohol use (Sieving et al., 2000).

Parents who are informed about underage drinking and other drug use can take action to protect their children from many of the attendant high-risk behaviors. Although it may not always seem like it, children do hear their parents’ concerns, which illustrates the importance of conversations between parents and children regarding the risks of drinking alcohol and using other drugs.

As noted, one of the primary focuses of SAMHSA’s TTHY campaign is on encouraging parents and caregivers to begin conversations about alcohol and other drugs with their children at an early age, when the likelihood of influencing their children’s decisions about drinking alcohol and using other drugs is greatest (HHS, 2007). The campaign draws from the latest scientific research, social marketing and health behavior theories, and feedback from audiences across the country.

To help parents and caregivers of different backgrounds see themselves and relate to the campaign, SAMHSA has—since TTHY’s inception—focused on producing campaign products that feature parents and caregivers, educators, community members, and youth of diverse backgrounds. These products are described in more detail in the following section.

Campaign Components

TTHY messages and materials are disseminated through television, radio, and print PSAs; social media; e-newsletters and e-blasts; a mobile app; a podcast; parent/caregiver engagement forums (“Parents’ Night Out”); webinars and community engagement meetings; the campaign website; partner networks; and direct outreach. Campaign messages:

- Emphasize the importance of parents and caregivers talking with their kids about underage drinking and other substance use before they reach the age range when alcohol and other drug use typically begins (i.e., before age 15);

Exhibit 5.2: TTHY Print Public Service Announcement (PSA)



- Offer advice to parents and caregivers about preparing children to deal with peer pressure issues that might lead to alcohol use and other drug use;
- Highlight underage drinking and other substance use statistics that are likely to catch parents’ attention;
- Focus on helping parents and caregivers address the issues of underage drinking and other substance use in a manner that emphasizes their children’s ability to make autonomous decisions; and
- Model behaviors and situations when parents and caregivers can begin the conversation about the dangers of alcohol and other drugs with their children.

PSAs

TTHY PSAs show parents using everyday opportunities to talk with their children about alcohol and other drugs and reinforce the importance of starting these conversations at an early age and continuing the conversations through adulthood (see Exhibit 5.3). The PSAs direct viewers and listeners to the campaign website (<https://www.talktheyhearyou.samhsa.gov>) for additional information and tools, as well as downloadable versions of the television, radio, and print PSAs.

In 2021–2022, the campaign conceptualized and began creating the next round of PSAs. This included one TV PSA (15-, 30-, and 60-second versions), one radio PSA (15-, 30-, and 60-second versions), and 10 print PSAs. These PSAs are “community first” focused and let viewers know that whatever “community” means to them—their home, neighborhood, workplace, faith community, social groups, arts organizations, athletic teams, school, or somewhere else they choose to belong, or a combination of all of these—the people in that community are valuable resources and supports who can help them prevent underage drinking and other youth substance use. The PSAs reinforce that engaging and strengthening all of the different elements of their community builds resilience and creates hope. The campaign also began producing a new community-focused soundtrack, titled “This Life for Us,” to enhance and create a common theme throughout the new PSAs and other multimedia products.

As discussed in Exhibit 5.4, since the campaign launched in 2013, TTHY television, radio, and print PSAs have collectively garnered more than 21.1 billion impressions, with 3.3 billion of those impressions occurring in 2022. Distribution of these PSAs has generated an estimated \$223.19 million in free airtime and ad space.

Exhibit 5.3: TTHY Typical Parent/Child Opportunity for Conversation



Exhibit 5.4: Return on Investment of the TTHY National Media Campaign

The TTHY earned media campaign has yielded a little more than a \$14 return for every dollar invested.⁶⁴ Key strategies of the earned media campaign were to (1) secure prominent campaign coverage in several major media outlets and (2) leverage regional relationships in communities through town hall meetings and public health observances (e.g., SAMHSA’s Prevention Day and National Prevention Week) to further educate parents and caregivers of children under 21 about why and how they should talk with their kids about the dangers of underage drinking and other substance use. The campaign also hosts community engagement meetings throughout the year to interact with local groups that are implementing the campaign locally and to learn and share specific details about their prevention efforts.

Since the campaign’s inception, initial investment costs for development and implementation have been a little more than \$1,250,000 per year, totaling \$18,014,611 over a 14-year period. Earned media outreach efforts have generated an estimated \$254.2 million in earned media placements on major networks and affiliates—with television, print, and radio PSAs having collectively garnered 21.1 billion impressions in more than 670 cities in 23 countries and all 50 states. Distribution is augmented by community engagement with groups, such as the Community Anti-Drug Coalitions of America and the National Prevention Network, which have direct access to parents and caregivers.

Other Campaign Materials

In addition to PSAs, the TTHY campaign develops informational, educational, and promotional materials that include discussion starter videos, resource guides/toolkits, brochures, fact sheets, posters, infographics, a product catalog, original soundtracks, a mobile app, a podcast, PowerPoint presentations, web banners, buttons, and a scannable quick response code for promoting the campaign on partner websites.

In 2022, the campaign began creating a discussion starter video and a supplemental guide centered around the same “community first” focus. The campaign also started developing two new brochures that focus on preventing underage drinking, with information and strategies for talking with children and teens about the risks and dangers of alcohol use (see Exhibit 5.5).

In addition, the campaign began creating three new fact sheets and updating three existing fact sheets with updated information. The three new fact sheets provide information and strategies for engaging kids in age-appropriate conversations about alcohol and other drugs, helping them say “no” to peer pressure, and using short, frequent conversations to make a big impression (see Exhibit 5.6). The three updated fact sheets describe how to tell if kids are drinking alcohol or using other drugs, what you can do to help them stay substance-free, and why your child might start using substances.

The campaign also developed a series of 10 digital banner ads to help promote the TTHY campaign mobile app and “What Parents Are Saying” podcast.

In 2022, the campaign also focused on improving the digital experience of the TTHY user community and developing the Screen4Success online screening tool.

⁶⁴“Definition of earned media: Earned media, also referred to as media relations, word-of-mouth, public relations, or publicity, is an unpaid brand mention or recognition, such as a news article, published interview, or online review by a third party. In addition, earned media can also refer to a byline or article written by someone associated with the brand that is published by a third party.” Burgess, C. (2015). *Content Marketing Tactics: Earned Media Pros, Cons, Examples & Best Practices*. Top Rank Marketing. <https://www.toprankblog.com/2015/12/content-marketing-earned-media>

Exhibit 5.5: New TTHY Brochures



Exhibit 5.6: New TTHY Fact Sheets



Mobile Application

The campaign continued to enhance the content and functionality of the TTHY mobile app. This app shows parents and caregivers how to turn everyday situations into opportunities to talk with their children about alcohol and other drugs and equips them with the necessary skills, confidence, and knowledge to start and continue these conversations as their kids get older. The app also helps prepare communities to implement and promote the TTHY campaign locally and helps educators engage student assistance professionals, school leaders, and families in supporting the needs of students who may be struggling with substance use, mental health, or school-related issues.

In particular, the campaign created three new pages where users can check out the latest campaign updates and resources, learn more about and access Screen4Success, and adjust their app settings (see Exhibit 5.7).

The campaign added a satisfaction survey at the bottom of the app pages in August 2022 (see Exhibit 5.8). All app users have the option to rate how much they like the app by selecting from one to five stars. After they make their selection, a new screen appears with the remaining survey questions. Next, users are asked to score on a scale from one to four their experience using the app, wherein one is poor and four is excellent. Metrics include ease of use, navigation, look and feel, number of features, usefulness of information, and how likely they are to recommend the app to a friend. After the scale questions, users are asked about what feature of the app they find most useful and how often they use that feature. There is then an open response box for users to put any features they think are missing from the app. The last question is a response box for users to put any general feedback they have. In 2022, there were 16 responses to the survey, with an average rating of 4.94 out of 5. Users wrote in, "Excellent app!" and "Great! Very user friendly!!" in the general feedback section.

Exhibit 5.7: New TTHY Mobile App Pages

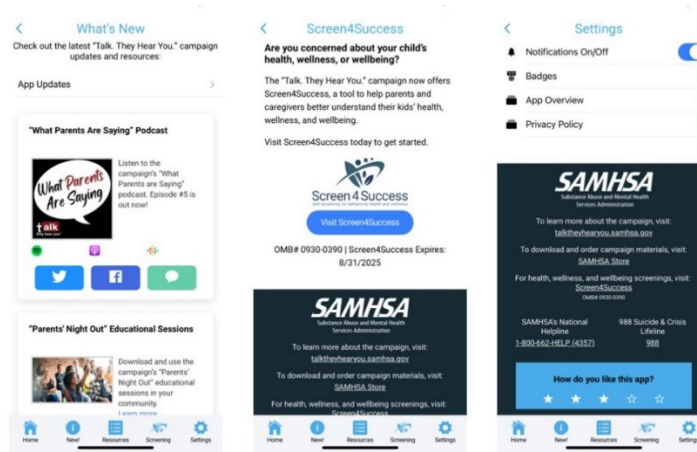
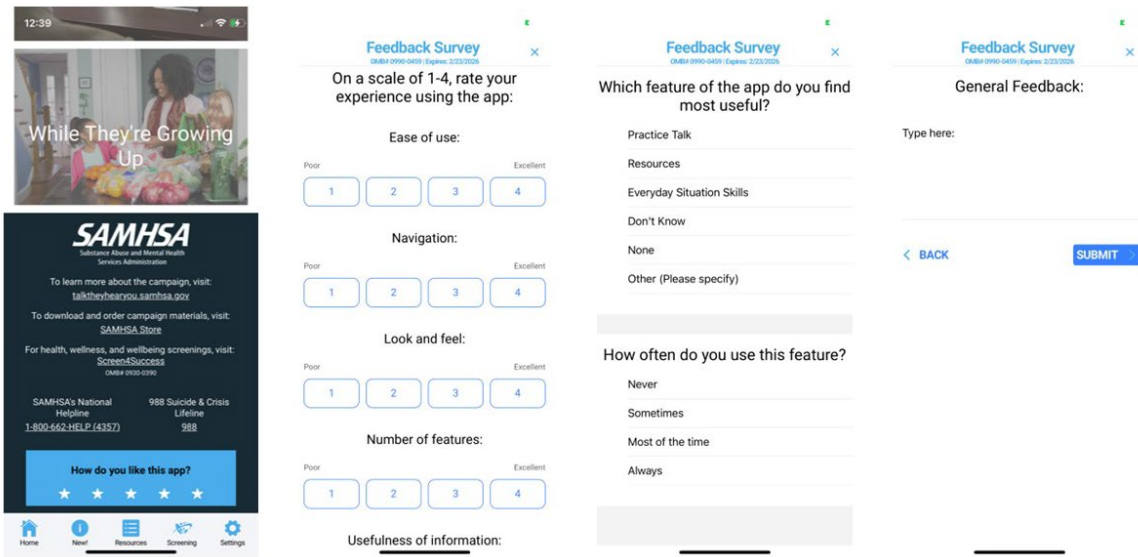


Exhibit 5.8: New TTHY Mobile App Satisfaction Survey



In 2022, the app was downloaded 854 times, contributing to a total of 1,390 downloads since its launch in 2021. In 2022, SAMHSA also posted 33 social media messages promoting the app. These social media posts garnered 693 engagements (i.e., reactions, comments, shares, and replies). Additionally, the TTHY mobile app page of the TTHY campaign website (<https://www.samhsa.gov/talk-they-hear-you/mobile-application>) received 9,172 pageviews in 2022.

“What Parents Are Saying” Podcast

The campaign also continued to release episodes of its “What Parents Are Saying—Prevention Wisdom, Authenticity, and Empowerment” podcast (see Exhibit 5.9). This podcast provides a platform for parents and caregivers to get informed, be prepared, and take action by having open and honest conversations with their kids about substance use and mental health. Hosted by Debbie Berndt, Director of Parent Movement 2.0 and a longtime campaign collaborator, the

podcast features discussions with parents, caregivers, and nationally recognized experts lending their unique perspectives and experiences on how to navigate conversations around these important topics.

The following seven podcast episodes were produced and released in 2022:

- Episode #2: Expert Chat — Teen Substance Use
- Episode #3: Spotlight on Opioids — Youth Prevention and Safety
- Episode #4: Parent Chat — Raising & Socializing Drug-Free Kids
- Episode #5: Expert Chat — “One Choice” Not to Use
- Episode #6: Parenting in Recovery
- Episode #7: Talk Now — Red Ribbon Week and Beyond
- Episode #8: Brain-Based Parenting — A Three-Part Series
 - Part 1: Building the Brain
 - Part 2: Protecting the Brain
 - Part 3: Tips & Tools

The podcast is available to stream free on SAMHSA’s YouTube channel and most of the prominent podcast platforms, including Spotify, Apple Podcasts, Google Podcasts, and Amazon Music/Audible. In 2022, the podcast was downloaded 1,428 times, with listeners in 670 cities in 24 countries.

“Parents’ Night Out” Educational Sessions

Third, the campaign also launched its comprehensive set of “Parents’ Night Out” (PNO) educational sessions in February 2022 (see Exhibit 5.10). PNO was created with feedback from the TTHY campaign’s community partners and refined through feedback from pilot presentations that occurred in early 2021. These sessions are intended to inform parents and caregivers about the realities of underage drinking and other drug use, prepare them to talk with their children about these issues, and motivate them to take action by having these necessary conversations. The PNO materials are intended to be used for community implementation of interactive, facilitator-led sessions that can be held either virtually or in person. Comprehensive toolkits are available for download and include all materials needed to implement either a single 1-hour PNO session or a series of three 1-hour program sessions. The PNO toolkits contain everything a school or community prevention coalition needs to plan, prepare, and host a session in its community.

Exhibit 5.9: TTHY Podcast Episode #8 Cover Graphic



Exhibit 5.10: TTHY “Parents’ Night Out” Landing Page



As of December 31, 2022, 642 campaign partners had submitted their contact information to the PNO landing page to access the digital toolkits in preparation to host sessions in their communities.

Screen4Success

The campaign received additional funding in 2021 to begin development of Screen4Success (S4S), a critical tool to help parents and caregivers better understand their kids' health, wellness, and wellbeing. S4S provides a quick and easy way to identify areas in which youth might benefit from more support and then access helpful resources to address those needs (see Exhibit 5.11). Through a series of screening questions on substance use, mental and physical health, general wellbeing, and family life, S4S helps concerned parents and caregivers identify whether their child has an elevated risk of potential problems in these areas. S4S is a free tool that exists as a stand-alone site and is promoted through a linked page in the TTHY mobile app, website, and other materials. S4S can be accessed at <https://screen4success.org>.

S4S soft launched in August 2022, followed by a pilot in September and October in which parent volunteers provided feedback on the S4S user experience. After the pilot testing, feedback was incorporated into S4S, and the hard launch took place in October 2022. In 2023, the S4S team plans to launch an organizational side of the website. School administrators, community behavioral health organization leaders, and other group users will be able to manage multiple participants and view a dashboard of their results through Microsoft Power BI.

Organization accounts will allow administrators to track referrals for their users and curate resource lists specific to their community. In addition, the national resources page of S4S will be enhanced to include filtering options for users. S4S will continually be improved to best meet the needs of users and organizations and to align with best practices in the prevention and intervention field.

Exhibit 5.11: TTHY Screen4Success Logo



Website

The campaign continued to use the TTHY website (see Exhibit 5.12) to provide a centralized resource for all campaign information and products. Materials and information are organized by key campaign audience: parents and caregivers, educators, or community members. Educational and informational campaign products provide facts and statistics on the problems and consequences of underage drinking and other substance use, risk factors, and warning signs. They also suggest actions that parents and caregivers, educators, and community members can take to help inform and protect children and strengthen their decision-making skills. A Spanish version of the TTHY website, launched in March 2016, can be accessed at <https://www.samhsa.gov/hable-ellos-escuchan>.

Parents and caregivers can download a sample family agreement form that enables families to pledge their commitment to avoiding underage drinking and other drug use. Other tools provide answers to children's frequently asked questions about alcohol and other drugs and present five primary conversational goals for parents and caregivers, emphasizing the importance of:

1. Indicating disapproval of underage drinking and other drug use;
2. Demonstrating concern for their child’s happiness and wellbeing;
3. Establishing themselves as a trustworthy source of information;
4. Showing their child that they are paying attention and will notice alcohol and other drug use; and
5. Building their child’s skills and strategies for avoiding underage drinking and other drug use.

Collective promotional activities from January 1, 2022, through December 31, 2022, helped drive 164,659 visits and 299,869 views to the TTHY website, which was a 36.07 percent increase in visits from 2021. These promotional activities also helped drive 2,025 visits and 6,615 views to the Spanish version of the TTHY website.

Health, Wellness, and Wellbeing Curriculum

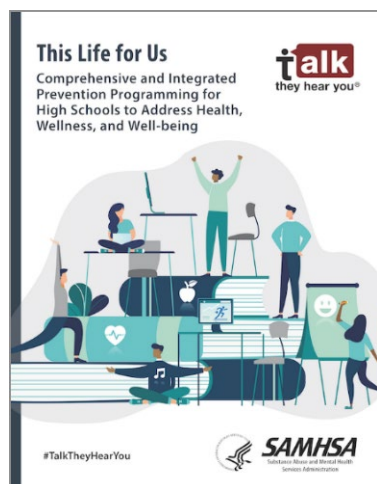
The campaign completed the first phase of development of its health, wellness, and wellbeing curriculum for high school students in 2022, titled “This Life for Us” (see Exhibit 5.13). Phase 1 focused on the development of the curriculum’s core components, the infrastructure package for whole-school planning, and the virtual training packages. Because of shifting campaign priorities, further development of this curriculum was put on hold. Phase 2 of development will most likely focus on production, review, and testing of the core components and development of the virtual training package for administrators and teachers.

Exhibit 5.12: TTHY Campaign Website Homepage

(<https://www.talktheyhearyou.samhsa.gov>)



**Exhibit 5.13
“This Life for Us”
Curriculum Cover**



Motivational Interviewing Guides

The campaign has been working with Capital Region Educational Service District (ESD) 113 in Washington state and the University of Washington School of Medicine and its Department of Psychiatry & Behavioral Sciences on the development of a pair of motivational interviewing (MI) trainings and guides—one set of materials for school administrators and student assistance professionals (see Exhibit 5.14) and the other for parents and caregivers (see Exhibit 5.15). These technical assistance materials will not only discuss the philosophy of MI, the research behind it, and its strategies but also provide practical examples of how to apply MI within relevant settings. In 2023, the campaign will continue to collaborate with ESD 113 and the University of Washington on the development of the MI products, followed by

pilot testing and then the finalization, distribution, and promotion of these materials.

Partner Engagement

To date, TTHY brand licenses have been assigned to 1,488 prospective and current campaign partners. The campaign works with these local, state, and national partners to support TTHY implementation and materials outreach and dissemination efforts across the United States. Partners include national stakeholder organizations, local community coalitions, and government agencies, as well as prevention, retail, healthcare, community, and school-based organizations.

