SAMHSA
Substance Abuse and Mental Health Services Administration

Report to Congress on the Prevention and Reduction of Underage Drinking 2021

US Department of Health & Human Services

Administration for Children & Families

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Indian Health Service

National Institute on Alcohol Abuse and Alcoholism

National Institute on Drug Abuse

Agency for Healthcare Research and Quality

Office of Population Affairs

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ICCPUD

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

REPORT TO CONGRESS ON THE PREVENTION AND REDUCTION OF UNDERAGE DRINKING 2021

This *Report to Congress on the Prevention and Reduction of Underage Drinking* (*RTC*) is required by the Sober Truth on Preventing (STOP) Underage Drinking Act (Pub. L. 109-422), which was enacted by Congress in 2006 and reauthorized in December 2016 as part of the 21st Century Cures Act (Pub. L. 114-255). 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 *2021 RTC*: The *2021 RTC* includes data from calendar years 2019 and 2020. Epidemiological data in Chapters 1, 3, and 4 are drawn primarily from the 2019 National Survey on Drug Use and Health, the 2019 Monitoring the Future survey, and the 2019 Youth Risk Behavior Survey. Chapter 2 includes data on the underage drinking prevention activities of ICCPUD member agencies in calendar year 2020. Chapter 5, the *Report to Congress on the National Media Campaign to Prevent Underage Drinking*, describes 2020 activities conducted by the campaign.

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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 *2021 Report to Congress on the Prevention of Underage Drinking.* This is the 13th 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. It includes recent data from federal surveys; descriptions of underage drinking prevention, intervention, treatment, and 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 persons under age 21, used more often than tobacco, marijuana, or other illicit drugs. During 2019, 18.5 percent of 12- to 20-year-olds reported consuming alcohol in the past month in the National Survey on Drug Use and Health (NSDUH; Center for Behavioral Health Statistics and Quality (CBHSQ), 2020a). Underage alcohol consumption is a persistent and serious public health challenge, resulting in thousands of deaths each year through motor vehicle crashes, suicide, violence, alcohol poisoning, and other causes. Underage drinking is also associated with sexual assault and other crimes (White & Hingson, 2013), impaired brain function (Spear, 2018), decreased academic performance (Jones, 2020), and increased risk of developing an alcohol use disorder later in life (Moss et al., 2014). Binge drinking exacerbates underage drinking's harmful consequences and increases with age; 22.9 percent of young people ages 18–20 reported binge drinking at least once in the past month (CBHSQ, 2020a).

There has been improvement over the past several years: From 2004 to 2019, past-month alcohol use among individuals ages 12 to 20 declined by 35.5 percent. Past-month binge drinking decreased by 17.2 percent between 2015 and 2019 (CBHSQ, 2021). However, persistent patterns of underage alcohol use, particularly among older underage individuals who drink alcohol, are cause for concern and have led ICCPUD to begin a new update and expansion of its Comprehensive Plan for Preventing and Reducing Underage Drinking. An ongoing focus of the Comprehensive Plan and this *Report* is the identification of evidence-based policies, programs, and practices for preventing underage alcohol use.

Research indicates that evidence-based strategies are most effective when implemented as part of a multifaceted approach that includes parents and families, law enforcement, healthcare providers, community organizations, schools and universities, local and state governments, and the federal government. With community support, law enforcement can more effectively prevent youth from accessing alcohol. Parents, schools, and universities can provide clear, consistent education about the consequences of underage drinking. Healthcare providers can screen patients under age 21 for alcohol use and provide brief intervention and referral to treatment as appropriate.

The ICCPUD Comprehensive Plan draws upon information contained in this report to call upon all levels of government and our universities, schools, communities, and families to implement strategies that have proven to be effective. The Substance Abuse and Mental Health Services Administration and ICCPUD agencies are committed to working together to provide national leadership in these critical efforts.

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Executive Summary

EXECUTIVE SUMMARY

Introduction

Alcohol use is responsible for approximately 3,500 deaths annually among youth under age 21 in the United States, shortening their lives by an average of 60 years (Centers for Disease Control and Prevention [CDC], 2021). Underage drinking also contributes to a wide range of costly health and social problems, including motor vehicle crashes (the greatest single mortality risk for underage individuals who drink alcohol), suicide, interpersonal violence (e.g., homicides and sexual and other assaults), unintentional injuries (e.g., burns, falls, and drownings), cognitive impairment, alcohol use disorder (AUD),[1] risky sexual behaviors,[2] poor school performance, and alcohol and drug overdoses.