Exhibit 5.14: TTHY MI for School Administrators and Student Assistance Professionals Guide Cover

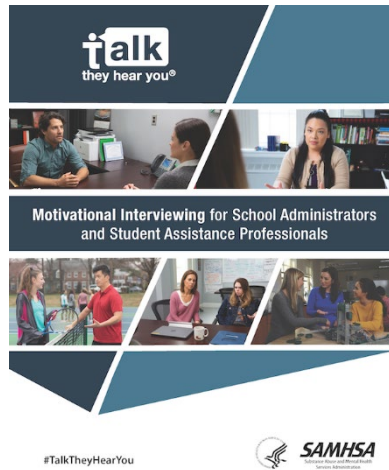
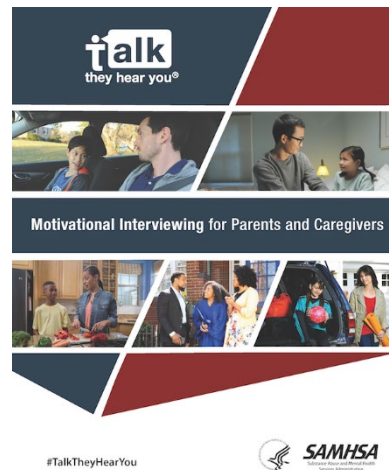


Exhibit 5.15: TTHY MI for Parents and Caregivers Guide Cover



TTHY campaign products, along with other sample campaign messaging and promotional materials, are created and provided to partners for display and distribution to parents and caregivers, educators and schools, and community members and organizations to ensure consistent outreach to these audiences.

The TTHY campaign sent 65 targeted emails with customizable social media content, newsletter blurbs, and blog posts to more than 3,500 contacts interested in receiving campaign updates in 2022. These emails focused on topics such as encouraging schools to share the campaign with parents and caregivers during Red Ribbon Week, the nation's oldest and largest drug prevention awareness campaign. The emails consistently exceeded the average email open and link click rates for government campaigns, with a 30.9 percent average open rate (compared with the 28.8 percent average for government campaigns) and a 5.3 percent average click rate (compared with 3.99 percent) (Email Marketing Statistics and Benchmarks by Industry, n.d.).

In 2022, the TTHY campaign hosted two virtual community engagement meetings to meet the needs expressed by community partners in the previous year. These meetings included a campaign feedback session—in which partners were encouraged to share their thoughts on the campaign website, the mobile app, available products, future products, and audience needs.

The campaign also collaborated with Capital Region ESD 113 and the Ohio School Wellness Initiative to create and launch a five-part monthly webinar series focused on student assistance

programs (SAPs). This series is built on the campaign’s “Student Assistance—A Guide for School Administrators” and related resources for student assistance professionals and programs. It also provided a platform for leading student assistant professionals and educators to highlight select SAP elements and to showcase states that are doing exceptional work in this area. The final three webinars in the series were hosted in January–March 2022 following the first two webinars, which took place in November–December 2021. Each webinar was about an hour long, and the full session recordings and PowerPoint slides were made available online afterward.

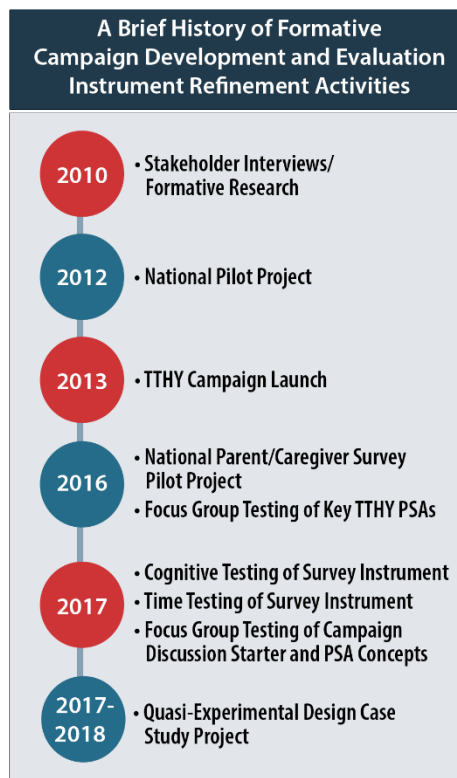
Beyond Formal Partnerships

There is evidence to suggest that TTHY mass media exposure extends well beyond the formal partnerships described above. For instance, to estimate the potential reach of TTHY across the U.S., the annual STOP Act survey was expanded in 2019 to include a set of five new questions. These survey items were designed to elicit data on the states’ use of media campaigns and, specifically, their knowledge of and use of the TTHY campaign. Findings from the 2022 survey suggested that the majority of the states (75 percent) had participated in some kind of federal media campaign aimed at preventing underage drinking, and 28 states reported having participated in the TTHY campaign directly. Of those, 4 in 5 states (82 percent) reported that their most frequent form of collaboration had been disseminating TTHY materials at the local level. Most states (66 percent) had engaged in this type of activity even without the benefit of procuring funds to do so.

Campaign Refinement and Evaluation

For TTHY, SAMHSA develops products that are relevant, are relatable, and resonate with the campaign’s target audiences. Thus, the STOP Act called for not only ongoing development, as detailed above, but also a comprehensive evaluation of the TTHY campaign and materials. ICCPUD oversees and guides the development of all campaign messaging and materials and assists in the development of all campaign evaluation tools and processes.

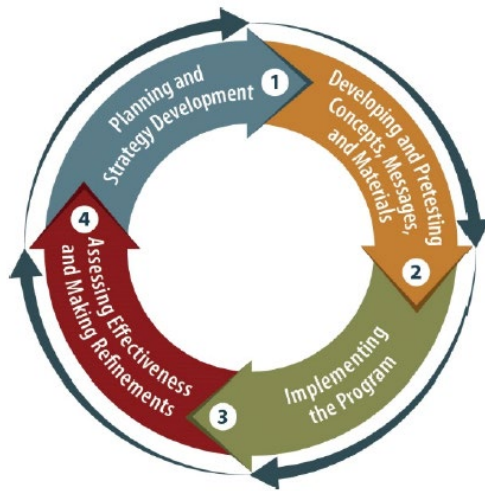
Evaluation activities are executed using gold standard procedures whenever possible. Specifically, best practices for implementing health communications campaigns call for the application of psychology and social marketing theory to guide how campaigns drive audiences to action with respect to influencing internal and external factors. Formative evaluation is also critical because it alerts campaign planners to audience preferences and motivators early in the planning process. Applying these findings to campaign materials ensures their relevance and appeal to the campaign’s target audiences.



During campaign product development, parents and caregivers, youth, and key stakeholders provide feedback on all aspects of concept and message development. For instance, prior to the production of each campaign PSA, several concepts are focus tested with parents and caregivers around the country to gain feedback on the concepts, memorability of the campaign, and appeal of broader campaign messages and products.

Typically, four focus groups are conducted for each PSA produced. Feedback received during these formative market testing sessions is incorporated into final campaign materials prior to the campaign’s launch. Thus, following the National Cancer Institute (NCI) model (see Exhibit 5.16), SAMHSA pretests messages, materials, and concepts during their development.

Exhibit 5.16: NCI Health Communications Model



Equally important to the evaluation methods applied during the campaign development and implementation stages are the process and summative stages of campaign evaluation. During summative evaluation, short-, intermediate-, and long-term campaign outcomes are carefully measured to help SAMHSA answer the question of how well the campaign is achieving its stated goals for change. Findings from this phase are leveraged to determine best practices and, where appropriate, to forge new directions for the communications initiative.

Although summative evaluation happens at the end of the evaluation cycle, it should not be viewed as an endpoint. Throughout the life of the campaign, SAMHSA continues to invigorate TTHY by incorporating findings from ongoing process evaluation

efforts. These evaluative checkpoints track the evolving needs of target audiences so that messages and materials retain their relevance and appeal among intended campaign targets.

Recent Past, Present, and Future TTHY Summative Evaluation Overview

Significant outcome evaluation efforts are underway to assess campaign efficacy and further the development and implementation of the TTHY campaign. Since completion of the *2020 RTC*, additional evaluation-related activities have either already been executed or begun.

As described earlier in this chapter, evaluation of the effectiveness of the TTHY media campaign relies on the establishment of a correlation between parent/caregiver exposure to campaign materials and a change in knowledge, attitudes, and behaviors (KABs) to effect the prevention of underage drinking. In accordance with the STOP Act mandate and with the goal of tracking the effectiveness of the TTHY campaign, SAMHSA has designed several evaluation activities that have recently been completed or are in various stages of implementation. The first was a quasi-experimental design case study project, fielded from October 2017 through June 2018 and completed in the summer of 2018, which further supplemented findings from the parent questionnaire and trends analysis described below. The replication of the case study effort began in August 2021 and will be discussed below. The second was a trends analysis, which was launched in the last quarter of 2018 and completed in August 2019. The third was a parent questionnaire that was launched in December 2019 and completed in January 2020.

The results of the 2021–2022 replication case study are detailed below. The case study followed a control group pretest–posttest model to assess the change in student and parent perceptions over time at both the control school and the intervention school. Findings from each wave inform campaign outcomes, goals, and program theory, as fully outlined in the official TTHY campaign logic model upon which the TTHY campaign is based (available upon request).

**Recent Past, Present, and Future TTHY
Summative Evaluation Overview**



*Moved from 2020-21 due to impact of COVID-19

Case Study Replication Project

The TTHY campaign case study was designed in 2017 to explore details of *whether* and, if so, *how* exposure to the campaign affects parent/caregiver and student attitudes and behaviors in a real-world environment. Using a case–control methodology, it aims to examine the relationship between campaign exposure and changes in parents’/caregivers’ attitudes and behavior toward underage drinking and to explore whether changes in parent/caregiver attitudes and/or behaviors spur changes in concurrent youth attitudes and/or behaviors surrounding underage drinking. The initial case study was executed in 2017–2018 and illustrated how a national media campaign such as TTHY can shift attitudes toward underage drinking among 12-to-18-year-olds and their parents/caregivers.

Within the case study, parents/caregivers and students from two middle schools are first surveyed about KABs about underage drinking. After the initial baseline survey, one school receives a 6-month intervention using TTHY messaging and materials, while the other school serves as a control site, receiving no intervention. Both schools (parents/caregivers and students) are surveyed again at the end of 6 months to determine whether the campaign influenced their opinions.

For the intervention school, the campaign’s messaging and materials are disseminated through television, radio, and print PSAs; discussion starter videos and supplemental guides; campaign brochures, fact sheets, and infographics; campaign guides and toolkits; social media; the campaign website; the campaign mobile app; partner networks; and direct outreach. These materials stress the importance of preemptive parent/caregiver–child communication about underage drinking start at a young age, as well as highlighting the risks and dangers of underage alcohol use, offering advice to parents/caregivers on how to prepare their children to deal with peer pressure, and encouraging parents/caregivers to build autonomy in their children so they make the right decisions.

The baseline pre- and post-exposure surveys assess *how* the campaign affected KABs among parents and caregivers. Results between school sites and between students and parents/caregivers are compared, controlling for demographic variables. Additionally, one-on-one in-depth

interviews are conducted with parents/caregivers and school personnel to obtain more detailed feedback on the campaign and its influences.

Timeline/COVID-19 updates:

- In 2020, the campaign continued preparations for the launch of its second forced-exposure case study evaluation at two U.S. middle schools. However, the significant challenges presented by COVID-19, including most schools needing to pivot to a distance/remote learning model for the 2020–2021 school year, jeopardized the possibility of conducting a successful and comparable replication of the original case study effort. As such, the TTHY case study recruitment and participation efforts were postponed until the next fiscal year (2021–2022). The package expires on July 31, 2023, and will not be renewed again.
- The replication case study launched on schedule in September 2021 and continued through the spring of 2022 for collection of posttest results. Following completion of the case study, the control school was provided TTHY campaign materials for future use.

The replication case study was completed with the participation of one middle school in Ohio as the campaign implementation site and one middle school in New York as the control site.

Case Study School Highlights

- Howland Middle School in Warren, OH, participated in the 2021–2022 case study as the intervention school. The school was sent a variety of TTHY messaging and materials, including banners and window clings, to promote the campaign to parents/caregivers, students, and the community. The school also coordinated distribution of TTHY materials for parents/caregivers into student backpacks.
- Jamesville-Dewitt Middle School in Jamesville, NY, participated in the 2021–2022 case study as the control school.
- These schools were selected because their geographic areas had previously no exposure to TTHY campaign PSAs. To further narrow the search, schools were matched on demographic factors, and those with other drug-free programs were removed from the selection process. From this list, schools were sorted on the basis of the percentage of students receiving free and reduced-price lunch. Students from grades 6 through 8 were selected for participation.
- Invitees to participate:
 - Howland Middle School:
 - 495 parents/caregivers
 - 557 students
 - Jamesville-Dewitt Middle School:
 - 501 parents/caregivers
 - 562 students

Case Study Results

All of the parents/caregivers and students at both middle schools who consented to participate received either an electronic or a paper copy of the survey to complete.

Though results were unable to be tested for statistical significance because of the limited number of responses, some findings of note highlight the potential impact of TTHY on the intervention

school (Howland Middle School) participants (both parents and students), who received campaign materials throughout the school year (see Exhibit 5.17). Namely:

Students

- During the pretest, of the 8 percent of Howland students who reported having drunk, 14 percent reported having consumed 10 or more drinks. The posttest saw a drop of 10 percentage points, to 4 percent of Howland students who had drunk 10 or more drinks.
- Slightly more Howland students during the posttest (89 percent) than during the pretest (87 percent) reported they “disapproved” or “strongly disapproved” of having one or two alcoholic drinks nearly every day and having five or more once or twice each weekend.
- The percentage of Howland students who reported that their parents had discussed the consequences of drinking with them decreased from the pretest to the posttest. Specifically, the percentage of students whose parents had mentioned *serious consequences of drinking* decreased from 28 percent to 25 percent; however, the percentage of students who reported that their parents had said *they can help them figure out ways to avoid drinking* increased, from 8 percent to 10 percent. These themes are present in the TTHY materials that were distributed to the parents as part of the case study.

Parents

- At pretest, Howland parents reported that illicit drugs were the most concerning substance, followed by tobacco and alcohol.
 - After the implementation of the TTHY campaign and its materials, there was a switch, with underage drinking being parents’ utmost concern, followed by tobacco use and illicit drug use.
- Parents were asked about their level of confidence in their ability to influence at least one of their children’s decisions regarding underage drinking. There was an increase in Howland parents’ confidence from pretest to posttest, from 84 percent to 88 percent.
- Parents reported some familiarity with the TTHY campaign prior to the case study (12 percent), and at the time of the posttest, 45 percent of Howland parents said they were familiar with the campaign.

Exhibit 5.17: Case Study Response Rates

Howland Response Rates (Intervention School)		Jamesville-Dewitt Response Rates (Control School)	
Parent Survey			
Parents in the sample frame: <i>n</i> =495		Parents in the sample frame: <i>n</i> =501	
Pretest completes: <i>n</i> =168 (34%)	Posttest completes: <i>n</i> =42 (8.5%)	Pretest completes: <i>n</i> =109 (21.8%)	Posttest completes: <i>n</i> =65 (13%)
Student Survey			
Students in the sample frame: <i>n</i> =557		Students in the sample frame: <i>n</i> =562	
Pretest completes: <i>n</i> =497 (83.1%)	Posttest completes: <i>n</i> =344 (61.8%)	Pretest completes: <i>n</i> =492 (87.5%)	Posttest completes: <i>n</i> =309 (55%)

Case Study Conclusion

There were not enough responses to perform statistical analysis; however, the posttest responses from the intervention school highlighted the TTHY campaign’s impact on the students and parents through showing shifts in attitudes about underage drinking and other substance use and, for the parents, increased confidence in their ability to talk with their teens about underage drinking and in believing that they would listen. Following the case study, TTHY materials were shared with the control school to supplement their curriculum for future school years.

Youth Feasibility Study

To look at the potential of expanding prevention efforts to a youth-targeted focus, the campaign also conducted a feasibility study of youth drug, alcohol, and tobacco prevention programs in 2021–2022. This process involved a review of current literature on youth programs, including those with bystander interventions and youth-led programs. The study (available upon request) went through ICCPUD review before finalization.

Conclusions

Supporting the development and justification of the TTHY campaign involves a complex interplay of formative, process, and outcomes evaluation efforts. Evaluation findings to date suggest that the campaign has met many markers for early success, including having materials that strongly resonate with intended TTHY audiences. The growing body of evidence presented in this report supports that campaign messages serve as cues to action that increase both the intentions and the rates of conversations between parents/caregivers and their children about underage drinking and other substance use.

In meeting the requirements of the STOP Act, SAMHSA, under the leadership of ICCPUD, will continue to assess program efficacy over the next year. SAMHSA will persist in its work to estimate overall campaign impact, as well as ensuring that the TTHY campaign evolves in ways that resonate with its primary target audiences and meets the needs of the U.S. population at large.

APPENDIX A: ICCPUD MEMBERS⁶⁵

⁶⁵ As specified in the STOP Act, the ICCPUD is composed of 16 federal officials, some of whom have delegated participation to specific agencies and/or staff. In 2022, the Assistant Secretary added the Director of the Agency for Healthcare Research and Quality as a Principal.

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U.S. Department of Defense

Xavier Becerra

Secretary
U.S. Department of Health and Human
Services

Pete Buttigieg

Secretary
U.S. Department of Transportation

Miguel Cardona

Secretary
U.S. Department of Education

Jeff Hild

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Associate Administrator
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Administration

Miriam Delphin-Rittmon

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Substance Use
Substance Abuse and Mental Health Services
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Merrick Garland

Attorney General
U.S. Department of Justice

Rahul Gupta, MD

Director
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Chyrl Jones

Deputy Administrator
Office of Juvenile Justice and Delinquency
Prevention
U.S. Department of Justice

Lina Khan

Chair
Federal Trade Commission

George Koob

Director
National Institute on Alcohol Abuse and
Alcoholism
National Institutes of Health
U.S. Department of Health and Human
Services

Vivek Murthy

Surgeon General
U.S. Department of Health and Human
Services

Robert Valdez

Director
Administration for Healthcare Research and
Quality
U.S. Department of Health and Human
Services

Nora D. Volkow

Director
National Institute on Drug Abuse
National Institutes of Health
U.S. Department of Health and Human
Services

Mandy Cohen

Director
Centers for Disease Control and Prevention
U.S. Department of Health and Human
Services

Janet Yellen

Secretary
U.S. Department of the Treasury

APPENDIX B: FEDERAL AGENCIES INVOLVED IN PREVENTING AND REDUCING UNDERAGE DRINKING

Multiple federal agencies are involved in preventing and reducing underage drinking. The 16 federal officials who make up the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD; see Appendix A) either lead or have designated responsibility in the agencies listed below.⁶⁶ Details for each agency and a list of relevant programs are provided in this appendix.

- **U.S. Department of Health and Human Services (HHS)**
 - **Administration for Children and Families (ACF):** ACF is responsible for federal programs that promote the economic and social well-being of families, children, individuals, and communities. ACF’s mission is to foster health and well-being by providing federal leadership, partnership, and resources for the compassionate and effective delivery of human services. Many of these programs strengthen protective factors and reduce risk factors associated with underage drinking. *Website:* <https://www.acf.hhs.gov>.
 - **Centers for Disease Control and Prevention (CDC):** CDC’s mission is to work 24/7 to protect America from health, safety, and security threats, both foreign and in the United States. Consistent with that mission, CDC works to prevent excessive alcohol use and its impact in states and communities through public health surveillance, partnerships, and applied research for translation into public health practice. CDC also works to prevent alcohol-related harms, including motor vehicle crash injuries, various other injuries and violence, chronic diseases (e.g., cancer), sexually transmitted infections, and fetal alcohol spectrum disorders. *Website:* <https://www.cdc.gov/alcohol>.
 - **Indian Health Service (IHS):** IHS is responsible for providing federal health services to American Indians and Alaska Natives. IHS is the principal federal healthcare provider and health advocate for American Indians and Alaska Natives, and its goal is to raise their health status to the highest possible level. IHS provides a comprehensive health service delivery system for approximately 2.6 million American Indians and Alaska Natives who belong to 574 federally recognized tribes through a network of over 600 hospitals, clinics, and health stations on or near Indian reservations. The IHS Division of Behavioral Health is responsible for the Alcohol and Substance Abuse Branch (ASAB). The goals of the ASAB are to improve the quality of and access to substance use disorders treatment for American Indian and Alaska Native persons and communities; to assist Tribes in the planning, development, and implementation of culturally informed programming; and to transition from direct service only to primary direct service support. *Website:* <https://www.ihs.gov/asap>.