Underage alcohol use occurs in a context of significantly problematic adult use nationwide. Approximately 95,000 individuals of all ages in the United States die from alcohol-attributable causes each year, making excessive[3] alcohol use the third leading preventable cause of death in the U.S. (CDC, 2021). The economic burden of excessive alcohol use (as defined by the CDC) in the United States was estimated to be $249 billion in 2010, and three-quarters of those costs are from binge drinking[4] (Sacks et al., 2015). 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 the socioeconomically disadvantaged (Grucza et al., 2018; B. H. Han et al., 2017). Alcohol also plays a role in many drug overdoses. In 2017, alcohol was involved in 14.7 percent of all opioid overdose deaths, a 5.5-fold increase from 1999 (Tori et al., 2020).

This report—the *2021 Report to Congress on the Prevention and Reduction of Underage Drinking (2021 RTC)*—focuses on underage alcohol use, as required by federal law. In 2006, Congress enacted the Sober Truth on Preventing Underage Drinking Act—known as the "STOP Act"—to address underage drinking. The STOP Act, reauthorized in 2016 as part of the 21st Century Cures Act, established the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD), and required 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 information on federal prevention efforts (Chapters 1–4). The second 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*

[1] Diagnostic and Statistical Manual of Mental Disorders, fifth edition ([DSM-5], American Psychiatric Association [APA], 2013) integrates the two DSM, fourth edition (DSM–IV) disorders, alcohol abuse and alcohol dependence, into a single disorder called alcohol use disorder. DSM-5 does not specifically address adolescents. The 2019 National Survey on Drug Use and Health (NSDUH) assessed adolescent alcohol use disorders based on DSM-IV criteria.

[2] For example, as defined in Wagenaar, et al., 2018.

[3] "Excessive drinking" as defined by CDC includes binge drinking, heavy drinking, and any drinking by pregnant women or people younger than age 21.

[4] Binge drinking was defined as four or more drinks on a single occasion for women and five or more drinks for men.

[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.

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 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.

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

1. The National Survey on Drug Use and Health (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).
3. Youth Risk Behavior Survey (YRBS), conducted by CDC.

Each of these surveys uses slightly different definitions for drinking patterns, such as binge drinking. Exhibit E.1 shows key terms as defined by each study.

Exhibit E.1: Definitions of Alcohol Consumption by Survey

Measure	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**	Females:[6] Reported drinking four or more drinks . . .

[6] Reflects 2015 definition change for female binge drinking from five drinks to four drinks.

Measure	Survey Source	Definition
		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:[7] 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:[8] 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.

[7] Reflects 2017 definition change for female binge drinking from five drinks to four drinks.
[8] Reflects 2015 definition change for female binge drinking from five drinks to four drinks.

Characteristics of Underage Drinking in the United States

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

Alcohol continues to be the most widely used substance among youth[9] in the United States, with a higher proportion of young people using alcohol than marijuana, tobacco, or other drugs. According to the 2019 NSDUH, among individuals ages 12 to 20:

- 18.5 percent reported alcohol use in the past 30 days.
- 13.5 percent reported illicit drug use in the past 30 days.
- 9.1 percent reported tobacco product use in the past 30 days (CBHSQ, 2020a).

Youth Start Drinking at an Early Age

As discussed 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, 1998; Hawkins et al., 1997; Liang & Chikritzhs, 2015; Robins & Przybeck, 1985). Accordingly, delaying the onset of alcohol initiation may reduce the risk of developing alcohol problems in adulthood.

The peak years of initiation of alcohol use are in grades 7–11, and 15.0 percent of high school students reported on the 2019 YRBS[10] that they used alcohol before age 13 (Jones, Clayton, et al., 2020). Approximately 2,186 young people ages 12–14 initiated alcohol use each day in 2019, based on NSDUH data (CBHSQ, 2021).

Why Is Underage Drinking a Problem?

- *Alcohol is used more widely than tobacco, marijuana, and other drugs in the U.S. by people under age 21 (CBHSQ, 2020a; Miech et al., 2020).*
- *Motor vehicle crashes are the greatest mortality risk for underage people who drink. In 2019, of the 1,603 drivers ages 15–20 who were killed in motor vehicle traffic crashes, 386 (24 percent) had a blood alcohol concentration (BAC) of 0.01 or higher (National Highway Traffic Safety Administration (NHTSA), 2020b).*
- *In 2019, 17% of U.S. high school students reported they rode with a drinking driver and 5% drove after drinking alcohol (Yellman, 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; White & Hingson, 2013).*
- *Early initiation of drinking is associated with development of AUD later in life (Grant & Dawson, 1997; Hingson et al., 2009).*

Binge Drinking

Approximately 4.2 million (11.1 percent) of 12 to 20-year-olds reported past-month binge[11] alcohol use in 2019 (CBHSQ, 2020a). An analysis of 2015 YRBS data indicated that more than half (57.8 percent) of high school students who used alcohol in the past month also reported binge drinking[12] within the past month. The same analysis showed that more than two in five individuals who binge drink consumed eight or more drinks in a row (Esser, 2017).

[9] For the purposes of this report, the terms "youth" or "young people" or "underage" refers to individuals ages 12 to 20, unless otherwise specified; this term includes adolescents and young adults assessed by the various surveys who are not legally permitted to drink.

[10] YRBS data are collected every 2 years; data for 2019 are included in the current RTC.

[11] 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.

[12] Binge drinking in the YRBS through 2015 data collection was defined as 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 for both male and female students.

Binge drinking substantially increases the risk of alcohol-related harms among underage youth and adults, such as motor vehicle crashes, 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).

Underage Binge Drinking

- *Approximately 4.2 million (11.1 percent) of 12- to 20-year-olds reported past-month binge alcohol use in 2019 (NSDUH data; CBHSQ, 2020a).*
- *Approximately 0.8 million underage youth engaged in heavy drinking (i.e., binge drinking on 5 or more days within a 30-day period; NSDUH data; CBHSQ, 2020a).*
- *More than 5 percent of 12th graders engaged in high-intensity or extreme binge drinking (MTF data; Miech et al., 2020).*

Approximately 2.2 percent of 12- to 20-year-olds (0.8 million) engage in heavy drinking, defined by SAMHSA as binge drinking on each of 5 or more days in the past 30 days (CBHSQ, 2020a). Although underage individuals who drink generally consume alcohol less frequently than adults who drink, they are more likely to binge drink when they do. A substantial proportion of underage people who drink consume considerably more than the four- or five-drink binge criterion. For example, based on combined data from the 2018 and 2019 NSDUH, 6.4 percent of underage individuals who drink had nine or more drinks during their last drinking occasion (CBHSQ, 2021).

A troubling 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 binging represents an even higher level of a consumption pattern (binge drinking) that is already known to be dangerous. According to an analysis of MTF[13] data for 2019, 5.3 percent of 12th graders reported consuming 10 or more drinks in a row, and 3.2 percent reported consuming 15 or more drinks in a row within the previous 2 weeks. Although these percentages have been generally shifting downward over time, over 5 percent of underage people who drink still meet the definition of high-intensity or extreme binge drinking (Miech et al., 2020).

Alcohol use rates, including binge and heavy alcohol use,[14] increase with age (Exhibit E.2). However, it is important to note that, although very young adolescents (age 12 to 15) are less likely to drink than older adolescents and young adults, they may reach high blood alcohol (BAC) levels with fewer drinks (e.g., three to four drinks) than older adolescents (age 18 or older) due to their smaller 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.