⁶⁶ As specified in the Sober Truth on Preventing Underage Drinking Act (STOP Act), the ICCPUD is composed of 16 federal officials, some of whom have delegated participation to specific agencies and/or staff. While not enumerated in the (STOP) legislation, other agencies have chosen to participate.

- **National Institutes of Health (NIH)**
 - **National Institute on Alcohol Abuse and Alcoholism (NIAAA):** NIAAA’s mission is to generate and disseminate fundamental knowledge about the effects of alcohol on health and well-being and apply that knowledge to improve diagnosis, prevention, and treatment of alcohol-related problems, including alcohol use disorder, across the lifespan. NIAAA is the largest funder of alcohol research in the world. *Website:* <https://www.niaaa.nih.gov>.
 - **National Institute on Drug Abuse (NIDA):** NIDA’s mission is to “advance science on the causes and consequences of drug use and addiction and to apply that knowledge to improve individual and public health” (<https://nida.nih.gov/about-nida>). NIDA supports most of the world’s research on the health aspects of drug use and addiction and carries out programs that ensure rapid dissemination of research to inform policy and improve practice. *Website:* <https://www.drugabuse.gov>.
- **Office of the Assistant Secretary for Health (OASH)**
 - **Office of Population Affairs (OPA):** OPA promotes health across the reproductive lifespan through innovative, evidence-based adolescent health and family planning programs, services, strategic partnerships, evaluation, and research. OPA administers the [Title X Family Planning](#) program, the [Teen Pregnancy Prevention](#) program, and the [Embryo Adoption Awareness](#) program. OPA advises the Secretary and the Assistant Secretary for Health on a wide range of topics, including adolescent health, family planning, sterilization, and other population issues. *Website:* <https://opa.hhs.gov>.
 - **Office of the Surgeon General (OSG):** The Surgeon General, the nation’s chief health educator, provides Americans with the best available scientific information on how to improve their health and reduce the risk of illness and injury. OSG oversees the more than 6,100-member Commissioned Corps of the U.S. Public Health Service and assists the Surgeon General with other duties. *Website:* <https://www.hhs.gov/surgeongeneral/index.html>.
- **Office of the Assistant Secretary for Planning and Evaluation (ASPE):** ASPE is the principal advisor to the HHS Secretary on policy development and is responsible for major activities in policy coordination, legislation development, strategic planning, and policy research, evaluation, and economic analysis. The Division of Behavioral Health and Intellectual Disabilities Policy focuses on financing, access/delivery, organization, and quality of services and supports for individuals with severe and persistent mental illnesses or severe addictions and individuals with intellectual disabilities. Topics of interest include coverage and payment issues in Medicaid, Medicare, and private insurance; quality and consumer protection issues; programs and policies of the Centers for Medicare & Medicaid Services (CMS), Substance Abuse and Mental Health Services Administration (SAMHSA), and the Health Resources and Services Administration (HRSA), as they affect individuals with mental disorders and substance use disorders (SUDs); and prevention of mental health conditions and

substance misuse, including prevention of underage drinking. In addition, the Division Director of ASPE's Children and Youth Policy Office is the HHS Secretary's designee to chair the Interagency Working Group on Youth Programs, which was established via Executive Order in 2008 to promote enhanced federal collaboration to improve outcomes for youth. *Website:* <https://aspe.hhs.gov>.

- **SAMHSA:** SAMHSA's mission is to lead public health and service delivery efforts that promote mental health, prevent substance misuse, and provide treatments and supports to foster recovery while ensuring equitable access and better outcomes. SAMHSA leads the nation in providing prevention, treatment, and recovery support services to communities and works toward underage drinking prevention by supporting state and community efforts, promoting the use of evidence-based practices (EBPs), educating the public, and collaborating with other agencies and interested parties.

Website: <https://www.samhsa.gov>.

- **Health Resources and Services Administration (HRSA):** HRSA provides equitable health care to the nation's highest-need communities. The agency's programs support people with low incomes, people living with HIV, pregnant people, children, parents, rural communities, transplant patients, and the health workforce. Many of HRSA's programs develop behavioral health capacity in communities which aids in increasing access to prevention, treatment, and recovery services.

Website: <https://www.hrsa.gov/>

- **Department of Defense (DoD):** DoD coordinates and oversees government activities relating directly to national security and military affairs. Its alcohol-specific role involves preventing and reducing alcohol consumption by underage military personnel and improving the health of service members' families by strengthening protective factors and reducing risk factors in underage alcohol consumption.

Website: <https://www.defense.gov>.

- **Department of Education (ED)/Office of Safe and Healthy Students (OSHS):** OSHS administers, coordinates, and recommends policy to improve the effectiveness of programs providing financial assistance for drug and violence prevention activities and for activities that promote student health and well-being in elementary and secondary schools and institutions of higher education. Activities may be carried out by state and local educational agencies or other public or private non-profit organizations. OSHS supports programs that prevent violence in and around schools; prevent illegal use of alcohol, tobacco, and drugs; engage parents and communities; and coordinate with related federal, state, school, and community efforts to foster safe learning environments that support student academic achievement.

Website: <https://www2.ed.gov/about/offices/list/oese/oshs/index.html>.

- **Department of Homeland Security/U.S. Coast Guard (USCG):** USCG's global mission is to protect the public, the environment, and U.S. economic interests—in the nation's ports and waterways, along the coast, in international waters, or in any maritime region as required—supporting national security. The USCG's workforce includes young people ages 17–20. *Website:* <https://www.uscg.mil>.

- **Department of Justice/Office of Juvenile Justice and Delinquency Prevention (OJJDP):** OJJDP provides national leadership, coordination, and resources to prevent and respond to juvenile delinquency and victimization. OJJDP supports states and communities in their efforts to develop and implement effective, coordinated prevention and intervention programs and to improve the juvenile justice system’s ability to protect public safety, hold offenders accountable, and provide treatment and rehabilitation services tailored to the needs of juveniles and their families. OJJDP’s central underage drinking prevention initiative, Enforcing Underage Drinking Laws (EUDL), was a nationwide state- and community-based multidisciplinary effort that sought to prevent access to and consumption of alcohol by those under age 21, with a special emphasis on enforcement of underage drinking laws and implementation programs that use best and most promising practices. The breadth of focus changed significantly in fiscal year (FY) 2014 because of a reduction in funding for the EUDL initiative. In FY 2014, EUDL funding supported underage drinking prevention activity led by Healing to Wellness Courts in five selected tribes. By FY 2015, all funding to support EUDL efforts was discontinued. *Website:* <https://www.ojjdp.gov>.
- **Department of Transportation/National Highway Traffic Safety Administration (NHTSA):** NHTSA’s mission is to save lives, prevent injuries, and reduce traffic-related health care and other economic costs. NHTSA develops, promotes, and implements effective educational, engineering, and enforcement programs to reduce traffic crashes and resulting injuries and fatalities and reduce economic costs associated with traffic crashes, including underage drinking, and driving crashes. *Website:* <https://www.nhtsa.gov>.
- **Department of the Treasury Alcohol and Tobacco Tax and Trade Bureau (TTB):** TTB’s mission is to collect the taxes on alcohol, tobacco, firearms, and ammunition; protect the consumer by ensuring the integrity of alcohol products; and prevent unfair and unlawful market activity for alcohol and tobacco products. *Website:* <https://www.ttb.gov>.
- **Federal Trade Commission (FTC):** FTC has a dual mission to protect consumers and promote competition, with responsibilities under more than 75 laws. As the enforcer of federal truth-in-advertising laws, it monitors alcohol advertising for deceptive practices, brings law enforcement actions in appropriate cases, and promotes alcohol industry compliance with self-regulatory commitments. It also has an alcohol consumer education program. *Websites:* <https://www.ftc.gov>; <https://DontServeTeens.gov>.
- **Office of National Drug Control Policy (ONDCP):** A component of the Executive Office of the President, ONDCP works to reduce drug use and its consequences by leading and coordinating the development, implementation, and assessment of U.S. drug policy. The ONDCP Director is the principal advisor to the President on drug control issues. ONDCP coordinates the drug control activities and related funding of 16 federal departments and agencies. ONDCP also produces the *National Drug Control Strategy*, which outlines administration efforts for the nation to reduce illicit drug use, manufacturing, and trafficking; drug-related crime and violence; and drug-related health consequences. *Website:* <https://www.whitehouse.gov/ondcp>.

Agency-specific initiatives and activities are described in the following paragraphs.

Inventory of Federal Programs for Underage Drinking by Agency

As required by the STOP Act, this section of the *2022 Report to Congress on the Prevention and Reduction of Underage Drinking (RTC)* summarizes major initiatives underway throughout the federal government to prevent and reduce underage alcohol use and related harms in the United States.

ICCPUD

As detailed in Chapter 2 of the *RTC*, ICCPUD was created in 2004 when Congress directed the Secretary of HHS to establish ICCPUD to coordinate all federal agency activities related to the problem of underage drinking. ICCPUD's role was formalized in the 2006 STOP Act, which was reauthorized in 2022 as part of the Consolidated Appropriations Act, 2023. SAMHSA was directed by the HHS Secretary to convene ICCPUD and serve as the lead agency. As specified in the STOP Act, ICCPUD was initially composed of 16 federal officials, some of whom have delegated participation to specific agencies and/or staff. The Director of the Agency for Healthcare Research and Quality was added as a principal in 2022 at the direction of the Assistant Secretary.

ICCPUD's vision is to provide national leadership in federal policy and programming to support state and community activities that prevent and reduce underage drinking.

The mission of ICCPUD is twofold:

1. To facilitate collaboration among the federal ICCPUD member agencies, state and local governments, private and public national organizations, and agencies with responsibility for the health, safety, and well-being of America's children and youth.
2. To provide resources and information on underage drinking prevention, intervention, treatment, enforcement, and research.

Members of ICCPUD and other federal partners commit to the following principles:

- Speak with a common voice on the prevalence, risks, and consequences of underage drinking.
- Increase public awareness about underage drinking and its consequences.
- Reinforce effective EBPs as part of a federally coordinated approach to prevent and reduce underage drinking.

Each ICCPUD agency contributes their leadership and vision to developing a national commitment to prevent and reduce underage alcohol use. Every participating agency also has a specific role to play in keeping with its mission and mandate.

ICCPUD consults and collaborates with all appropriate and interested parties, including state and local governments, public health research and interest groups, foundations, community-based organizations and coalitions, and alcohol beverage industry trade associations and companies.

Recent Activities

- ICCPUD agency staff representatives held monthly conference calls to coordinate efforts.
- The ICCPUD Data Committee met to review federal data and related text in Chapters 1, 2, 3, and 4 of the *2020 RTC*.

- The STOP Act Governors’ Survey on prevention activities, enforcement, and expenditures was administered to all 50 states and the District of Columbia with a 100 percent response rate.
- ICCPUD continued community engagement efforts, including postcards, posters, presentations, and an enhanced presence on the ICCPUD portal, <https://www.stopalcoholabuse.gov>.
- ICCPUD initiated and distributed 18 (out of 24) of the “Learn the Law” emails series, highlighting different policies designed to prevent underage drinking, and sent to a broad range of stakeholders at the federal, state, and local levels.

HHS/ACF/Family and Youth Services Bureau (FYSB)

Activities Related to Underage Drinking

The Family and Youth Services Bureau (FYSB) supports organizations that work to promote youth well-being, prevent and end youth homelessness and support a holistic adolescent approach by fostering collaborative partnerships across communities; leading in partnership with youth and young adults; promoting diversity, equity, inclusion and accessibility; and supporting data-driven practices. FYSB is comprised of three divisions, which includes two individual program divisions; the Division of Runaway and Homeless Youth, which implements the Runaway and Homeless Youth Programs, and the Division of Positive Youth Development, which implements the Adolescent Pregnancy Prevention Programs, and one program support division; the Division of Data, Performance, and Policy.

Runaway and Homeless Youth Program: FYSB provides funding to local communities to support young people, particularly runaway and homeless youth, and their families. These grants help organizations provide short- and long-term shelter and comprehensive support services, street outreach, transitional living programs, and other services to youth in three areas.

Website: <https://www.acf.hhs.gov/fysb/programs/runaway-homeless-youth>.

- *Basic Center Program (BCP)* grants help community-based organizations meet the immediate needs of runaway and homeless youth under age 18 with temporary shelter for up to 21 days, counseling, family reunification/connection, crisis intervention, and aftercare services. BCPs provide youth with an opportunity to receive individual and family counseling, education, employment assistance, and mental and physical health services.
- *Street Outreach Program* funding supports street-based services with runaway, homeless, and street youth 21 years and younger in areas that increase the risk of sexual abuse, sexual exploitation, and other forms of victimization, with the goal being to help young people get off the streets and into safe settings.
- *The Transitional Living and Maternity Group Home (MGH) Programs* support community-based, adult-supervised group homes, host homes, supervised apartments, and supportive services to older homeless youth, ages 16 to under 22 who cannot safely live with their families. For the MGH program, the funding provides shelter and services to meet the needs of pregnant and parenting homeless youth to promote long-term economic independence to ensure the well-being of the youth and their young families.

Characteristics of pre-college sexual violence victimization and associations with sexual violence revictimization during college: A cluster-randomized trial of a college health center-based alcohol and sexual violence intervention (GIFTSS). The Health Resource Center on

Domestic Violence partnered with the University of Pittsburgh on a campus health center study to test an intervention to identify and prevent the intersection of alcohol use and domestic and sexual violence on college campuses through a campus health center intervention.

Website: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6761049/>.

- Data were collected at 28 college campuses from surveys from nearly 2,300 students. The study contains over 95 in depth qualitative interviews (with some focus on students with disability and sexual/gender minority students), 750 medical chart reviews, and environmental scans spanning several service areas (such as alcohol, disability, and lesbian/gay/bisexual/transgender/queer/intersex).
- Published manuscripts include a protocol paper, experiences of re-victimization among college health students, study intervention outcomes, and experiences of drinking and sexual violence among students with disability.
- An online learning collaborative for staff supporting students with disabilities identified best practices in reaching and supporting survivors with disabilities as well as specific harm reduction and secondary prevention strategies.
- Main focus: Prevention (P) and research (R).

Adolescent Pregnancy Prevention Program (APP): The APP program administers two main funding programs, Personal Responsibility Education Program (PREP) and Sexual Risk Avoidance Education (SRAE), which are designed to help youth reduce and avoid the risks associated with adolescent sex and other risky behaviors.

- PREP programs are designed to prevent pregnancy and the spread of sexually transmitted diseases and HIV/AIDS among adolescents. PREP supports state, tribal, and community efforts to teach abstinence and contraceptive education. All PREP programs are required to address at least three of the six adulthood preparation subjects:
 - Healthy relationships,
 - Healthy life skills,
 - Adolescent development,
 - Parent-child communication,
 - Financial literacy, and
 - Educational and career success.
- SRAE programs provide education to youth ages 10–19 on sexual risk avoidance that teaches youth to voluntarily refrain from sexual activity. that normalizes the optimal health behavior of avoiding non-marital sexual activity. SRAE programs also teach the benefits associated with self-regulation, success sequencing for poverty prevention, healthy relationships, goal setting, and resisting sexual coercion, dating violence, and other youth risk behaviors like underage drinking or illicit drug use without normalizing sexual activity among youth.
- Both PREP and SRAE provide research and evaluation resources to support program evaluation efforts of APP grantees.
- *Website:* <https://www.acf.hhs.gov/fysb/help>.

HHS/CDC

Activities Specific to Underage Drinking

Drug-Free Communities (DFC): The DFC Program, created by the Drug-Free Communities Act of 1997, is a program of ONDCP administered by CDC under an interagency agreement. (See ONDCP section for additional information.) The program:

- Provides grants to community coalitions to strengthen the infrastructure among local partners to create and sustain a reduction in local youth substance use.
- Has two goals: (1) To establish and strengthen collaboration among communities, public, and private non-profit agencies, as well as federal, state, local, and tribal governments; and (2) to reduce substance misuse among youth by addressing the risk and protective factors at the community level.
- Recipients need to meet the statutory eligibility requirements as outlined in the DFC Act, including partnering with 12 sectors (see ONDCP section for required sectors).
- Grants are for \$125,000 for up to 5 years. Recipients can apply for another 5 years of funding, for a total of 10 years of funding at the community level.

Getting Candid: Framing the Conversation Around Youth Substance Use: This CDC-funded prevention message guide and toolkit equips youth-serving providers and organizations with the tools and resources necessary to support meaningful prevention messaging. The toolkit includes messaging on youth substance use prevention, including prevention of underage drinking, tip sheets, social media graphics and shareables, videos, webinars, interactive worksheets, and an educational course. *Website:* <https://www.thenationalcouncil.org/resources/getting-candid-framing-the-conversation-around-youth-substance-use-prevention/>.

Activities Related to Underage Drinking

Alcohol-Related Disease Impact (ARDI): ARDI is an online application that provides national and state estimates of average annual deaths and years of potential life lost (YPLL) due to excessive alcohol use. *Website:* www.cdc.gov/ardi.

- ARDI estimates the proportion of deaths due to any of 58 acute and chronic conditions that are alcohol attributable.
- ARDI users can create custom data sets to generate local estimates of deaths and YPLL due to excessive alcohol use.
- Users can also estimate alcohol-attributable deaths and YPLL for youth under age 21.
- Main focus: Prevention (P)

Promoting Population Health through Increased Capacity in Alcohol Epidemiology & the Prevention of Excessive Alcohol Use: The 5-year funding cycle (September 2021–September 2025) builds state capacity in alcohol epidemiology and provides the tools and information needed to perform core public health functions related to excessive alcohol use (including underage drinking) prevention in states. This increased epidemiologic capacity will help build the public health infrastructure that is needed to reduce excessive alcohol use—a leading preventable cause of death in the United States. The Notice of Funding Opportunity includes an additional component for the delivery of expert technical assistance and training on population-level evidence-based strategies for preventing excessive alcohol use (including underage drinking) and related harms in states and communities, such as those recommended by the Community Preventive Services Task Force.

Behavioral Risk Factor Surveillance System (BRFSS): BRFSS is a state-based, random-digit-dial landline and cellular telephone survey of non-institutionalized, civilian U.S. adults age 18 years and older that is conducted monthly in all states, the District of Columbia, and three U.S. territories. BRFSS collects data on leading health conditions and risk behaviors, including binge drinking and alcohol-impaired driving. *Website:* <https://www.cdc.gov/brfss>.

- BRFSS includes questions on current drinking, number of drinking days, average number of drinks per drinking days, frequency of binge drinking (\geq four drinks per occasion for women; \geq five per occasion for men), the largest number of drinks consumed on a drinking occasion, and the number of alcohol-impaired driving episodes during the past 30 days.
 - A [2021 publication](#) written by CDC researchers using BRFSS data revealed that in 2018, an estimated 1.5 percent of adults aged 18–20 years drove while impaired by alcohol (AID) during the preceding 30 days. The prevalence of AID among males in this age group was more than double the prevalence among females. An estimated 14,477,319 AID episodes occurred among adults aged 18–20 years in 2018.
- States can include an optional, seven-question binge drinking module to obtain more detailed information on binge drinking behavior, including beverage-specific alcohol consumption among people who binge drink and driving after binge drinking.
- States can also include an optional module to assess alcohol screening and brief intervention (ASBI) in clinical settings.

Youth Risk Behavior Surveillance System (YRBSS): YRBSS monitors priority health risk behaviors through a biennial, national school-based survey of 9th- through 12th-grade students conducted by CDC and state and local surveys of 9th- through 12th-grade students conducted by education and health agencies. Some states and school districts also conduct surveys among students in grades 6–8, although not all of the same behaviors are assessed among these middle school students. *Website:* <https://www.cdc.gov/healthyyouth/data/yrbs/index.htm>.

- YRBSS includes standard questions about current drinking, frequency of binge drinking (\geq four drinks per occasion for female students; \geq five per occasion for male students), the largest number of drinks consumed on a drinking occasion, age of first drink of alcohol, and usual source of alcohol.
- The survey allows state and local agencies to include additional alcohol questions on their questionnaires, such as type of beverage usually consumed and usual location of alcohol consumption.
- YRBSS assesses driving after drinking alcohol, riding with a driver who had been drinking, and other health risk behaviors (including sexual activity and interpersonal violence) that can be examined in relation to alcohol consumption.
 - A [2020 Morbidity and Mortality Weekly Report article](#) written by CDC researchers using national YRBS data indicated that in 2019, 16.7 percent of high school students rode with a driver who had been drinking alcohol during the past 30 days. Of the approximately 59.9 percent of students who drove, 5.4 percent drove after drinking alcohol during the past 30 days. Riding with a driver who had been drinking alcohol was higher among Hispanic students and students with lower grades. Driving after drinking alcohol was higher among students who were older, male, Hispanic, or had lower grades.

- A [2021 publication](#) written by CDC researchers using national YRBS data from 2015 and 2017 indicated that riding with a driver who had been drinking alcohol and driving after drinking alcohol among U.S. high school students did not differ significantly by census region or metropolitan status.
- A 2020 publication using 2019 YRBSS data (<https://www.cdc.gov/mmwr/volumes/69/su/pdfs/su6901a5-H.pdf>) found that, although male high school students historically had higher rates of underage drinking, in 2019, female high school students were more likely to drink alcohol and binge drink than male students.
- Main focus: Prevention (P)

Adolescent Behaviors and Experiences Survey (ABES): The ABES is a one-time online survey conducted between January and June of 2021 to assess behaviors and experiences among a nationally representative sample of high school students during the Coronavirus disease 2019 (COVID-19) pandemic. *Website:* <https://www.cdc.gov/healthyyouth/data/abes.htm>.

- The ABES questionnaire included the same standard questions about alcohol use that were asked on the 2021 national YRBS (see above), as well as a question assessing whether students drank more alcohol during the COVID-19 pandemic than before it started.
- A 2022 publication reporting ABES results found that approximately one in three students who ever used alcohol reported using it more during the pandemic.
- Main focus: Prevention (P)

Pregnancy Risk Assessment Monitoring System (PRAMS): Developed in 1987, the PRAMS surveillance system is a standardized data collection system consisting of a population-based mail and telephone survey of women who have recently delivered a live-born infant. *Website:* <https://www.cdc.gov/prams>.

- PRAMS collects jurisdiction-specific data on maternal behaviors, attitudes, and experiences before, during, and shortly after pregnancy. It currently covers about 81 percent of all U.S. births and includes 50 sites.
- The survey includes questions on alcohol consumption (including binge drinking) during the preconception period and during pregnancy, along with other factors related to maternal and child health.
- PRAMS data are used by researchers to investigate emerging issues in the field of reproductive health and by state, territory, and local governments to plan and review programs and policies aimed at improving the health of mothers and infants by reducing adverse outcomes.
 - A 2021 publication by CDC researchers used 2015–2017 PRAMS data in five states (Alaska, New Mexico, Oklahoma, South Dakota, and Washington) to assess pre-pregnancy and prenatal alcohol use among American Indian and Alaska Native and Non-Hispanic White women. American Indian and Alaska Native women were less likely to report pre-pregnancy alcohol use compared to Non-Hispanic White women (56 percent versus 76 percent). Among women who reported drinking pre-pregnancy, American Indian and Alaska Native women were more likely than Non-Hispanic White women to report drinking one or more

drinks during pregnancy (4.3 percent versus 2.4 percent)
<https://doi.org/10.1007/s10995-021-03159-7>.

- Main focus: Prevention (P)

National Violent Death Reporting System (NVDRS): NVDRS collects detailed information in all 50 states, the District of Columbia, and Puerto Rico. The case definition consists of suicides, homicides, deaths due to legal intervention, unintentional firearm deaths, and deaths of undetermined intent that might have been due to violence. This information can be used to develop, inform, and tailor violence prevention efforts.

Website: <https://www.cdc.gov/violenceprevention/datasources/nvdrs/index.html>.

- This system uses information from death certificates, coroner/medical examiner reports (including toxicology), and law enforcement reports.
- NVDRS includes information on: Alcohol dependence or problem drinking (i.e., whether the victim was perceived by self or others to have a problem with, or to be addicted to, alcohol); alcohol use suspected (whether alcohol use by the victim in the hours preceding the incident was suspected, based on witness or investigator reports or circumstantial evidence, such as empty alcohol containers around the victim); alcohol crisis (whether the victim had a crisis related to their alcohol problem within 2 weeks of the incident or an impending crisis within 2 weeks of the incident); tested for alcohol (i.e., whether the victim's blood was tested for the presence of alcohol); alcohol test results (recorded as present, not present, not applicable [i.e., not tested], or unknown); and BAC (measured in mg/dL).
- The system has the support of various organizations, including the American Public Health Association, the International Association of Chiefs of Police, the National Sheriff's Association, the National Association of Public Health Statistics and Information Systems, and the National Association of Medical Examiners.

Select NVDRS data are available free of charge via CDC's Web-based Injury Statistics Query and Reporting System (WISQARS; <https://www.cdc.gov/injury/wisqars/index.html>).

- An NVDRS Restricted Access Database (RAD) is also available through CDC's National Center for Injury Prevention and Control to researchers who meet specific criteria. At this time, there is no cost for accessing the NVDRS RAD.
- Main focus: Prevention (P)

Core State Injury Prevention Program (Core SIPP; CDC Funded): The 5-year funding cycle of Core SIPP (October 2021–September 2026) supports health department infrastructure, data, and partnerships to identify and respond to existing and emerging injury threats with data-driven public health actions. Transportation safety is one of three required priority topics for this program, and many state health departments specifically conduct work on improving data and preventing deaths and injuries related to impaired driving and disproportionately affected populations. Funded states work with partners to develop tools to educate and improve transportation safety for highly affected audiences. The prior 5-year cycle of the program (titled [Core State Violence and Injury Program](https://www.cdc.gov/injury/stateprograms/coresipp/index.html), running from October 2016–September 2021) also emphasized transportation safety and included work related to the prevention of impaired driving. *Website:* <https://www.cdc.gov/injury/stateprograms/coresipp/index.html>

- Main focus: Prevention (P)

Etiologic and Effectiveness Research to Address Polysubstance Impaired Driving (RFA-CE-19-004; CDC Funded): Research was solicited, and 3 years of funding supports research on either: 1) identifying risk and protective factors associated with polysubstance-impaired driving (and associated deaths and injuries); or 2) identifying effective interventions to prevent polysubstance-impaired driving (and associated deaths and injuries). Polysubstance-impaired driving includes driving while impaired by alcohol plus at least one other drug, such as marijuana or opioids.

- The funded project (CE003129) is titled “Predicting Polysubstance Impaired Driving in Young Adults: Longitudinal and Event-level Assessment of the Role of Norms and Motives.” The ongoing study seeks to examine statewide norms in Washington State young adults (ages 18–25 years) and assess predictors of driving while impaired by simultaneous alcohol and marijuana use and riding with a driver who is impaired by simultaneous alcohol and marijuana use.
- Although the project was disrupted due to the COVID-19 pandemic, recruitment, enrollment, and data collection were currently underway in 2022.
- The project team has published a [paper](#) describing the protocols of the study, including their novel method of assessing impaired driving behaviors.
- Main focus: Research (R)

Activities to Prevent Driving After Drinking Alcohol Among U.S. Adolescents:

CDC conducts research, prevention, and communication activities to support teen driver and teen passenger safety, including preventing underage drinking and driving and preventing riding with a driver who has been drinking alcohol. Examples:

- **CDC’s Teen Driving Website:** CDC provides information, research, recommendations, and resources about the prevention of teen drinking and driving and many other teen transportation risk behaviors.
Website: https://www.cdc.gov/transportationsafety/teen_drivers/index.html
- **CDC’s Parents Are the Key Campaign:** CDC created this campaign to help parents, pediatricians, and communities keep teen drivers safe on the road. The campaign explicitly includes preventing teen drinking and driving as one of its eight priority topics. Resources include [Parent-Teen Driving Agreements](#), information on the “[Eight Danger Zones](#)” for teen drivers, a [Graduated Driver Licensing System Planning Guide](#), and other free, downloadable materials. *Website:* <https://www.cdc.gov/parentsarethekey/index.html>
- **CDC’s Impaired Driving Website:** CDC provides information, research, recommendations, and resources about the prevention of impaired driving.
Website: https://www.cdc.gov/transportationsafety/impaired_driving/index.html
- Main focus: Prevention (P)

ASBI Activities:

- CDC launched [a new electronic screening and brief intervention tool](#) for adults to anonymously check their drinking, identify barriers and motivators for drinking less, and print or save a personalized change plan.
Website: <https://www.cdc.gov/alcohol/CheckYourDrinking/index.html>.
- CDC funds four cooperative agreements to implement ASBI within health systems providing women’s health services to reduce risky alcohol use among women of

reproductive age. A key activity of these projects includes integration of ASBI within electronic health records.

- CDC also supports five projects to promote prevention of fetal alcohol spectrum disorders (FASD) through national medical societies and professional organizations by raising awareness among member organizations, building champions networks to support awareness activities and resource dissemination, and promoting clinical guidelines and policies that support implementation of ASBI. There are new activities planned to partner with a broader range of public health and clinical groups using a multidisciplinary, collaborative approach.
- CDC developed clinical decision support (CDS) tools on ASBI that can be integrated into electronic health records. These tools can help healthcare providers deliver ASBI to all of their patients, including women of reproductive age. An effort to pilot CDS tools in multiple clinical locations is currently underway.
- For more information, visit <https://www.cdc.gov/ncbddd/fasd/alcohol-screening.html> and <https://www.cdc.gov/ncbddd/fasd/training.html>, and
- <https://www.cdc.gov/ncbddd/fasd/clinical-decision-support.html>.
- Main focus: Prevention (P)

HHS/HRSA

Activities Related to Underage Drinking

Adolescent and Young Adult Health Research Network (AYAH-RN): This Research Network developed and maintains a transdisciplinary, multi-site infrastructure that conducts innovative interdisciplinary research and translates that research into practice. It centers on a unique collaboration among the seven HRSA MCHB-funded Leadership Education in Adolescent Health projects that are based in academic medical centers. It uses a multi-disciplinary training approach that integrates medicine, nursing, nutrition, psychology, public health, and social work to strengthen trainees' skills in providing clinical services. Relevant key focus areas are integration of care (primarily behavioral and physical health), substance use (e.g., alcohol, e-cigarettes, opioid abuse), and mental health and wellbeing.

Website: <https://nahic.ucsf.edu/research-network/>

Behavioral Health Workforce Education and Training (BHWET) Program for Professionals and Paraprofessionals: The BHWET Program develops and expands experiential training opportunities, such as field placements and internships, to improve the distribution and supply of the behavioral health workforce. A special focus is placed on the knowledge and understanding of children, adolescents, and transitional-aged youth at risk for behavioral health disorders.

Graduate Psychology Education (GPE) Program: The GPE Program trains doctoral health service psychology students, interns, and post-doctoral residents in integrated, interdisciplinary behavioral health for placement into community-based primary care settings in high need and high demand areas. Additionally, the program aims to increase the number of psychologists trained in the provision of opioid use disorders and other substance use disorders prevention, treatment, and recovery services.

HHS/IHS

Activities Related to Underage Drinking

Alcohol and Substance Abuse Branch (ASAB): The objective of ASAB: The objective of ASAB is to reduce the incidence and prevalence of alcohol and substance use among the American Indian and Alaska Native population to a level that is at or below the general U.S. population. More than 90 percent of the alcohol and substance use programs are tribally operated. *Website:* <https://www.ihs.gov/asap>.

- Implements alcohol and substance misuse programs within tribal communities, including emergency treatment, inpatient and outpatient treatment, and rehabilitation services in rural and urban settings.
- Nurtures holistic approaches promoting healthy lifestyles, families, and communities.
- Improves access to behavioral health services through telebehavioral health methods and by providing a comprehensive array of preventive, educational, and treatment services.
- Is part of the IHS Generation Indigenous Initiative, designed to build resiliency and promote positive development among indigenous youth.

Screening, Brief Intervention, and Referral to Treatment (SBIRT): IHS administers SBIRT in ambulatory care and emergency departments throughout the IHS system. Due to the high prevalence of alcohol-related morbidity and mortality among American Indians and Alaska Natives, SBIRT is administered to patients screened for risky or harmful alcohol use starting at the age of 9. IHS collects performance measures on Universal Alcohol and SBIRT which are reported as a Government Performance and Results Act (GPRA) Modernization Act of 2010 measures. For FY 2021, 31.1 percent of patients ages 9–75 years were screened for alcohol use. In addition, 15.8 percent of patients who screened positive for risky/ or harmful alcohol use received a Brief Negotiated Interview or Brief Intervention in ambulatory care within 7 days of a positive screen.

Youth Regional Treatment Centers (YRTCs): YRTCs are part of the IHS Generation Indigenous Initiative designed to build resiliency and promote positive development among indigenous youth. IHS operates or provides recurring funding to 13 YRTCs to address the ongoing issues of substance use and co-occurring disorders among American Indian and Alaska Native youth.

Website: <https://www.ihs.gov/yrtc>.

- YRTCs provide a range of clinical services rooted in a culturally relevant, holistic model of care.
- YRTC services include clinical evaluation; substance misuse education; group, individual, and family psychotherapy; art therapy; adventure-based counseling; life skills; medication management or monitoring; evidence-based/practice-based treatment; culturally appropriate care; cultural practices involving healing; aftercare relapse prevention; and post-treatment follow-up services.
- In 2022, the IHS California Area Office opened an additional YRTC in Northern California to address California's unmet need for American Indian and Alaska Native youth residential treatment services.

Substance Abuse and Suicide Prevention (SASP) Program: The SASP program, formerly known as the Methamphetamine and Suicide Prevention Initiative, is a nationally coordinated program focused on providing much-needed substance use and suicide prevention and

intervention resources for American Indian and Alaska Native communities. IHS currently funds 72 SASP-related grants and federal program awards. *Website:* <https://www.ihs.gov/sasp>.

- Promotes the use and development of evidence- and practice-based models that represent culturally appropriate prevention and treatment approaches to substance use and suicide prevention from a community-driven context.
- Increases tribal, Urban Indian Organization, and federal capacity to operate successful substance use prevention, treatment, and aftercare as well as suicide prevention, intervention, and postvention services through implementing community and organizational needs assessments, data sharing systems, and strategic plans.
- Promotes positive American Indian and Alaska Native youth development and family engagement through the implementation of early intervention strategies to reduce risk factors for suicidal behavior and substance use.
- Is part of the IHS Generation Indigenous Initiative, designed to build resiliency and promote positive development among indigenous youth.

Indian Children’s Program: The IHS Division of Behavioral Health Indian Children’s Program provides education, training, and consultation on issues affecting American Indian and Alaska Native youth via its Telebehavioral Health Center of Excellence, including training and consultations on FASD. *Website:* <https://www.ihs.gov/icp>.

HHS/NIH/NIAAA

Activities Specific to Underage Drinking

NIAAA supports a broad and diverse program of biomedical research that aims to advance understanding of the factors that contribute to underage drinking and to improve the prevention and treatment of alcohol-related problems among youth. Research spans the areas of the epidemiology of underage drinking; the effects of alcohol use on the developing body and brain; the interplay of development, genes, and the environment in the etiology and prevention of underage drinking; the development and testing of individual- and environmental-level interventions, including policies to prevent and reduce underage drinking; the implementation and evaluation of ASBI in primary care and other settings; the development and testing of alcohol use disorder treatments for adolescents; and the translation and dissemination of evidence-based interventions for underage drinking. Examples of specific NIAAA efforts in this domain include:

Studying the Impact of Adolescent Drinking on the Developing Brain: NIAAA supports multiple research consortia and projects examining the effects of alcohol exposure during adolescent brain development. The research findings are expected to inform future strategies to prevent the initiation and escalation of underage drinking and to treat alcohol-related problems among youth.

- ***Neurobiology of Adolescent Drinking in Adulthood (NADIA) Consortium:*** For over a decade, NIAAA has supported the NADIA Consortium, which aims to define the neurobiological mechanisms underlying the effects of adolescent alcohol exposure on adult brain function and behavior using rodent models. During the first phase of the Consortium, NADIA researchers demonstrated that adolescent alcohol exposure may lead to long-lasting brain and behavioral changes in adulthood. In its second phase, the Consortium built upon these findings to further investigate the mechanisms through

which adolescent alcohol exposure impacts brain maturation and adult brain function. In FY 2020, NIAAA renewed the consortium for a third period of funding.

Website: <https://www.med.unc.edu/alcohol/nadiaconsortium>.

- **National Consortium on Alcohol and Neurodevelopment in Adolescence (NCANDA):** Launched in FY 2012, NIAAA's NCANDA is a multisite longitudinal study to elucidate the effects of alcohol exposure on the developing adolescent human brain and to identify brain characteristics that may predict alcohol use disorder and related problems. The five NCANDA sites have enrolled more than 800 individuals, starting at ages 12–21, that are demographically representative of diverse racial and ethnic backgrounds. NCANDA researchers recently demonstrated that adolescents who initiated heavy alcohol use during the course of the study experienced faster declines in brain gray matter volume and slower expansion of brain white matter relative to those who engaged in no or low alcohol consumption during the same time. NCANDA researchers are also examining potential changes in alcohol use, well-being, and other behaviors of adolescents during the COVID-19 pandemic. In FY 2021, NIAAA released a funding opportunity announcement to support continuation of the NCANDA sites for a third period of funding in FY 2022 (RFA-AA-21-007: <https://grants.nih.gov/grants/guide/rfa-files/RFA-AA-21-007.html>). Website: <http://ncanda.org>.
- Main focus: Research (R)

Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide: Concerns about the effects of alcohol on the developing brain combined with data from national surveys showing the popularity of binge drinking among adolescents prompted NIAAA to produce a guide for screening children and adolescents for their risk for alcohol use and alcohol use disorder, the *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide*. Website: <https://www.niaaa.nih.gov/publications/clinical-guides-and-manuals/alcohol-screening-and-brief-intervention-youth>.

- The guide was empirically developed by NIAAA in collaboration with a working group of experts in 2011. It was also produced in collaboration with and endorsed by the American Academy of Pediatrics (AAP), which recommends screening all adolescents regarding alcohol use.
- It includes an age-specific (9–18 years), two-question screener for current and future alcohol use with an innovative youth alcohol risk estimator and screening guide.
- The guide also includes general information on underage drinking and detailed supporting material on brief interventions, referral to treatment, and patient confidentiality. The screening process enables pediatric and adolescent health practitioners to provide information to patients and their parents about the effects of alcohol on the developing body and brain in addition to identifying individuals who need any level of intervention.
- Studies have evaluated the guide in primary care, emergency department, and school settings and among youth with chronic health conditions and demonstrated its utility in identifying alcohol use and risk for alcohol use disorder.
- Main focus: Intervention (I)

College Drinking Prevention Initiative: A long-standing priority for NIAAA, this initiative began more than 2 decades ago and continues to support and stimulate studies of college-student

drinking and related problems. Its ultimate goal is to design and test interventions that prevent or reduce alcohol-related problems among college students.