Prevalence of Alcohol Use Disorder Among Youth Is High

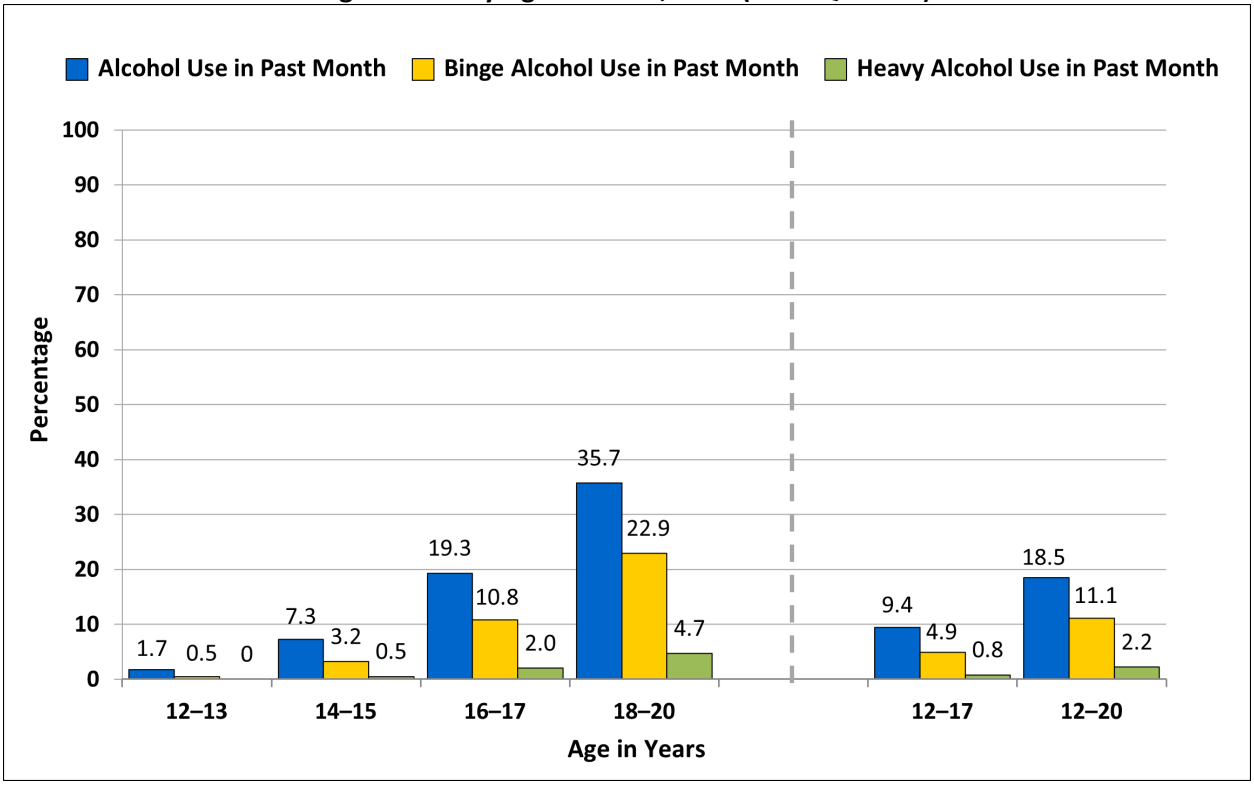
Although most underage people who binge drink do not meet the criteria for AUD, the prevalence among this group based on DSM-IV-TR (American Psychiatric Association [APA], 2000) criteria is nonetheless substantial. Younger adolescents have lower rates of AUD than older adolescents; 0.4 percent of 12- to 14-year-olds and 2.8 percent of 15- to 17-year-olds met criteria for DSM-IV-TR AUD. The prevalence rate for AUD in 18- to 20-year-olds (7.0 percent) is nevertheless significantly lower than prevalence rates for 21- to 24-year-olds (11.4 percent),

[13] For comparability with data from the 2019 NSDUH and the 2019 YRBS, the latest MTF data included in this report are also from 2019. The 2020 MTF data, released in December 2020, will be included in the next report.

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

25- to 29-year-olds (9.7 percent) and 30- to 34-year-olds (8.0 percent). The prevalence of AUD is highest among young adults ages 21–24 (CBHSQ, 2021).

Exhibit E.2: Any Alcohol Consumption, Binge, and Heavy Alcohol Use in Past 30 Days Among People Ages 12–20 by Age: NSDUH, 2019 (CBHSQ, 2020a)



College Drinking

Drinking and binging rates are higher for 18- to 20-year-olds compared with youth ages 12–17 years (CBHSQ, 2020a; see Exhibit E.2), and rates are higher for college students[15] than for same-age peers not attending college. Of college students, 62.2 percent report past-month drinking, compared with 50.1 percent of those of the same age but not in college (Schulenberg et al., 2019). Problems associated with college drinking, in addition to traffic crashes and injury-related deaths, include sexual assault, other violent crime on college campuses, and reduced academic performance.

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

[15] College students are defined as MTF panel participants who are full-time students enrolled in a 2- or 4-year college 1–4 years after high school in March during the year of the MTF survey (Schulenberg et al., 2019). Same-age peers are defined as individuals 1–4 years post-high school graduation who are not enrolled in either a 2- or 4-year college at the time of survey completion.

access should be more widely implemented. Younger underage people who drink (ages 12–14) are more likely to get alcohol from their parents and/or their own house than from another source, according to NSDUH data. Older underage people who drink (ages 15–20) are more likely to give money to an adult to buy it for them or to receive alcohol from an unrelated adult or another underage person (CBHSQ, 2020a).

Prevention Efforts

Since the mid-1980s, underage drinking prevention efforts have been implemented at the federal, state, 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 (CDC, 2021); 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 2 of this report.

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 likely is due to a combination of factors, including increased attention to the risks of underage drinking at all levels of society. 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. 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 sidebar in this section) contribute leadership and vision to this national effort commensurate with their missions and mandates. In 2018, ICCPUD created an updated Comprehensive Plan with three broad goals and three targets for underage drinking reduction (described below under Extent of Progress) and is in the process of updating the Plan for 2021.