- NIAAA supports research projects designed to target heavy alcohol use and associated behaviors among college-age youth, including studies that are developing mobile health interventions for students at 4-year and community colleges as well as for young adults in other settings.
- *College Alcohol Intervention Matrix (CollegeAIM)*: As part of its college drinking prevention initiative, NIAAA developed a resource that summarizes several decades of college drinking intervention research in a simple matrix to help college administrators and staff choose wisely among the many interventions available for addressing alcohol misuse on college campuses.
 - CollegeAIM provides information on more than 60 individual- and environmental-level strategies to prevent and reduce harmful and underage drinking among college students. For each strategy, information is provided in an interactive, easy-to-use format that shows the amount and quality of available research; estimated effectiveness; estimated cost and barriers related to implementation; and time to implement. These factors may be relevant to campus and community leaders as they evaluate their current approaches and as they consider and select additional strategies to address college-student drinking using a more comprehensive approach.
 - NIAAA's overarching goal with CollegeAIM is the provision of evidence-based information in an accessible and practical way to facilitate its use as a foundation for college drinking prevention and intervention activities. CollegeAIM was first issued in 2015 and updated in 2019 to reflect more recent research.
Website: <https://www.collegedrinkingprevention.gov/CollegeAIM>.
- Main focus: Prevention (P) and Intervention (I)

Intervening at Individual and Environmental Levels: NIAAA supports the development, evaluation, and implementation of individual-, family-, school-, community-, and policy-level interventions to prevent and reduce underage drinking. NIAAA-supported research in this area includes projects examining:

- *Behavioral interventions (brief and extended in duration)*: NIAAA continues to support and encourage research on screening and brief interventions to prevent and/or reduce alcohol use and alcohol-related harms among underage and young adult populations.
- *Minority health and health disparities*: NIAAA continues to support and encourage research to develop and evaluate interventions that are culturally adapted and effective for minority youth.
- *Underage drinking treatment*: NIAAA-supported treatment research includes studies that test the efficacy of integrated behavioral treatments for youth with alcohol use disorder and that examine the neurobiological processes that link specific components of alcohol treatment interventions with improved treatment outcomes.
- *The impact of policies on alcohol-related behaviors and outcomes*: NIAAA supports and continues to encourage research that examines the public policy effects on alcohol-, marijuana-, and other substance-related behaviors and outcomes across the lifespan.
- Main focus: Research (R)

Key NIAAA Resources on Underage Drinking: NIAAA disseminates information about prevention of underage drinking for a range of audiences through a variety of publications.

- *Alcohol Screening and Brief Intervention for Youth: A Practitioner’s Guide* (described above).
- NIAAA’s topical factsheets (e.g., on underage drinking [<https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/underage-drinking>], college drinking, and parental roles in preventing childhood alcohol use) as well as seasonal factsheets focusing on underage drinking issues surrounding high school graduation and the first weeks of college.
- *College Drinking Prevention Website:* This website provided by NIAAA is a one-stop resource for comprehensive research-based information on underage and excessive drinking among college students. The website features statistics, NIAAA college materials, and supporting research. It also contains links to alcohol policies of colleges and universities across the country, and information on where to get help for alcohol problems. The website also links to NIAAA’s CollegeAIM (described above).
Website: <https://www.collegedrinkingprevention.gov>.
- Main focus: Prevention (P) and Intervention (I)

Activities Related to Underage Drinking

Alcohol Policy Information System (APIS): APIS provides authoritative, detailed information on alcohol-related policies in the United States at both state and federal levels. Designed primarily for researchers, APIS encourages and facilitates research on the impact and effectiveness of alcohol-related policies. *Website:* <https://alcoholpolicy.niaaa.nih.gov>.

- APIS includes a section on underage drinking policies (e.g., retail alcohol outlet policies for preventing alcohol sales and service to those under age 21).
- Recognizing the changing legal environment, NIAAA expanded APIS to include policies related to the recreational use of cannabis.
- In response to the COVID-19 pandemic, APIS was expanded to include data on state-level policies affecting alcohol availability during the pandemic. Data are available for all 50 states and Washington, D.C.
- Main focus: Research (R)

HHS/NIH/NIDA

Activities Related to Underage Drinking

Research on Brain Development and Child Health: NIDA, NIAAA, and other NIH institutes are supporting the Adolescent Brain Cognitive Development (ABCD) Study, which is the largest long-term study of brain and cognitive development in children in the United States. Children will be interviewed and studied with brain imaging from the age of 9 to at least age 19. The study will increase understanding of the environmental, social, genetic, and other biological factors that affect brain and cognitive development and can enhance or disrupt a young person’s life trajectory. In addition, the study will determine how exposure to substances (e.g., alcohol, marijuana, nicotine, caffeine) and new ways of taking them (e.g., vaping, dabbing) affect developmental outcomes and vice versa. Enrollment has been completed, with total enrollment at 11,875. The goal is to retain 10,000 into early adulthood. *Website:* <https://www.drugabuse.gov/related-topics/adolescent-brain/longitudinal-study-adolescent-brain-cognitive-development-abcd-study>.

Select Research Findings and Publications:

- *Is Alcohol and Other Substance Use Reduced When College Students Attend Alcohol-Free Programs? Evidence from a Measurement Burst Design Before and After Legal Drinking Age:* Building on prior research by Patrick et al. (2010), Layland, Calhoun, Russell, and Maggs (2018) assessed effects of a campus-led alcohol-free program, LateNight Penn State (LNPS). Layland and colleagues (2019) found that over 7 semesters, college students who participated in the LNPS alcohol-free activities provided on weeknights and weekends used alcohol and illegal substances less in general and less on days they participated. Levels of use were lowest for students under age 21.
- *An Online Drug Abuse Prevention Program for Adolescent Girls: Post-test and 1-Year Outcomes:* Schwinn et al. (2019) tested the RealTeen, a nine-session web-based prevention intervention aimed to reduce girls' drug use and associated risk factors. At 1-year follow-up, compared with girls in the control condition, girls who received the intervention reported less binge drinking and cigarette smoking. In addition, girls assigned to the intervention condition had higher alcohol, cigarette, and marijuana refusal skills, coping skills, and media literacy and lower rates of peer drug use.

Community-Level Studies: Community-level studies address questions related to the dissemination and implementation of evidence-based substance use prevention programs. Examples include the following:

- *Communities That Care (CTC):* An operating system for quality implementation of evidence-based preventive interventions targeted to specific risk and protective factors within the community, CTC provides a framework for assessing and monitoring community-level risk and protective factors, training, technical assistance, and planning and action tools for implementing science-based prevention interventions through community service settings and systems. The Community Youth Development Study tests CTC in seven states, with 12 matched pairs of communities randomized to receive the CTC system or serve as controls. A panel of 4,407 5th graders was recruited and followed to assess impact of the CTC system on substance use and related outcomes.
- *PROMoting School/Community-University Partnerships to Enhance Resilience (PROSPER):* An innovative partnership model for the diffusion of evidence-based preventive interventions that reduce youth substance use and other problem behaviors, the PROSPER partnership model links land-grant university researchers, the cooperative extension system, the public school system, and community stakeholders. A trial of PROSPER was conducted in 28 school districts in rural and semi-urban communities in Iowa and Pennsylvania randomly assigned to the PROSPER partnership model or to a usual programming control condition. Approximately 10,000 6th graders recruited across two cohorts were enrolled in the study along with approximately 1,200 students and their parents. In the PROSPER condition, communities received training and support to implement evidence-based prevention through the partnership and selected interventions from a menu of efficacious and effective universal prevention programs.
- *Monitoring the Future (MTF):* MTF is an ongoing survey of substance misuse (including alcohol) behaviors and related attitudes of 8th, 10th, and 12th grade high school students, college students, and young adults. Students in grades 8, 10, and 12 participate in annual surveys (8th and 10th graders since 1991 and 12th graders since 1975). MTF also includes topical questions about riding with a drinking driver and driving after drinking

alcohol (12th grade only) on a subset of questionnaires. Within the past 5 years, 45,000–47,000 students have participated in the survey each year. Follow-up questionnaires are mailed to a sub-sample of each graduating class every 2 years until age 35 and then every 5 years thereafter. Results from the survey are released each winter. Website: <https://www.drugabuse.gov/related-topics/trends-statistics/monitoring-future>.

- *Preventing Drug Use among Children and Adolescents—A Research-Based Guide for Parents, Educators, and Community Leaders*, 2nd Edition: This booklet is based on a literature review of all NIDA prevention research from 1997–2002. Before publication, it was reviewed for accuracy of content and interpretation by a scientific advisory committee and reviewed for readability and applicability by a Community Anti-Drug Coalitions of America (CADCA) focus group. The publication presents the principles of prevention; information on identifying and using risk and protective factors in prevention planning; applying principles in family, school, and community settings; and summaries of effective prevention programs. Website: https://www.drugabuse.gov/sites/default/files/redbook_0.pdf.
- *Family Checkup (FCU)—Positive Parenting Prevents Drug Abuse*: NIDA developed a web-based tool demonstrating parenting skills that have been found to help prevent initiation and progression of drug use among youth. The tool presents five questions regarding specific parenting skills (e.g., communication with pre-adolescents) and provides a video clip for each that shows positive and negative examples of the skill. Additional videos and resources are provided for parents to practice positive parenting skills. This tool is based on research on the FCU conducted by Dr. Thomas Dishion and colleagues at Oregon State University and the Oregon Social Learning Center. Website: <https://www.drugabuse.gov/family-checkup>.
- *National Drug and Alcohol Facts Week (NDAFW)*: NDAFW is a health observance week for teens that aims to provide accurate information about alcohol, tobacco, and drug misuse. During this week, NIDA and NIAAA hold a Drug and Alcohol Facts Chat Day, where scientific staff from NIDA, NIAAA, and the National Institute of Mental Health respond to questions and concerns from students on substance use and mental health topics. A companion NIDA publication, titled *Drug Facts: Shatter the Myths*, is also a resource for NDAFW. This publication answers teens’ most frequently asked questions about alcohol, tobacco, and drug use. The 2019 NDAFW was held in January 2019. Website: <https://teens.drugabuse.gov/national-drug-alcohol-facts-week>.
- *2019 National Drug & Alcohol IQ Challenge*: As part of the 2019 NDAFW, NIDA supported a challenge that allowed participants to test their knowledge by taking an interactive drug and alcohol IQ challenge quiz. The quiz included questions on drugs and alcohol and their effects and consequences. It also provided answers, facts, and resources for each question. Website: <https://teens.drugabuse.gov/quiz/national-drug-alcohol-facts-week/take-iq-challenge/2019>.

HHS/OASH/Office of Population Affairs (OPA)

Activities Related to Underage Drinking

OPA Website: The OPA website provides resources for parents and adolescents.

Website: <https://opa.hhs.gov/adolescent-health>.

HHS/OASH/Office of the Surgeon General (OSG)

Activities Related to Underage Drinking

Facing Addiction in America: The Surgeon General’s Report on Alcohol, Drugs, and Health: OSG published this report in 2016 (HHS, 2016). It includes information on underage drinking prevention as well as alcohol and other substance use in other populations, treatment, and recovery. This report was followed in 2018 by *Facing Addiction in America: The Surgeon General’s Spotlight on Opioids* (HHS, 2018), produced jointly with SAMHSA, which focuses primarily on opioid use but also includes information on alcohol use disorder and its treatment.

HHS/SAMHSA

Activities Specific to Underage Drinking

TTHY National Media Campaign: SAMHSA’s Center for Substance Abuse Prevention (CSAP) supports TTHY, a national media campaign to prevent underage drinking among youth under age 21 by providing parents and caregivers with information and resources they need to start addressing the issue of alcohol with their children early. TTHY is discussed in more detail in Chapter 5. **Website:** <https://www.samhsa.gov/underage-drinking>.

- Attributes of this campaign include:
 - Features a series of television and print public service announcements (PSAs) in English and Spanish that show parents “seizing the moment” to talk with their children about alcohol.
 - Has distributed PSAs in all 50 states and more than 300 cities, including in major airports, public transportation, billboards, broadcast and cable television networks, radio stations, newspapers, and select magazines that reach parents.
 - Has more than 300 local, state, and national partners, including CADCA and the National Parent Teacher Association.
 - Has developed a TTHY mobile app, which was analyzed in a peer-reviewed journal (Stellefson et al., 2019).

Underage Drinking Prevention Education Initiatives: This SAMHSA/CSAP effort provides ongoing support for the ICCPUD web portal and the nationwide Communities Talk: Town Hall Meetings to Prevent Underage Drinking initiative and provides other resources, message development, public outreach and education, and partnership development for preventing underage alcohol use among youth up to age 21. **Website:** <https://www.stopalcoholabuse.gov>.

- The ICCPUD web portal includes comprehensive research and resources developed by the federal agencies of ICCPUD, including the annual *RTC, State Performance & Best Practices for the Prevention and Reduction of Underage Drinking Report*, and the *State Reports—Underage Drinking Prevention and Enforcement*.

- Town Hall Meetings are held approximately every 2 years (including in 2019), hosted by community or state organizations, and supported by SAMHSA to educate youth, families, and communities about the potentially harmful consequences of underage and problem drinking among individuals 12–25 years old.

Strategic Prevention Framework Partnerships for Success (SPF PFS) Program: Focus is to prevent the onset and reduce the progression of substance use and its related consequences, while strengthening prevention capacity and infrastructure at the state, tribal, and community levels.

STOP Act Grant Program: SAMHSA’s CSAP provides up to \$50,000 per year for 4 years to current or previously funded Drug-Free Communities Program (DFC) grant recipients to enhance implementation of EBPs that are effective in preventing underage drinking. This grant program:

- Currently funds 98 community coalitions in 31 states and the District of Columbia.
- Strengthens collaboration among community sectors, the federal government, and state, local, and tribal governments that demonstrate a long-term commitment to reducing alcohol use among youth.
- Uses SAMHSA’s SPF process, which includes a community needs assessment, an implementation plan, a method to collect data, and the evaluation, monitoring, and improvement of strategies being implemented to create measurable outcomes.

Activities Related to Underage Drinking

Substance Use Prevention, Treatment, and Recovery Services Block Grant (SUBG): Mandated by Congress, the SUBG program is a major funding source for substance use prevention and treatment in the United States, including prevention and treatment of alcohol use disorder among adolescents.

- SUBG grantees are required to use at least 20 percent of their grant allotment on primary prevention services targeted to individuals not in need of SUD treatment.
- Eighty-four percent of SUBG grantees have identified underage drinking as a prevention priority.

National Helpline (1-800-662-HELP): Individuals with alcohol or illicit drug problems or their family members can call the SAMHSA National Helpline for referral to local treatment facilities, support groups, and community-based organizations. *Website:* <https://www.samhsa.gov/find-help/national-helpline>.

- The helpline is a confidential, free, 24-hour-a-day, 365-day-a-year information service available in English and Spanish.
- In addition to calling the toll-free number, help is also available by visiting the online treatment locator at <https://www.samhsa.gov/find-help/treatment>.

Evidence-Based Practice Resource Center: The Resource Center contains a collection of scientifically based resources for a broad range of audiences, including Treatment Improvement Protocols, toolkits, resource guides, clinical practice guidelines, and other science-based resources. *Website:* <https://www.samhsa.gov/resource-search/ebp>.

Enhancement and Expansion of Treatment and Recovery Services for Adolescents, Transitional Aged Youth, and their Families Grant Program (Youth and Family TREE): Administered by CSAT, this program seeks to enhance and expand comprehensive treatment,

early intervention, and recovery support services for adolescents (ages 12–18), transitional aged youth (ages 16–25), and their families/primary caregivers with SUDs and/or co-occurring substance use and mental disorders.

- Eligible entities are states, tribes, universities, nonprofit healthcare systems, and community and faith-based organizations.
- Recipients are expected to provide a coordinated, multisystem, family-centered approach that will enhance and expand comprehensive evidence-based treatment, including early intervention and recovery support services.

Screening, Brief Intervention, Referral, and Treatment (SBIRT) Grants: SBIRT involves implementation of a system in community and specialist settings that screens for and identifies individuals with substance use-related problems and either provides for a brief intervention in a generalist setting or motivates and refers individuals with high-level problems and probable SUD diagnoses to a specialist setting for assessment, diagnosis, and brief or long-term treatment.

Website: <https://www.samhsa.gov/sbirt>.

- SBIRT grants are administered by SAMHSA’s Center for Substance Abuse Treatment (CSAT).
- Several SBIRT grantees have developed programs that are available to individuals under age 21, and new grants will also encourage the provision of services to adolescents and emerging youth.

Offender Reentry Program: The purpose of this CSAT program is to expand SUD treatment and related recovery and reentry services to sentenced offenders/ex-offenders who have an SUD and/or co-occurring substance use and mental disorders and who are returning to their families and community from incarceration in state and local facilities, including prisons, jails, or detention centers.

- Supports services for people age 18 and above.
- Provides services grants to stakeholder partnerships.
- Seeks to actively support offender reentry stakeholder partnerships so that clinical needs are met, and clients are treated using EBPs.

Grants to Expand Substance Misuse Treatment Capacity in Family, Juvenile, and Adult Treatment Drug Courts: These programs support courts that use the treatment drug court model to provide SUD treatment (including recovery support services, screening, assessment, case management, and program coordination) to defendants/offenders or parents who are at risk of having dependency petitions filed against them.

- Grants to family courts address the needs of the family as a whole and include direct service provision to children and youth age 18 and under.

Addiction Technology Transfer Center (ATTC) Network: ATTCs support national and regional activities focused on preparing tools needed by practitioners to improve the quality of service delivery and to provide intensive technical assistance to provider organizations to improve their processes and practices in the delivery of effective SUD treatment and recovery services.

Website: <https://www.attcnetwork.org/>.

- A regional ATTC is located in each of the 10 HHS designated regions.
- There are three national ATTCs: the National Coordinating Office, the National American Indian and Alaska Native ATTC, and the National Hispanic and Latino ATTC.

Prevention Technology Transfer Centers (PTTC): In 2018, SAMHSA used cooperative agreements to create and support a network of PTTC. The purpose of the PTTC network is to improve implementation and delivery of effective substance misuse prevention interventions and provide training and technical assistance services to the substance misuse prevention field. It does this by developing and disseminating tools and strategies needed to improve the quality of substance misuse prevention efforts; providing intensive technical assistance and learning resources to prevention professionals to improve their understanding of prevention science, epidemiological data, and implementation of evidence-based and promising practices; and developing tools and resources to engage the next generation of prevention professionals.

Website: <https://pttcnetwork.org/>.

- Similar to ATTCs, a regional PTTC is located in each of the 10 HHS designated regions, and there are two national PTTCs: the National American Indian and Alaska Native PTTC and the National Hispanic and Latino PTTC.
- During FY 2021, the PTTC network implemented 962 events serving 39,774 prevention professionals.

Tribal Training and Technical Assistance Center (TTAC): The Tribal TTAC provides TTA on mental disorders and SUDs, suicide prevention, and promotion of mental health to federally recognized tribes, other American Indian and Alaska Native communities, SAMHSA tribal grantees, and organizations serving Indian Country. *Website:* <https://www.samhsa.gov/tribal-ttac>.

- Is culturally relevant, evidence-based, and holistic, using the Strategic Culture Framework.
- Includes targeted site visits, virtual learning communities, Gatherings of Native Americans, and Tribal Action Plan training.