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 supports research on patterns and use of drugs and alcohol.
- CDC prevents excessive drinking by improving surveillance, supporting health agencies, and translating evidence-based recommendations into practice. CDC also works to prevent alcohol-related harms, including motor vehicle crashes, injuries, violence, sexually transmitted diseases, 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.

Effective Solutions

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 the National Institute on Alcohol Abuse and Alcoholism (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*

A comprehensive underage drinking reduction effort includes a balance of evidence-based prevention, intervention, treatment and enforcement policies, programs, and practices that are implemented at multiple levels, including federal, state, community, family, school, and individual. 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).

Evidence-based environmental policies to reduce underage drinking identified in the 2016 Surgeon General's report, *Facing Addiction in America* (HHS, 2016), in addition to the age 21 MLDA, include:

- 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.

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.

(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.)

Environmental-level interventions can be complemented by individual-, family-, and school-level approaches. As *Facing Addiction in America* (HHS, 2016) states:

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

Evidence-based individual-, family-, and school-level programs that are highlighted in the 2016 Report include:

- **Good Behavior Game (GBG):** A *school-based* intervention that provides teachers with a method of classroom behavior management and aims to reduce early aggressive or disruptive behavior problems. Long-term research on GBG, supported by NIDA, shows a significant reduction in drug and alcohol misuse and in substance use disorders.
- **LifeSkills Training (LST):** A *school-based* curriculum for middle-school students that has been successful in delaying early use of alcohol and in reducing use for up to 5 years after the training ended. NIDA funds continued research on LST.
- **Strengthening Families Program: For Parents and Youth 10–14:** A *family-based* seven-session skills-building program developed with NIDA funding that enhances parenting skills and adolescent substance refusal skills. Multiple studies have showed reduction in alcohol use among participating youth through age 21.
- **Screening, Brief Intervention, and Referral to Treatment (SBIRT):** An *individual-level* clinical prevention strategy that is intended to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs. Although SBIRT is effective in populations age 18 and older, which includes older underage individuals who drink, the United States Prevention Services Task Force concluded there is insufficient evidence to recommend SBIRT for youth aged 17 and younger. However, a recent analysis of NSDUH data indicates adolescents are more likely to transition to an SUD within 12 months of cannabis and prescription misuse initiation than adults. This finding underscores the importance of screening for substance misuse in adolescents (Volkow et al., 2021). Adaptation of the interventions for younger age groups may increase effectiveness (Curry et al., 2018). The American Academy of Pediatrics recommends 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 guide to screening adolescents titled *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide* (NIAAA, 2011).

These and many other programs and policies are supported by federal agencies and described in more detail 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 Section

2(d) of the STOP Act. 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 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 children up to age 20.

The most visible TTHY campaign resources are its television, radio, and print public service announcements, which have collectively garnered 14.9 billion media impressions (number of times people have seen the ads or messages) in all 50 states and in more than 300 cities. The TTHY campaign continues to evolve and has developed a diverse suite of informational, educational, and promotional resources beyond public service announcements, that includes a mobile application, discussion starter guides and videos, as well as resource guides/toolkits, to help communities promote and implement the campaign locally, and empower parents and caregivers to start talking with their kids about alcohol, drugs, and other dangerous substances.