Office of Indian Alcohol and Substance Abuse (OIASA): OIASA is responsible for aligning, leveraging, and coordinating with federal agencies and departments in carrying out the responsibilities delineated in the Tribal Law and Order Act.

Website: <https://www.samhsa.gov/tloa/about>.

- The office provides staffing for the Indian Alcohol and Substance Abuse (IASA) Interagency Coordinating Committee, which coordinates 60 federal agencies responsible for addressing alcohol and substance use issues.
- The IASA Interagency Coordinating Committee includes the Department of Interior's Bureau of Indian Affairs and Bureau of Indian Education, DoJ's Office of Justice Programs and Office of Tribal Justice, and HHS's IHS and other agencies in charge of assisting Indian Country.

National Survey on Drug Use and Health (NSDUH): Conducted annually by SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ), NSDUH is a survey of the civilian, non-institutionalized population of the United States age 12 or older. *Website:* <https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health>.

- Is the primary national source of both national and state information on use of illicit drugs, alcohol, and tobacco.
- Also provides estimates of SUDs, SUD treatment, mental health measures, mental health service use, co-occurring SUDs, and driving under the influence of alcohol and other substances.
- Is conducted each year through confidential interviews during in-person residential visits or via the web.

Behavioral Health Services Information System (BHSIS): BHSIS, conducted by SAMHSA’s CBHSQ, is the primary source of national data on SUD treatment services and offers information on treatment facilities with special programs for adolescents as well as demographic and substance use characteristics of adolescent treatment admissions. It has five interrelated components:

- *Inventory of Treatment Facilities (I-TF):* a list of all known substance use and mental health treatment facilities in the United States and its territories.
- *The National Substance Use and Mental Health Services Survey (N-SUMHSS)* provides federal, state, and local governments, as well as the behavioral health research community, with information about the number and characteristics of public and private substance use and mental health treatment facilities nationwide. This annual survey is crucial as the data gathered is the information on SAMHSA’s FindTreatment.gov, our nation’s most comprehensive national source of data on substance use and mental health treatment facilities. The N-SUMHSS replaced the National Survey of Substance Abuse Treatment Services (N-SSATS) and the National Mental Health Services Survey (N-MHSS) in 2021 by combining questions for substance use and mental health facilities. The N-SSATS and N-MHSS were combined to reduce burden on the facilities, optimize government resources to collect data, and enhance the quality of data collected. For more information on the N-SUMHSS, please visit <https://info.nsumhss.samhsa.gov>.
- *Treatment Episode Data Set:* a compilation of data on the demographic and substance use characteristics of admissions to and discharges from SUD treatment, primarily at publicly funded facilities.
- *Mental Health-Treatment Episode Data Set and Mental Health Client-Level Data:* collections of mental health client-level data from state-funded mental health treatment service facilities.

Drug Abuse Warning Network (DAWN): DAWN captures data on emergency department (ED) visits related to recent substance use and misuse directly from the electronic health records of participating hospitals. SAMHSA established DAWN, a nationwide public health surveillance system that improves emergency department monitoring of all drugs, including alcohol.

Website: <https://www.samhsa.gov/data/data-we-collect/dawn-drug-abuse-warning-network>.

- Functions as a drug-related public health surveillance system, or drug-related “early warning” system, with a capacity to produce national estimates.
- DAWN now includes data available at more frequent intervals and data for a wider range of geographic area types, including urban, suburban, and rural areas.

DoD/Office of the Assistant Secretary of Defense

Activities Specific to Underage Drinking

Youth Program: DoD Youth Programs continue to build upon healthy life skills by increasing young people’s capacity to engage in positive behaviors. They provide social, cognitive, educational, physical, and recreational activities and services appropriate to needs, interests, and abilities by providing physically and emotionally safe environments for youth to spend their out-of-school time. Through affiliation, programs such as the Boys & Girls Clubs of America and SMART Moves (Skills Mastery and Resistance Training) help young people resist alcohol, tobacco, drugs, and premature sexual activity. This year-round program, provided in Military Youth Programs worldwide, encourages collaboration among staff, youth, parents, and representatives from community organizations.

DoD Education Activity (DoDEA):

Health Education Curriculum: DoDEA implements a structured health education program to provide students with learning experiences designed to increase the acquisition of basic health concepts and functional health knowledge to make quality decisions. The program includes curriculum and instruction that address a variety of concepts to include information about the risks associated with alcohol consumption, developing refusal skills, long-term risks, and the lasting impact on the individual, their friends, family, and community.

Red Ribbon Week: Sponsored by the National Family Partnership, DoDEA observes Red Ribbon Week by providing specialized programming to educate students of the dangers of drug and alcohol misuse and the benefits of living a healthy and drug-free lifestyle.

Law Enforcement: DoD ensures enforcement of underage drinking laws on all federal installations.

Activities Related to Underage Drinking

DoD has a series of SUD prevention efforts, including universal, selective, and indicated prevention strategies. The placement of behavioral health (BH) personnel in primary care medical settings is intended to combat stigma associated with receiving BH care and provides an opportunity to improve early screening, identification, and intervention of many BH conditions.

Addictive Substances Misuse Advisory Committee (ASMAC): Established by the Under Secretary of Defense for Personnel and Readiness under the provisions of DoD Instruction 5105.18, ASMAC serves as a central point for information analysis and integration, program coordination, identification of policy needs, and problem-solving challenges with regard to legal and illegal addictive substance use and SUDs in those served by the military health system (MHS). ASMAC provides expert advice on issues related to the supply of illegal substances and prescription medications, responsible use and demand reduction of addictive substances, promotion of healthy behaviors—including alcohol use, and the identification, prevention, and treatment of other SUDs. ASMAC also provides subject matter expert (SME) advice to other interagency or advisory functions.

Defense Health Agency’s BH Clinical Community: The BH Clinical Community recently established the Substance Misuse and Addictive Behaviors Working Group (SMAB WG), which supports the coordination, integration, and oversight of SUD and other addictive behavior-related clinical care across the MHS. SMAB WG facilitates MHS-level SUD and addictive behavior-

related clinical care activities to standardize, optimize, and harmonize MHS use of associated data and policies.

Health Related Behaviors Survey (HRBS) of Active and Reserve Components: DoD conducts the HRBS every 2–4 years to measure over 30 health and substance use–related behaviors for Active Duty and Reserve Component Service members. Examples of data collected are the age of first substance use, binge drinking, and the prevalence and frequency of substance use.

Own Your Limits Counter-Marketing Campaign: The DoD’s Own Your Limits campaign was launched in September 2019, replacing the former “That Guy” campaign. Own Your Limits is an education campaign that utilizes behavior change tactics to encourage and help Active Duty Service members learn how to drink responsibly if they choose to drink alcohol. The primary target audience of the campaign is 18-to-24-year-old enlisted Service members, but many materials can be applied across the Active and Reserve Components. The campaign is not Service specific; it is designed to resonate with members of all Service branches. The goals of the campaign are to:

- Give Service members the information and motivation they need to make responsible choices when drinking alcohol, which includes sticking to safe drinking limits;
- Support DoD’s efforts to build and sustain a ready and resilient force by providing resources and information to Service members so they can serve honorably and drink responsibly;
- Support professionals in their mission to educate Service members on the importance of drinking alcohol responsibly; and
- Provide friends and family of Service members with the information and resources they need to talk to their Service member about alcohol use concerns.

The campaign is web based and built on a responsive platform, meaning Service members can access the site on any device 24/7. Campaign content, messaging, imagery, and how messages are delivered to Service members are based on focus group sessions conducted across all Service branches. *Website:* OwnYourLimits.org.

The campaign includes:

- A responsive website with resources and information for Service members, their friends and family, and professionals to encourage and support responsible drinking for those who choose to drink. Digital tools available on the site include several calculators (e.g., calorie counter, drink size, BAC) and an evidence-based online anonymous quiz for Service members to check their drinking habits, identify risky behavior, and get resources.
- Social media channels (Facebook–Own Your Limits and Instagram–@ownyourlimits) featuring engaging graphics and information to encourage responsible drinking. The campaign engages with more than 71,000 fans on social media platforms.
- A quarterly e-newsletter called *The Buzz on Responsible Drinking* highlighting campaign updates and other resources for professionals to use in their work with Service members. Website visitors can sign up by visiting OwnYourLimits.org and clicking “Contact Us” in the top right-hand corner to send a message with “SUBSCRIBE” in the message section.

- Downloadable materials, such as fact sheets and posters that can be linked to or printed directly from the campaign website for use.
- Bulk ordering of printed and promotional materials (e.g., factsheets, posters, and educational drink coasters) for professionals to order to support their efforts addressing alcohol use among Service members.

Service-Level Prevention Programs

Marine Corps Substance Abuse Program (SAP): The U.S. Marine Corps (USMC) SAP provides plans, policies, and resources to prevent substance misuse and related consequences. Specific program efforts are based on the Health and Medicine Division of the National Academy of Sciences prevention continuum and focus on the common risk and protective factors framework. USMC SAP's efforts continue to include:

- *Establishment of a Coordinated Continuum of Care:* The Navy Bureau of Medicine and Surgery, the USMC Marine and Family Programs, and the USMC Health Services have a Memorandum of Understanding (MOU) that defines the continuum of psychological health and problematic substance use services offered on Marine Corps installations and establishes communication among all entities to ensure a coordinated comprehensive system of care.
- *Universal Training:* Unit Marine Awareness and Prevention Integrated Training (UMAPIT) educates all Marines about BH risk factors and warning signs, including alcohol use and misuse. UMAPIT incorporates protective factors and skill-building techniques to ensure that Marines understand their responsibility to intervene when a fellow Marine shows signs/symptoms of alcohol misuse and other BH concerns.
- *Selected Training:* PRIME for Life® (PFL) 4.5 is utilized as a USMC educational program for substance misuse education, designed to teach Marines to self-assess high-risk behaviors and influence changes in their attitudes, beliefs, and behaviors around alcohol consumption. PFL 4.5 is also designed to target populations at high-risk for substance misuse (e.g., 17-to-25-year-old Marines).
- *Indicated Training:* PFL 16 hours (PFL 16.0) is an evidence-based, indicated prevention intervention course designed to teach Marines who have been involved in an alcohol-related incident about the dangers and risks involved with alcohol misuse. PFL is facilitated by Substance Abuse Counseling Center (SACC) certified prevention specialists who provide Marines with increased substance use awareness and with new skills for making lower-risk decisions.
- *Deterrence:* The Alcohol Screening Program (ASP) supports the 21st Century Marine and Sailor Initiative and seeks to identify alcohol misuse and direct appropriate intervention before a career- or life-altering incident occurs. The ASP uses monthly random breathalyzer testing of Marines and Sailors to screen for underage drinking and alcohol use while in a duty status.
- *Case Identification and Treatment:* The USMC model supports an integrated approach while maintaining adherence to the scope of practice delineated in the aforementioned MOU. This model includes standardized screening instruments, employs warm hand-offs for referrals, and emphasizes ease of access.
- *SACCs:* USMC SACCs are required to undergo Marine Corps Family Programs Certification accreditation/certification not less than once every 4 years using national and service standards developed by a national accrediting body and to ensure multiple

levels of evidence-based services, including education, care coordination, group therapy, and individual and family support, are provided.

- *Collaboration with Sexual Assault Prevention and Response (SAPR)*: SAP collaborates with SAPR to create effective and consistent prevention messaging in response to the correlation between alcohol and sexual assault. SAP and SAPR work together using social media messaging and awareness campaigns to increase knowledge about the risks associated with alcohol misuse and sexual assault.
- *Collaboration with Suicide Prevention*: SAP collaborates with Suicide Prevention to create effective prevention messaging in response to the correlation between alcohol and suicide. SAP and Suicide Prevention join efforts leveraging social media messaging and awareness campaigns to educate Marines and their family members on the risks associated with alcohol misuse, suicide, and suicide prevention.
- *Installation-Specific Prevention Planning*: SAP collects an installation Prevention Plan by January 1 of every calendar year in support of SAP efforts throughout USMC. To facilitate professional development and increase prevention efforts, SAP provides training throughout the year to SACC staff via an online webinar approved by the United States Navy Certification Board with a continuing education hour in alcohol, tobacco, and other drugs. SAP utilizes the SPF developed by SAMHSA to support the development of annual installation integrated prevention plans and training.
- *Protect What You've Earned (PWYE) Initiative*: PWYE was developed and implemented to start the "health, safety, and well-being" conversation among Marines in choosing low-risk life decisions in keeping with Marine Corps standards. Although PWYE initially focused on alcohol misuse, it was expanded to emphasize good decision making in all aspects of a Marine's life. PWYE reinforces a Marine's inherent desire to safeguard their most valued and hard-earned achievements by promoting individual accountability.
- *Marine Expeditionary Force (MEF) Prevention Capability*: The Embedded BH Prevention Capability staff support the MEF Prevention Capability. Civilian BH personnel are placed in Active Duty Operating Forces to assist the Commander in executing BH prevention program requirements. The goal of the MEF Prevention Capability is to execute and evaluate MEF-based strategic prevention plans and coordinate efforts with installation BH personnel.
- *Review and Revise Alcohol Policies*: SAP staff provides SME reviews to ensure policies and plans improve safety and reduce the risks associated with alcohol.
- *Research/Development and Data Collection in Measuring Program Effectiveness*: SAP staff reviews installation-provided data in collaboration with Research/Development and Data Surveillance to measure program effectiveness.

Navy Alcohol Abuse Prevention Program (NAAPP): The Navy's comprehensive alcohol misuse prevention program supports Fleet readiness with plans, policies, and resources to prevent consequences of substance misuse. NAAPP program includes education and training, early intervention, substance misuse rehabilitation, and accountability. NAAPP efforts comprise:

- *Review and Revise Alcohol Policies*: NAAP establishes and reviews existing and new policies and plans to improve safety and reduce risks associated with alcohol use and misuse.

- *Research/Development and Data Collection in Measuring Program Effectiveness:* Review data in collaboration with Research/Development and Data Surveillance to measure program effectiveness.
- *Alcohol and Drug Abuse Managers/Supervisors (Adamson & Sellman) for Leaders:* Commanding Officers, Officers in Charge, Executive Officers, Command Master Chiefs, Chiefs of the Boat, and as applicable, other senior command personnel complete ADAMS for Leaders.
- *Alcohol Server Training for Morale, Welfare, and Recreation Personnel:* Personnel employed in Navy recreation facilities who are responsible for selling or serving alcoholic beverages complete appropriate training to ensure compliance with Navy and local regulations and statutes, enforcement of policies related to underage drinking, knowledge of alternatives, and a full understanding of designated driver programs.
- *Resilient Workforce (RW) Summits:* RW Summits are conducted throughout the year in fleet-concentrated areas. An RW Summit may also offer some or all of the following topics: SAPR, domestic violence prevention, equal opportunity, substance misuse prevention, nutrition and physical readiness, suicide prevention, and BH.

Navy Substance Abuse Rehabilitation Program (SARP): The Navy Medicine SARP provides early intervention and prevention resources to Sailors and Marines at its 39 ashore and 11 shipboard locations, affording resources to prevent the consequences of ongoing alcohol misuse, including underage drinking.

SARP alcohol and substance misuse early intervention and education includes:

- *PFL: Partnering with the Office of the Chief of Naval Operations (OPNAV N17),* SARP rolled out an evidence-based early intervention and prevention alcohol misuse curriculum titled PRIME for Life® in December 2019, aligning with DoD, DHS, and other federal agencies utilizing the PFL curriculum. The program challenges Sailors and Marines to self-assess high-risk drinking behaviors in making positive changes to attitudes and beliefs around alcohol misuse. It is highly effective at targeting younger Sailors and Marines ages 17–25, reducing stigma in seeking education and treatment for alcohol misuse.
- *Navy My Ongoing Recovery Experience (MORE):* Since 2010, SARP has maintained a strong partnership with the Hazelden-Betty Ford Foundation to execute the Navy MORE Program. Navy MORE is an evidence-based online, smartphone application, and telephonic recovery support program for Sailors and Marines with alcohol misuse, featuring worldwide access 24 hours a day and 7 days a week, including regular telephonic and email contact with a dedicated recovery coach. The Navy MORE Program has helped return over 1,200 Sailors and Marines back to duty following a relapse, avoiding administrative separation or other disciplinary action as a result of continued problematic alcohol misuse.
- *Establishment of a Coordinated Continuum of Care:* The Navy Bureau of Medicine and Surgery, USMC Marine and Family Programs, and the USMC Health Services have an MOU defining the continuum of psychological health and problematic alcohol and substance misuse services offered on Marine Corps installations. This coordination establishes communication among all stakeholders to ensure a coordinated comprehensive system of care, guided by a philosophy of “no wrong door” for Marines and attached Sailors obtaining alcohol misuse early intervention and treatment.

Army Substance Abuse Programs: The Army Substance Abuse Program establishes, administers, and evaluates substance misuse prevention training and professional training programs for all Army personnel worldwide within the Active Component, National Guard, and Army Reserve. The goal of the Army Substance Abuse Program is to provide soldiers, command, Department of Army civilians, contractors, and family members with the education and training necessary to make informed decisions about alcohol and drugs. The following programs are currently provided by the Army Substance Abuse Program to meet the needs of soldiers seen by the Army:

- *Alcohol and Drug Abuse Prevention Training (ADAPT):* ADAPT is an educational/motivational intervention that focuses on the adverse effects and consequences of alcohol and other drug misuse. Its curriculum consists of a minimum of 12 hours of course material. For the ADAPT curriculum, the Army utilizes PFL, a motivational intervention used in group settings to provide early intervention and prevent alcohol and drug problems. PFL is an evidence-based program that provides measurable outcomes and effectiveness as recognized by its inclusion within the SAMHSA National Registry of Evidence-Based Programs and Practices. It provides soldiers with the ability to self-assess their own high-risk behaviors and influence change in attitude, belief, and behavior.
- *Adolescent Support and Counseling Services (ASACS):* ASACS is a school-based program that provides alcohol/drug misuse counseling services and alcohol/drug misuse and deployment support prevention services to eligible adolescent family members at 17 locations outside the contiguous United States. The current staffing for ASACS personnel is 23 counselors located in Hawaii, Korea, Japan, Germany, Belgium, and Italy. These counselors are located in the middle and high schools. The ASACS-Army provided an estimated 21,400 counseling hours and more than 15,550 prevention hours in FY 2019 for military families outside of the continental United States with 23 counselors on hand, reducing the early return of families from overseas for these issues.
- *BH System of Care:* BH System of Care is a standardized system of care to prevent, identify, treat, and track BH issues affecting service members and other beneficiaries. BH System of Care includes 11 integrated BH enterprise programs that operates as a single BH system that supports the readiness of the force by promoting health, identifying BH issues early in the course of the illness, delivering evidence-based treatment, fully leveraging other members of the Army community, and monitoring efficiency and effectiveness through transparent metrics.

Substance Use Disorder Clinical Care (SUDCC): SUDCC provides SUD clinical care, including assessment, treatment, and aftercare for service members and other beneficiaries within an integrated medical and BH model to enhance health and readiness. SUDCC provides SUD treatment as part of a comprehensive plan to address total BH needs. The goal of SUDCC is to provide integrated and co-located BH care for service members and other beneficiaries. Integrated care will maximize the opportunity for a rapid and successful recovery. Soldiers may now proactively seek care for an alcohol problem before an incident occurs and, unless there are safety issues, that care has the same privacy protections as any other medical care. This voluntary care policy seeks to identify problems via alcohol screening in medical settings, self-referral, spouse or buddy referral, or early supervisor-assisted referrals before health, incidents, families, job, or career are impacted by more serious problems.