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

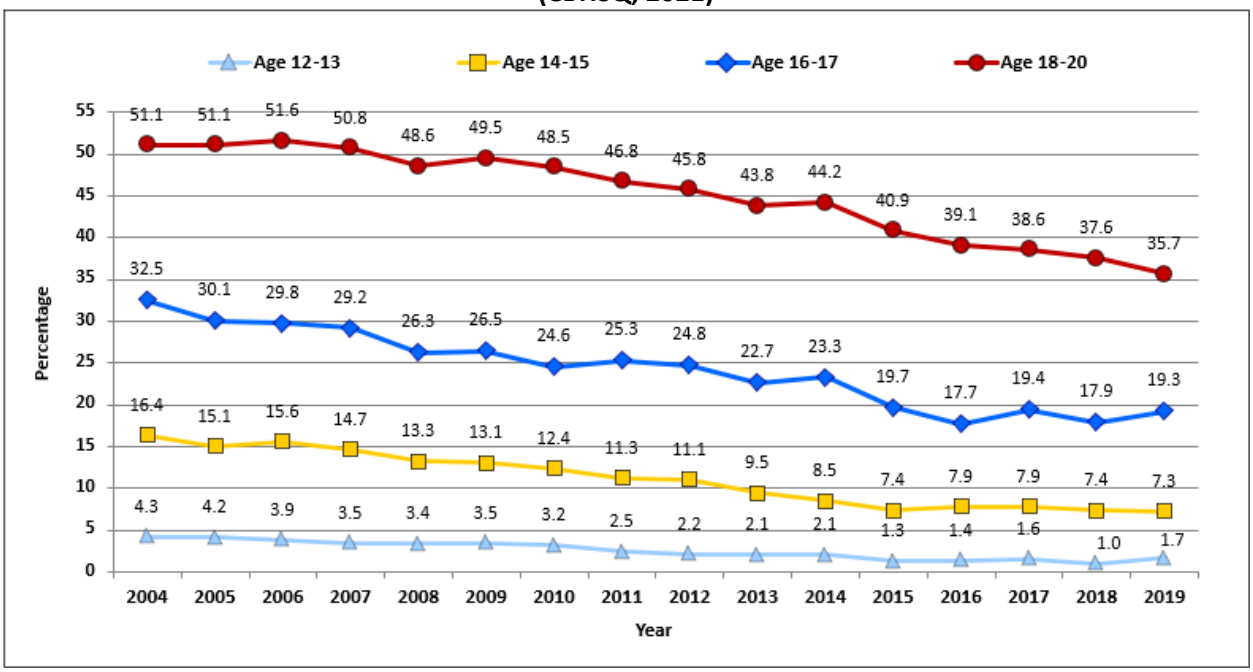
Extent of Progress in Reducing Underage Drinking

As noted previously, national epidemiologic data demonstrate a reduction in the prevalence of underage drinking (Exhibit E.3). Based on NSDUH data, there has been a 35.5 percent relative decline in the prevalence of past-month drinking among 12- to 20-year-olds from 28.7 percent in 2004 to 18.5 percent in 2019. Past-month alcohol use, however, remains high among people ages 18–20 (35.7 percent in 2019; CBHSQ, 2020a). Alcohol-related traffic deaths among drivers ages 15–20 have declined 85 percent since 1982, shortly before passage of the MLDA Act.

Progress on Achieving Comprehensive Plan Targets

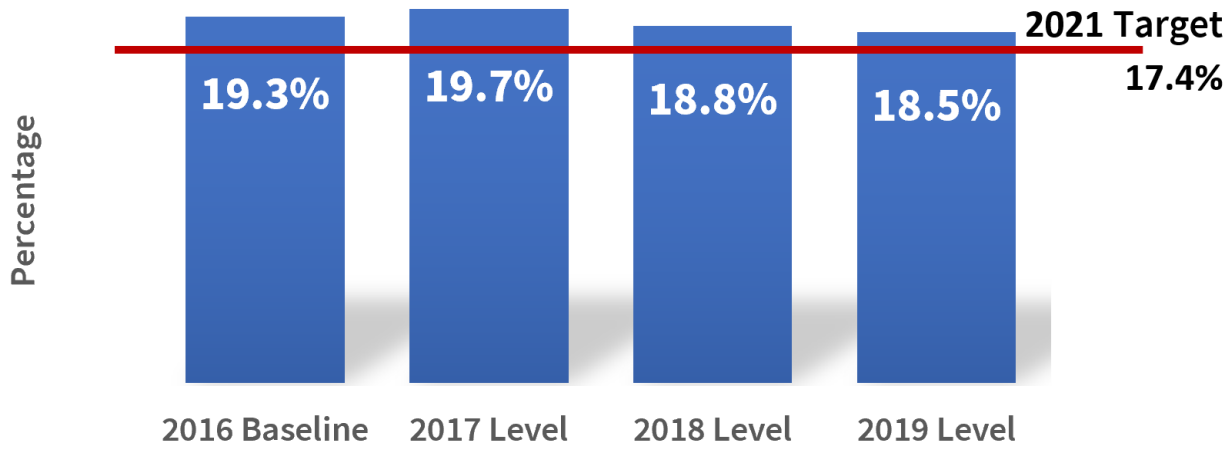
As discussed above, ICCPUD has created a comprehensive plan that includes three specific targets to be achieved by 2021; data for 2021 will be available starting in 2022. The targets are described below and in Exhibits E.4–E.6 show current progress toward meeting them.