Child and Family Behavioral Health System (CAFBHS): CAFBHS is the Army’s comprehensive BH model designed to support the needs of Army children and families through the alignment and collaboration with the Army’s patient-centered medical homes. The prevention and early intervention of SUDs is interwoven into all aspects of the CAFBHS model. Specifically, CAFBHS incorporates a well validated clinical assessment tool (CAR, RELAX, ALONE, FORGET, FRIENDS, TROUBLE [CRAFFT]) designed to screen for substance-related risks and problems in adolescents, in evaluations and on-going follow-up of all adolescents 12 years old and older as part of the adolescent version of the BH Data Portal, the Army’s online screening and assessment process. In addition, CAFBHS primary care manager (PCM) training curriculum educates PCMs on how to use the CRAFFT in primary care as a routine assessment of substance misuse. CAFBHS’ School BH providers embedded in schools; overseas and in Hawaii counselors collaborate closely with drug and alcohol counselors from the Army’s ASACS program. In addition to efforts targeting substance use prevention and early intervention, all CAFBHS specialty providers (e.g., psychiatry, psychology, social work, marriage, and family therapists) integrate substance misuse issues into their assessment and treatment of children and adolescents and when appropriate refer to another level of care or agencies as needed. By providing a spectrum of BH services from consultation to treatment for Army children and families across multiple settings (e.g., primary care, schools, BH clinics in military treatment facilities), the CAFBHS program supports overall family well-being in all aspects of functioning.

Army Campaigns: The Army Resilience Directorate recognizes and endorses campaigns that go beyond alcohol or other drug misuse problems. Installations are required to conduct two campaigns a year. Headquarters, Installation Management Command collects after-action reports and shares best practices regarding the campaigns across the enterprise.

- ***Red Ribbon Campaign:*** Red Ribbon Week is the oldest and largest drug prevention campaign in the country. The Red Ribbon Campaign includes the DoD Fulcrum Shield Award. This award recognizes the best youth-based drug demand program that is affiliated with all services. Participants in this program must be of school age and have contributed towards articulating an anti-drug message to their peers and communities. The mission of the Red Ribbon Campaign is to present a unified and visible commitment to the creation of a drug-free America.
- ***Summer Safety Impaired Driving Prevention Campaign:*** The 101 Critical Days of Summer (Memorial Day through Labor Day) safety campaign is intended to remind the Army that it cannot afford to lose focus on safety either on or off duty. A high priority is also placed on alcohol and summer events, like water sports.
- ***National Drunk and Drugged Driving (3D) Prevention Month/Campaign:*** December is annually designated as 3D Prevention Month to recognize the risks and reduce the prevalence of driving under the influence of alcohol and other drugs.
- ***Drive Sober or Get Pulled Over:*** This is a nationwide impaired-driving prevention campaign.

United States Air Force (USAF) SUD Prevention Program: The USAF Alcohol and Drug Abuse Prevention and Treatment Program (ADAPT) encourages healthy and safe alcohol use (and non-use for underage people) as the normative lifestyle choice for young USAF personnel. Prevention efforts include:

- Collaborating with other prevention and resiliency programs and coordinating with violence prevention integrators (VPIs) to reduce underage drinking, alcohol misuse, alcohol-related misconduct, and illicit drug use;
- Utilizing a comprehensive, four-level community-based approach, including strong leadership support, individual-level interventions, base-level interventions, and community-level interventions;
- Delivering individualized Alcohol Brief Counseling—an evidence-based, brief targeted prevention intervention—using motivational interviewing strategies, client and provider manuals, critical thinking exercises, harm reduction skill building, and client-driven change planning; and
- Promoting an evidence-based, web-delivered alcohol prevention intervention with young airmen arriving at their first Permanent Duty Station (during the First Term Airmen Course) to airmen in the formative years of their career (while attending Airman Leadership School). Pilot to occur at three Air Force bases in 2021. *Website:* <https://checkupandchoices.com/>.

ED/OSHS

Activities Related to Underage Drinking

ED’s School Climate Transformation Grant–Local Educational Agency Grants Program: This program provides competitive grants to state educational agencies to develop, enhance, or expand systems of support for, and technical assistance to, local educational agencies and schools implementing an evidence-based, multitiered behavioral framework for improving behavioral outcomes and learning conditions for all students.

Website: <https://www2.ed.gov/programs/schoolclimatesea/index.html>.

- ED has developed a variety of measures to assess the performance of the School Climate Transformation Grants, including measures related to the decrease in suspensions and expulsions of students for possession or use of drugs or alcohol.

ED’s Safe and Supportive Schools News Bulletin: The *Safe and Supportive Schools News Bulletin* is used by the ED OSHS to provide weekly email updates to grantees and other stakeholders in the education community on work related to OSHS and on topics related to school safety, school climate, substance misuse, violence prevention in education, and promotion of student health and well-being. *Website:*

https://www2.ed.gov/about/offices/list/oese/oshs/news.html#PreventED_Listserv_Enrollment.

- The bulletin also highlights other federal funding opportunities related to these topics (including underage drinking prevention).
- It also provides a timely information outlet for the OSHS.
- The listserv content may include information about the OSHS program units (e.g., Well-Rounded Educational Opportunities, Safe and Healthy Students, Education Technology, Homeless, Neglected and Delinquent Youth, and Emergency Management and School Preparedness), legislation, and federal grant opportunities.

Growing Up Drug-Free: A Parent’s Guide to Prevention: An update of this publication, last revised in 2012, was released in April 2017. *Website:*

<https://www.dea.gov/documents/2017/04/27/growing-drug-free-parents-guide-prevention-2017>.

- This 40-page booklet offers information to help parents and other caregivers raise drug-free children.
- The guide includes an overview of substance use among youth; descriptions of substances young people may use; a look at risk factors that may make children more vulnerable to trying and using drugs and protective factors to offset those risks; suggestions for how to talk to children about drugs, regardless of their age; and tips on what to do if you suspect your child is using alcohol, tobacco, or other drugs.
- ED partnered with the Drug Enforcement Administration to update this publication.

DHS/USCG

Activities Related to Underage Drinking

USCG has restructured its policies to reflect the establishment in 2014 of age 21 as the minimum drinking age, regardless of the Service member's duty location. Prevention- and treatment-seeking behaviors are being strengthened and encouraged.

- The USCG's COMDTINST M6320.5, Coast Guard Substance Abuse Prevention and Treatment Manual policy, was officially promulgated on September 6, 2018.
- USCG implemented an Addiction Orientation for Healthcare Providers course, a 1-week course that trains all Medical Officers on how to conduct, screen, and refer patients with SUDs to the appropriate level of treatment.
- Substance misuse assessment and screening training compliance for Medical Officers has approached and is stable at 90 percent (with rotations, retirements, and relocations, this standard should be considered met).
- As with other active duty services, USCG uses PFL and myPRIME as its principal intervention to educate members on high-risk and binge drinking consequences.
- USCG was the first active duty force to raise its drinking age to 21.

DOT/NHTSA

Activities Specific to Underage Drinking

Programs Encouraging States to Enact Minimum Drinking Age and Zero Tolerance Laws:

NHTSA monitors state compliance with congressionally mandated programs to encourage states to enact minimum drinking age and zero tolerance laws, both of which have been enacted by all 50 states and the District of Columbia. *Website:* <https://www.nhtsa.gov/laws-regulations/impaired-driving>.

Activities Related to Underage Drinking

NHTSA supports the work of national organizations to address underage drinking and driving prevention. Several examples follow:

- ***Students Against Destructive Decisions (SADD):*** NHTSA partners with SADD in its efforts to promote safe driving practices among youth, including the prevention of impaired driving. *Website:* <https://www.sadd.org/about>.
- ***State Highway Safety Funding:*** NHTSA provides federal funding to states and local communities, which may be used for activities related to underage drinking and driving prevention through SHSOs. *Website:* <https://www.nhtsa.gov/highway-safety-grants-program/state-highway-safety-plans-and-annual-reports>.

- **Youth Traffic Safety Media:** NHTSA provides resources to support teen driver safety, including the prevention of drinking and driving.
 - *Teen Driving:* Provides overviews, recommendations, and facts about teen driver safety for parents. *Website:* <https://www.nhtsa.gov/road-safety/teen-driving>.
 - *Teen Safety:* Provides campaign materials and marketing techniques for parents, caregivers, teachers, and safety advocates to support safe teen driving. *Website:* <https://www.trafficsafetymarketing.gov/get-materials/teen-safety>.
 - *“Underage Drinking and Driving: The Ultimate Party Foul”:* NHTSA joined with the Ad Council to launch this media campaign to prevent underage drinking and driving.

FTC

Activities Specific to Underage Drinking

Consumer Education: In 2021, FTC continued its alcohol consumer education program, “We Don’t Serve Teens.” This FTC consumer education program, aimed at adults, promotes compliance with the legal drinking age of 21. Updated this year with plain language information, data, and graphics, the campaign provides information about underage drinking and includes free downloadable graphics to share on social media. *Website:* <https://DontServeTeens.gov>.

Main focus: Prevention (P)

ONDCP

DFC Support Program: DFC is administered by ONDCP and managed through a partnership between ONDCP and CDC. The DFC Support Program, created by the Drug-Free Communities Act of 1997, is the nation’s leading effort to mobilize communities to prevent youth substance use. The DFC Support Program provides grants to community coalitions to strengthen the infrastructure among local partners to create and sustain a reduction in local youth substance use.

Recognizing that local problems need local solutions, DFC-funded coalitions engage multiple sectors of the community and employ a variety of environmental strategies to address local substance use problems. DFCs involve local communities in finding solutions and also help youth at risk for substance use recognize the majority of our nation’s youth choose not to use substances. *Website:* <https://www.cdc.gov/drugoverdose/drug-free-communities/>

DFC Coalitions are made up of community leaders representing 12 sectors that organize to meet the local prevention needs of the youth and families in their communities. These 12 sectors are:

1. Youth (18 or younger)
2. Parents
3. Businesses
4. Media
5. Schools
6. Youth-serving organizations
7. Law enforcement
8. Religious/fraternal organizations
9. Civic/volunteer groups
10. Healthcare professionals

11. State, local, or tribal government agencies with expertise in the field of substance misuse
12. Other organizations involved in reducing substance misuse.

The DFC Program is effective; within communities with a DFC coalition, most middle school and high school youth reported not using each of the four core measure substances (i.e., alcohol, tobacco, marijuana, [non-misuse] prescription drugs), and over time, prevalence of past 30-day use decreased significantly for all substances.

APPENDIX C: SURVEYS

Information about underage alcohol use, abuse, and consequences primarily comes from three federally funded surveys: the National Survey on Drug Use and Health (NSDUH), Monitoring the Future (MTF; conducted pursuant to federal grants), and the national Youth Risk Behavior Survey (YRBS). Each of these surveys makes a unique contribution to our understanding of the nature of youth alcohol use.

- NSDUH assesses illicit drug, alcohol, and tobacco use among non-institutionalized individuals ages 12 or older and serves as the major federal source of nationally representative data on substance use in the general population of the United States.
- MTF examines attitudes and behaviors of 8th, 10th, and 12th graders regarding alcohol, drug, and tobacco use and provides important data on substance use and the attitudes and beliefs that may contribute to such behaviors.
- YRBS examines risk behaviors among high school students and provides vital information on specific behaviors that cause the most significant health problems among American youth.

It is important to note that each of these surveys uses different methodologies and for that reason sometimes generate different prevalence estimates of youth substance use.

To improve federal policymakers' understanding of the influence of methodological differences on those estimates, the Office of the Assistant Secretary for Planning and Evaluation within the Department of Health and Human Services (HHS) commissioned a group of recognized experts in survey design, sampling techniques, and statistical analysis to examine and compare the survey methodologies. The resulting papers and accompanying federal commentaries appeared in a special issue of the *Journal of Drug Issues* (Volume 31, Number 3, Spring 2001).

Experts agreed that the overall methodology for each survey is strong and that observed differences are not the result of flaws or serious weaknesses in survey design. In fact, some differences are to be expected—such as those resulting from home- versus school-based settings. From a policy perspective, serious and complex issues such as youth alcohol use and related behavior often require examination and analysis from multiple perspectives. Because no one survey is absolute or perfectly precise, input from multiple sources is not only valuable but necessary.

National Survey on Drug Use and Health (NSDUH)

As noted, NSDUH is the primary source of information on the use of illicit drugs, alcohol, and tobacco in the civilian, non-institutionalized population of the United States age 12 or older. The survey also collects information on mental health and mental health service utilization among youth ages 12–17 and adults ages 18 or older. The Substance Abuse and Mental Health Services Administration (SAMHSA) sponsors the survey, and it is planned and managed by SAMHSA's Center for Behavioral Health Statistics and Quality. NSDUH collects information from residents of households and non-institutional group quarters (e.g., shelters, rooming houses, dormitories) and civilians living on military bases.

Initiated in 1971 and conducted annually since 1990, questionnaires were administered to individuals who constitute a representative sample of the population through face-to-face,

home-based interviews through 2020. During 2020, data collection was completely paused on March 16th because of Coronavirus disease 2019. Web-based data collection, in conjunction with in-person data collection, was approved by SAMHSA in October of 2020. In-person data collection resumed October 1, 2020, and web-based data collection began on October 30, 2020. Mode of administration was determined by infection rates in the area of survey administration.

The 2021 survey continued the use of multimode data collection procedures (i.e., via the web or in person in eligible locations) that were first implemented in October 2020 for the 2020 NSDUH. Multimode data collection was used for the entire 2021 NSDUH sample. Several analyses were conducted to investigate the impacts of these and related methodological issues on estimates for 2021. Using the outcomes of the comparability analyses, the following decisions were made regarding the 2021 NSDUH data.

- Estimates from 2021 cannot be compared or combined with those in 2019 or prior years because estimates from a multimode year are not comparable with estimates from a single-mode year. Estimates of change from 2019 or earlier to 2021 would probably be too greatly influenced by the mode effect.
- Because of effects on estimates when some quarters of data are excluded or missing, 2020 estimates (based on two quarters of data) cannot be compared or combined with those of any other year, including 2021. Using only 2 quarters of data may yield a different trend than use of 4 quarters of data.

Since 1999, NSDUH has been conducted via computer-assisted interviews. Most questions are administered via audio computer-assisted self-interviewing, which provides respondents with a highly private and confidential means of responding to questions. This method increases the level of honest reporting of illicit drug use and other sensitive behaviors. Less sensitive items are administered using computer-assisted personal interviews.

NSDUH provides estimates for each of the 50 states and the District of Columbia as well as national estimates. Compared with the 1999–2013 design, the 2014–2022 sample design allocates more interviews to the largest 12 states, enabling greater precision for national NSDUH estimates. For the 2021 survey, 69,850 interviews were completed, with 31,730 interviews completed in person and 38,120 interviews completed via web, for a weighted overall response rate of 10.3 percent.

Due to improvements in the survey in 2002, the 2002 data constitute a new baseline for tracking trends in substance use (before 2002, NSDUH was called the National Household Survey on Drug Abuse). For that reason, SAMHSA recommends that estimates from 2002 forward not be compared with estimates from 2001. In 2015, substantial changes were again made to data collection equipment, respondent materials, and the survey questionnaire used to improve quality and address changing research needs. Where noted, some trend data will not be available for several years.

Two modifications were made to the NSDUH questionnaire in 2017 that affect alcohol measures:

- Respondents who reported using alcohol in the past 30 days and also reported using alcohol on 0 days in that period were no longer defined as having past-month alcohol use. Due to programmed logic, such respondents in 2017 were not asked subsequent questions in the consumption of alcohol section that applied to people with past-month alcohol use

and were not asked about the misuse of prescription drugs with alcohol in the past 30 days.

- The logic for determining respondents' eligibility to be asked questions about alcohol use disorder was updated. Only respondents who estimated the number of days that they drank alcohol in the past 30 days to be on more than 5 days in the past 30 days (instead of on more than 2 days in that period) were considered eligible.

Modifications made for the 2018 questionnaire related to alcohol consumption were only directed at adult respondents.

In 2020, the assessment questions for alcohol use disorder were modified to reflect criteria from *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition. Two questions were added to the drug treatment section to measure the use of telehealth services for alcohol or drug use issues in the past 12 months.

The following changes were made to the 2021 NSDUH instruments relative to 2020.

- Questions measuring SUD based on criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV), were removed, leaving only DSM-5 SUD criteria questions. The skip logic for alcohol and marijuana SUD questions was revised so that these questions were only administered to alcohol and marijuana users who used on six or more instances in the past year. In 2020, all respondents who reported use of alcohol or marijuana in the past 12 months were asked the SUD questions corresponding to the used substance. In addition, the skip logic for prescription psychotherapeutics (i.e., pain relievers, tranquilizers, stimulants, and sedatives) SUD questions were revised so that all respondents who reported any use of a prescription psychotherapeutic in the past 12 months were asked the respective SUD questions pertaining to that psychotherapeutic category. In 2020, SUD questions were asked only for respondents who reported misuse of psychotherapeutics in the past 12 months.
- In the drug treatment questionnaire section, the skip logic was changed for multiple questions to capture data from respondents who originally reported no past year drug treatment but then reported receiving drug treatment within the past 12 months in a subsequent question. In addition, a series of questions regarding receipt of treatment for specific substances were revised to measure treatment at any time in the past 12 months rather than the last or current past year drug treatment.
- New questions were added to the emerging issues questionnaire section to capture information about the vaping of marijuana and flavoring.
- Revisions were made to skip logic for questions regarding medication-assisted treatment (MAT) for alcohol and opioid use in the emerging issues section.
- The series of yes/no questions in the back-end demographics section measuring disability were replaced by similar questions with four levels of difficulty as response options.'

More details are available in the National Survey on Drug Use and Health (NSDUH): Methodological Summary and Definitions (Center for Behavioral Health Statistics and Quality, 2022b).

Monitoring the Future Study (MTF)

MTF measures alcohol, tobacco, and illicit drug use as well as perceived risk, personal disapproval, and perceived availability associated with each substance among nationally representative samples of students in public and private secondary schools throughout the conterminous United States.

The National Institute on Drug Abuse (NIDA) supports MTF through a series of investigator-initiated grants to the University of Michigan's Institute for Social Research. Every year since 1975, a national sample of 12th graders has been surveyed. In 1991, the survey was expanded to include comparable numbers of 8th and 10th graders each year. Follow-up surveys are also administered by mail to a representative sample of adults ages 18–55 from previous high school graduating classes.

In 2021, completed questionnaires were obtained from 82 percent of all sampled students in 8th grade (n=11,446), 78 percent in 10th grade (n=11,792), and 69 percent in 12th grade (n=9,022). These represent the lowest response rates since survey inception.

University of Michigan staff members administer the questionnaires to students, usually in their classrooms during a regular class period. In 8th and 10th grades, the questionnaires are completely anonymous. In the 12th grade, they are confidential (to permit longitudinal follow-up of a random subsample of participants). Extensive procedures are followed to protect the confidentiality of subjects and their data.

The formal transition of the MTF in-school surveys from paper surveys to surveys on electronic tablets was initiated with the spring 2019 data collection. MTF staff administered the survey using electronic tablets for a randomly selected half of all schools in 2019; the traditional paper-and-pencil questionnaires were used for the other half. This design allowed an assessment of the extent and nature of any mode effects. Responses from traditional paper-and-pencil responses and responses from tablets were pooled into one analysis for the 2019 results. MTF staff opted to do this because differences in substance use prevalence across the two modes were found to be negligible. However, there were some differences found by mode in the results for disapproval, perceived risk, and availability. Therefore, only the responses of the half sample using the traditional paper-and-pencil mode were reported for the estimates related to disapproval, perceived risk, and availability. Starting in 2020, all questionnaires were completed using electronic tablets. In 2021, the survey was administered during class or to students remotely attending school at home, using a web-based questionnaire for the first time (Miech et al., 2022).