Exhibit E.3: Trends in Past-Month Alcohol Use for 12- to 20-Year-Olds by Age Group: NSDUH, 2004–19 (CBHSQ, 2021)



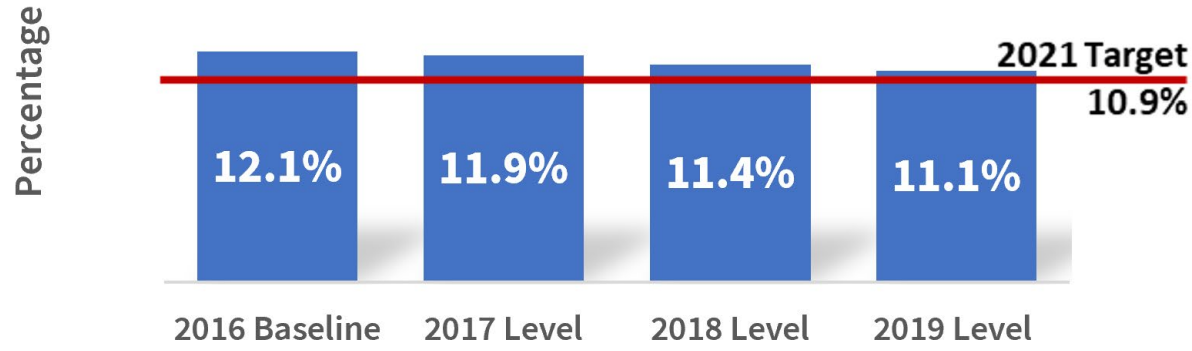
2021 Target 1: By 2021, **reduce** the prevalence of past-month alcohol use by 12-to 20-year-olds to 17.4 percent compared with the 2016 baseline of 19.3 percent (a reduction of 10 percent).

Exhibit E.4: 2019 Prevalence of Past-Month Alcohol Use Compared With 2016 Baseline and 2021 Target: NSDUH, 2019 (CBHSQ, 2020a)



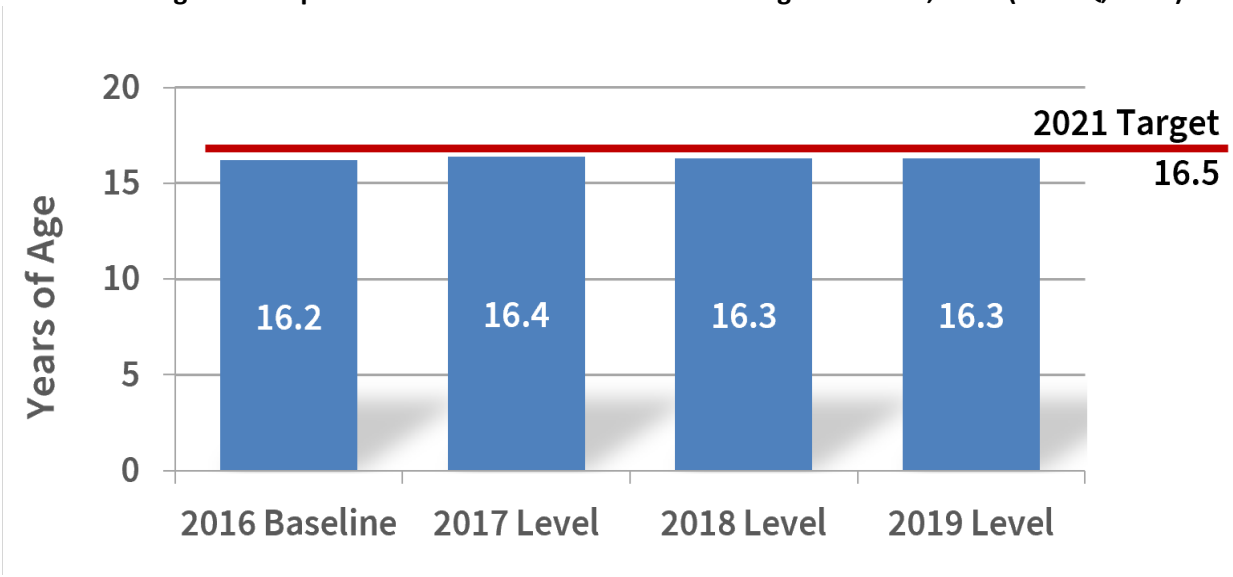
2021 Target 2: By 2021, **reduce** the prevalence of 12-to 20-year-olds reporting binge alcohol use in the past 30 days to 10.9 percent compared with the 2016 baseline of 12.1 percent (a reduction of 10 percent).

Exhibit E.5: 2019 Prevalence of Past-Month Binge Alcohol Use Compared With 2016 Baseline and 2021 Target: NSDUH, 2019 (CBHSQ, 2020a)



2021 Target 3: By 2021, **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 E.6: 2019 Average Age of First Alcohol Use Among Those Who Begin Drinking Before Age 21 Compared With 2016 Baseline and 2021 Target: NSDUH, 2019 (CBHSQ, 2021)



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 multi-faceted 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.