Youth Risk Behavior Survey (YRBS)

In the late 1980s, only a limited number of health-related school-based surveys such as MTF existed in the United States. To remedy this, the Centers for Disease Control and Prevention (CDC) developed the Youth Risk Behavior Surveillance System (YRBSS) to monitor six categories of priority health-risk behaviors that contribute substantially to the leading causes of death, disability, and social problems among youth and young adults.

YRBSS includes biennial national, state, and local school-based surveys of representative samples of students in grades 9–12 as well as other national and special-population surveys. CDC conducts the national survey—YRBS—with a target population composed of all regular public and private high school students in the 50 states and the District of Columbia. Education

and health agencies conduct state and local surveys.⁶⁷ The survey is normally conducted during the spring. However, the 2021 national YRBS administration was postponed until fall (September–December) 2021 because of the COVID-19 pandemic and the shift to virtual and hybrid school instructional models and ongoing school closures during spring 2021. Question modifications included changes to the sexual identity question. The national YRBS questionnaire was offered for the first time in English and Spanish during 2021.

The national sample is not an aggregation of state and local surveys, and state and local estimates cannot be obtained from the national sample. In 2021, 17,232 students provided usable questionnaires for the national YRBS for an overall student response rate of 57.4 percent. Sample size was increased in 2021 in anticipation of lower response rates resulting from the COVID-19 pandemic and to obtain a large enough sample size for the desired precision (Mpfu, 2023).

Additional Surveys

Four additional federally supported surveys have collected alcohol consumption and related information from a segment of the underage population—18-to-20-year-olds.

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)

NESARC was a large nationwide household survey sponsored by the National Institute on Alcohol Abuse and Alcoholism. NESARC assesses the prevalence and patterns of alcohol use, other drug use, and related disorders; related risk factors; and associated mental and physical disabilities based on a nationally representative sample of the civilian non-institutionalized population of the United States ages 18 years and older. The first NESARC survey was conducted in 2001–2002. The second survey was conducted in 2004–2005 among individuals who participated in the first NESARC survey. Both surveys were fielded by the U.S. Census Bureau. A third NESARC survey, NESARC-III, was cross-sectional and conducted in 2012–2013. Fieldwork was performed through a contract under the data collection authorization of Title 42 USC 285n.

Behavioral Risk Factor Surveillance System (BRFSS)

BRFSS was initiated by CDC in 1984. It is a state-based cross-sectional telephone survey of non-institutionalized, civilian U.S. adults age 18 years and older that state health departments conduct monthly over landline telephones and cellular telephones with a standardized questionnaire and technical and methodologic assistance from CDC. BRFSS is used to collect prevalence data among adult U.S. residents regarding their risk behaviors and preventive health practices that can affect their health status. Respondent data are forwarded to CDC to be aggregated for each state, returned with standard tabulations, and published at year's end by each state.

Data from the BRFSS on self-reported alcohol consumption are also used in the calculation of alcohol-attributable deaths. The CDC online Alcohol-Related Disease Impact (ARDI) application provides population estimates of the total proportion of deaths for various causes that are attributable to alcohol use (alcohol attributable fractions, or AAFs). AAFs for most of the

⁶⁷ The sampling frame for the national YRBS excludes other types of public schools, including alternative schools, special education schools, Department of Defense operated schools, Bureau of Indian Education schools, and vocational schools that only serve students who receive general instruction at another school.

chronic conditions are calculated using alcohol prevalence data from the BRFSS. The prevalence of low, medium, and high average daily alcohol consumption from BRFSS are then adjusted using per capita alcohol sales data to account for the underreporting of self-reported alcohol consumption (CDC, 2022a).

Survey of Health-Related Behaviors

Begun in the early 1980s and fielded every 2–4 years, the Department of Defense (DoD) Survey of Health-Related Behaviors measures prevalence of substance use and health behaviors among active-duty military personnel on U.S. military bases worldwide. In 2005, DoD expanded the scope of the survey to include the National Guard and Reserves as well as other special studies. The most recent surveys are the 2014 Health-Related Behavior Survey—Reserve Component, which was fielded beginning in September 2014, and the 2015 DoD Survey of Health-Related Behaviors Among Active-Duty Military Personnel. The 2018 Health-Related Behaviors Survey is in process. The 2011 survey included the most extensive changes in the survey since its inception in 1980. For the first time, the survey was administered through a web-based format.

National Health Interview Survey (NHIS)

NHIS is an annual, multistage probability sample survey of households conducted since 1957 by U.S. Census Bureau interviewers for the CDC National Center for Health Statistics (Pleis & Lethbridge-Cejku, 2007).

Association versus Causation

In reviewing data related to risky behaviors and different categories of alcohol use, readers should keep in mind that association does not prove causation. Just because alcohol use is associated with other risky behaviors does not mean that it **causes** these other risky behaviors. Often, additional research is needed to establish alcohol as a causative factor.

Additional Methodological Caveats

When reviewing studies of the age of initiation of alcohol use, it is important to recognize that different researchers use different methods to describe initiation of drinking and to estimate the average age at first use of alcohol. In some cases, this has resulted in large differences in estimates, primarily due to differences in how age groups and time periods are specified in the calculations. The following examples will help readers understand these methodological differences and the resulting statistical differences.

A popular method for computing average age involves restricting the age group of estimation to persons who are 12–17 years old or 12–20 years old with no restriction on the time period. This method provides an estimate of the average age of first use among those in the age group who have used alcohol at some point in their lifetime, which typically results in a younger estimated average age of first use than other methods. This is because initiation occurring in older age groups is excluded from the calculation and also because the calculation gives too much weight to very early initiation. For example, 15-year-olds who will first use at age 17 are excluded because they have not yet used alcohol at the time of data collection. Thus, the 2003 NSDUH average age of first use among lifetime alcohol users who are 12–20 years old is 14.0 years; among 20-year-olds, 15.4 years; and among all lifetime drinkers, 16.8 years.

The method has limited utility for assessing trends because estimates do not reflect a well-defined recent period. A 20-year-old may have first used alcohol at age 10; thus, an average age

of first use among 12-to-20-year-olds would span a period covering as many as 10 years. In addition to not reflecting the most current patterns, year-to-year change in this average is typically negligible due to the substantial overlap in the covered periods.

Trends in average age of initiation are best measured by estimating the average age among those who initiated alcohol use during a specific period (such as a calendar year or within the 12 months prior to interview) in a repeated cross-sectional survey. These estimates can be made with or without age restrictions; for example, the average age of first use among persons in 2003 who initiated within the past 12 months was 16.5 years but restricting the calculation to only those who initiated before age 21 results in an average age of 15.6. Based on the 2003 NSDUH, an estimated 11 percent of recent initiates were 21 years or older when they first used.

Estimates of average age of first use among recent initiates based on the NSDUH sample of people 12 years old or older are biased upward because it does not capture initiation before age 12. For example, the 2003 NSDUH estimated that 6.6 percent of alcohol initiates from 1990–1999 were 11 years old or younger. Excluding these early initiates from calculations inflates the estimate of average age by approximately half a year. This bias can be diminished by making estimates only for time periods at least 2 years prior (e.g., using the 2003 NSDUH, estimate the average age at first use for 2001 but not 2002), an approach used in previous NSDUH reports.

Although this approach can provide interesting historical data, it does not give timely information about emerging patterns of alcohol initiation. Further, there are serious bias concerns with historical estimates of the number of initiates and their average age at first use constructed from retrospectively reported age at first use. Older respondents are more likely not to remember accurately when an event occurred. An event may be remembered as having occurred more recently than it actually did—a “forward telescoping” of the recalled timing of events. Evidence of telescoping suggests that trend estimates based on reported age at first use may be misleading.

Data from the MTF provide another example. In the 2017 MTF, alcohol use by the end of 6th grade was reported by 9.8 percent of 8th graders but only 3.6 percent of 12th graders. Several factors, including telescoping, probably contribute to this difference. Eventual dropouts are more likely than average to drink at an early age; thus, they will be captured as 8th graders but not 12th graders. Lower grades also have lower absentee rates; thus, 12th graders who drink may have been less likely to be present to participate in the survey. Another factor relates to the issue of what is meant by first use of an alcoholic beverage. Students in 12th grade are more inclined to report use that is not adult approved and to not report having less than a glass with parents or for religious purposes. Younger students may be more likely to report first use of a limited amount of alcohol. Thus, 8th- and 9th-grade data probably exaggerate drinking, whereas 11th- and 12th-grade data may understate it.

Websites with Data on Underage Drinking

These federal websites can be useful to persons seeking data related to underage drinking:

- Information from SAMHSA on underage drinking:
<https://www.samhsa.gov/blog/category/underage-drinking>,
<https://www.samhsa.gov/data/data-we-collect/nsduh-national-survey-drug-use-and-health>
- Information from CDC on underage drinking and impaired driving:
<https://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm>,

https://www.cdc.gov/transportationsafety/impaired_driving/index.html , and https://www.cdc.gov/transportationsafety/teen_drivers/index.html

- Information from the YRBS: <https://www.cdc.gov/HealthyYouth/data/yrbs/>
- Information from the National Highway Traffic Safety Administration on underage drinking and on drinking and driving: <https://www.nhtsa.gov/risky-driving>
- Information from the National Institute on Alcohol Abuse and Alcoholism on underage drinking: <https://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/underage-drinking> and <https://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/college-drinking> and
- Information from the National Institute on Drug Abuse on underage drinking: <http://www.monitoringthefuture.org>.

APPENDIX D: DETAILED POLICY HISTORY

Minimum Legal Drinking Age

Legislation pertaining to the minimum legal drinking age (MLDA) in the United States can be traced back to the final days of Prohibition. In 1933, Prohibition was repealed through passage of the 21st Amendment. That Amendment also gave individual states the power to regulate possession and sale of alcohol within their state, which included enactment of laws restricting youth access to alcohol. Most states then designated 21 years of age as the MLDA for “purchase or public possession” of alcohol. Most states retained the age 21 MLDA until the 1970s.

Between 1970 and 1976, 29 states lowered their MLDA from 21 to 18, 19, or 20 years of age, primarily in response to the passage of the 26th Amendment in 1971, which lowered the voting age to 18 (Wagenaar, 1981). However, studies conducted in the 1970s found that motor vehicle crashes increased significantly among teens, resulting in more traffic injuries and fatalities (Cucchiaro et al., 1974; Douglass et al., 1974; Wagenaar, 1983, 1993; Whitehead, 1977; Whitehead et al., 1975; Williams et al., 1975). As a result, 24 of the 29 states raised their MLDA between 1976 and 1984, although to different minimum ages. Some placed restrictions on the types of alcohol that could be consumed by people younger than 21 years of age. Only 22 states set an MLDA of 21 years of age.

Differences across states led to youth driving across borders to buy and drink alcohol in neighboring states, with increased mortality (National Highway Traffic Safety Administration [NHTSA], 2001). In response, Congress enacted the National Minimum Drinking Age Act of 1984, which mandated reduced federal highway funds to states that did not raise their MLDA to 21 years of age. By 1987, all remaining states had raised their MLDA to 21 years of age in response to the federal legislation (although exceptions based on parental permission, location, and other factors exist in many states).

Although enforcement varies across states, the evidence is clear that the MLDA of 21 years of age saves lives and improves health (DeJong & Blanchette, 2014; McCartt et al., 2010). The law has led to significant reductions in traffic crashes among youth (CPSTF, 2016; NHTSA, 2014; Wagenaar & Toomey, 2002). Research has supported the finding that reducing access to alcohol has a significant effect on mortality rates, particularly for young adults (Carpenter & Dobkin, 2011), and that it reduces the rate of non-fatal injuries (e.g., alcohol overdoses, unintentional injuries, and injuries deliberately inflicted by others) in youth under 21 as well (Carpenter & Dobkin, 2016). There is also consistent evidence that the enactment of the MLDA in the United States contributed to a reduction in youth suicide (Xuan et al., 2016).

Passage of the MLDA, although effective in reducing access to alcohol, was not deemed sufficient by itself to prevent underage drinking and its associated problems. A more comprehensive approach was determined to be necessary.

National efforts aimed at the reduction of alcohol-related deaths and disability and associated healthcare costs in addition to the MLDA of 21 are outlined below. Some individual states have also adopted comprehensive policies, programs, and practices (detailed in the *State Reports – Underage Drinking Prevention and Enforcement [State Reports]*, available at

<https://www.stopalcoholabuse.gov>) that can alter individual and environmental factors that contribute to underage drinking and its consequences.

Congressional Actions Between 1970 and 2004

Key congressional actions between 1970 and when the ICCPUD was created in 2004 include the establishment of two leading agencies focused on alcohol issues, including underage drinking. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) was established in 1970; its mission is to “generate and disseminate fundamental knowledge about the effects of alcohol on health and well-being, and apply that knowledge to improve diagnosis, prevention, and treatment of alcohol-related problems, including alcohol use disorder, across the lifespan” (NIAAA Mission Statement, n.d.).

In 1992, Congress created the Substance Abuse and Mental Health Services Administration (SAMHSA) to “focus attention, programs, and funding on improving the lives of people with or at risk for mental and substance abuse disorders” (SAMHSA 2021, p.3).

In 1998, Congress mandated that the Department of Justice (DOJ), through the Office of Juvenile Justice and Delinquency Protection (OJJDP), establish and implement the Enforcing the Underage Drinking Laws program, a state- and community-based initiative. This program ended in 2015.

In 2001, the General Accounting Office (GAO), responding to a Congressional request, assessed, and reported on the programs and Fiscal Year (FY) 2000 funding directed at the prevention of underage drinking. Federal program activities that included media components intended to publicize the problem of underage drinking were also identified. The report identified several federal agencies that conducted program activities related, at least in part, to addressing underage drinking prevention (GAO, 2001). The 2004 National Research Council (NRC)/Institute of Medicine (IOM) report that reviewed the 2001 funding suggested there was a need for an interagency body to provide national leadership and provide a single federal voice on the issue of underage drinking (NRC/IOM, 2004).

APPENDIX E: ABBREVIATIONS

Federal Departments and Agencies

Department of Defense	DoD
Education Activity	DoDEA
U.S. Air Force	USAF
U.S. Coast Guard	USCG
U.S. Marine Corps	USMC
Department of Education	ED
Office of Safe and Healthy Students	OSHS
Department of Health and Human Services	HHS
Administration for Children and Families	ACF
Family and Youth Services Bureau	FYSB
Office of Family Violence Prevention and Services	OFVPS
Agency for Healthcare Research and Quality	AHRQ
Centers for Disease Control and Prevention	CDC
Centers for Medicare & Medicaid Services	CMS
Indian Health Service	IHS
National Cancer Institute	NCI
National Institute on Alcohol Abuse and Alcoholism	NIAAA
National Institute on Drug Abuse	NIDA
National Institutes of Health	NIH
Office of the Assistant Secretary for Health	OASH
Office of the Assistant Secretary for Planning and Evaluation	ASPE
Office of the Surgeon General	OSG
Substance Abuse and Mental Health Services Administration	SAMHSA
Center for Substance Abuse Prevention	CSAP
Center for Substance Abuse Treatment	CSAT
Center for Behavioral Health Statistics and Quality	CBHSQ
Department of Justice	DoJ
Office of Juvenile Justice and Delinquency Prevention	OJJDP
Federal Trade Commission	FTC
Office of National Drug Control Policy	ONDCP
Department of Transportation	DOT
National Highway Traffic Safety Administration	NHTSA
Department of the Treasury	
Alcohol and Tobacco Tax and Trade Bureau	TTB

Programs, Agencies, and Organizations

Addiction Technology Transfer Center	ATTC
Adolescent Brain Cognitive Development Study	ABCD
Adolescent Support and Counseling Services	ASACS
Alcohol and Drug Abuse Prevention Training	ADAPT
Alcohol Detection Devices	ADD

Alcohol Policy Information System	APIS
Alcohol-Related Disease Impact	ARDI
Alcohol Screening Program	ASP
American Psychiatric Association	APA
Army Substance Abuse Programs	ASAP
Basic Center Program	BCP
Behavioral Risk Factor Surveillance System	BRFSS
Behavioral Health Services Information System	BHSIS
Center for Behavioral Health Statistics and Quality	CBHSQ
College Alcohol Intervention Matrix	CollegeAIM
Community Anti-Drug Coalitions of America	CADCA
Communities that Care	CTC
Drug Abuse Warning Network	DAWN
Drug-Free Communities Program	DFC
Enforcing the Underage Drinking Laws	EUDL
European School Survey Project on Alcohol and Drugs	ESPAD
Family and Youth Services Bureau	FYSB
Family Check-Up	FCU
Fatality Analysis Reporting System	FARS
Indian Children's Program	ICP
Institute of Medicine (now National Academy of Medicine)	IOM
Interagency Coordinating Committee on the Prevention of Underage Drinking	ICCPUD
Monitoring the Future Survey	MTF
National Consortium on Alcohol and Neurodevelopment in Adolescence	NCANDA
National Drug and Alcohol Facts Week	NDAFW
National Epidemiologic Survey on Alcohol and Related Conditions	NESARC
National Health Interview Survey	NHIS
National Household Survey on Drug Abuse	NHSDA
National Research Council	NRC
National Survey on Drug Use and Health	NSDUH
National Violent Death Reporting System	NVDRS
Office of Indian Alcohol and Substance Abuse	OIASA
Office of the Assistant Secretary for Planning and Evaluation	ASPE
Pacific Institute for Research and Evaluation	PIRE
Partnerships for Success	PFS
Pregnancy Risk Assessment Monitoring System	PRAMS
PRIME for Life	PFL
PROMoting School/Community-University Partnerships to Enhance Resilience	PROSPER
Screening, Brief Intervention, Referral, and Treatment	SBIRT
Sexual Assault Prevention and Response	SAPR
Skills, Mastery, and Resistance Training	SMART
Sober Truth on Preventing Underage Drinking Act	STOP Act
State Highway Safety Offices	SHSOs

Strategic Prevention Framework	SPF
Substance Use Prevention, Treatment, and Recovery Services Block Grant	SUBG
“Talk. They Hear You.” [®]	TTHY
Unit Marine Awareness and Prevention Integrated Training	UMAPIT
Web-based Injury Statistics Query and Reporting System	WISQARS [™]
Youth Regional Treatment Centers	YRTC _s
Youth Risk Behavior Surveillance System	YRBSS
Youth Risk Behavior Survey	YRBS

Other Abbreviations and Acronyms

Alcohol and drug abuse managers/supervisors	ADAMS
Alcohol screening and brief intervention	ASBI
Alcohol use disorder	AUD
Behavioral health	BH
Blood alcohol concentration	BAC
Caffeinated alcoholic beverages	CABs
<i>Diagnostic and Statistical Manual of Mental Disorders</i> , Fourth Edition	DSM-IV-TR
<i>Diagnostic and Statistical Manual of Mental Disorders</i> , Fifth Edition	DSM-5
Evidence-based practices	EBPs
Family Violence Prevention and Services Act	FVPSA
Fetal alcohol spectrum disorders	FASDs
Knowledge, attitudes, and behaviors	KABs
Memorandum of understanding	MOU
Minimum legal drinking age	MLDA
Public service announcement	PSA
Substance abuse counseling center	SACC
Substance abuse program	SAP
Student Assistance Program	SAP
Training and technical assistance	TTA
Years of potential life lost	YPLL

APPENDIX F: REFERENCES

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