Exhibit E.7: Multi-faceted Approach to the Reduction of Underage Drinking

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

- The effects of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and the resulting coronavirus disease 2019 (COVID-19) on adolescent and adult drinking patterns.
- Recent changes in laws governing the sale of alcohol for home delivery and take-out, as well as sales of products on the internet.
- The development of new products that especially appeal to youth.
- The sale of high-alcohol-content grain beverages.
- Changes in marijuana policies and laws and possible resulting changes in consumption patterns and the perception of risk of substance use.
- Changes in youth drinking behavior, including the concurrent use of alcohol and drugs (e.g., prescription opioids).
- Changes in the price of alcoholic beverages resulting from reductions in alcohol taxes or other policy changes at the federal, state, 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.

Chapter 1: Public Health Consequences of Underage Drinking

CHAPTER 1: PUBLIC HEALTH CONSEQUENCES OF UNDERAGE DRINKING

Summary of Chapter

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

Overview

Alcohol use is responsible for approximately 3,500 deaths annually among youth under age 21 in the United States, shortening their lives by an average of 60 years (Centers for Disease Control and Prevention (CDC), 2021). Underage drinking also contributes to a wide range of costly health and social problems, including motor vehicle crashes (the greatest single mortality risk for underage people who drink), suicide, interpersonal violence (e.g., homicides and sexual and other assaults), unintentional injuries (e.g., burns, falls, and drownings), cognitive impairment, alcohol use disorder (AUD),[16] risky sexual activity, poor school performance, and alcohol and drug overdoses.

Underage alcohol use occurs in a context of significantly problematic adult use nationwide. Approximately 95,000 individuals of all ages in the United States die from alcohol-attributable causes each year (Esser, 2020), making excessive alcohol use[17] a leading preventable cause of death in the United States. The economic burden of excessive alcohol use (as defined by the CDC) in the United States was estimated to be $249 billion in 2010; three-quarters of those costs were from binge drinking[18] (Sacks et al., 2015).

Over the past 2 decades, alcohol use, binge drinking,[19] and AUD have increased in segments of the adult population, especially among women, older adults, racial/ethnic minorities, and the socioeconomically disadvantaged (Grucza et al., 2018; B. H. Han et al., 2017). Related to the increases in alcohol consumption, recent data show a significant decrease in life expectancy after 2014–17 in the United States, reversing the trend of increasing life expectancy since 1959. This decrease is predominantly due to an increase since 2014 in all-causes mortality in young and middle-aged adults. 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 in the years from 1999 to 2017 (Woolf & Schoomaker, 2019). A recent analysis of death certificate data found that alcohol-related mortality increased during the period from 1999–2017 for all age groups except 16–20 years and 75 years and older. Males ages 45–74 years had the highest alcohol-related mortality. Although chronic alcohol use accounted for the majority of deaths overall, 9 out of 10 alcohol-related deaths among youth ages 16–20 years involved acute alcohol consumption, likely due to the number of years it takes for chronic conditions to develop. There

[16] *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition ([DSM-5] American Psychiatric Association [APA], 2013) integrates the two DSM, fourth edition (DSM–IV) disorders, alcohol abuse and alcohol dependence, into a single disorder called alcohol use disorder. DSM-5 does not specifically address adolescents. The National Survey on Drug Use and Health (NSDUH) assesses adolescent substance use disorders based on DSM-IV criteria.

[17] "Excessive alcohol use" as defined by CDC includes binge drinking, heavy drinking, and any drinking by pregnant women or people younger than age 21.

[18] Binge drinking was defined as four or more drinks on a single occasion for women and five or more drinks for men.

[19] 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.

was not a significant change in the overall rate of acute alcohol-related deaths in this younger age group, but there was a significant increase in the rate for females. This narrowing gender gap in alcohol-related deaths is consistent with a narrowing gender gap in alcohol use among young people (White, 2021).

Another major contributor to the mortality increases in young and middle-aged adults is drug overdoses; alcohol plays a role in many drug overdoses. From 2002–03 and 2014–15, alcohol involvement in prescription opioid deaths increased from 8.5 percent to 13.7 percent (Kandel et al., 2017). People who binge drink are twice as likely to misuse prescription drugs while drinking than people who drink but do not binge (Esser et al., 2021).

Despite these concerning trends in adult alcohol use and in the association between alcohol consumption and drug overdoses, significant progress in reducing underage drinking has been achieved. For example, past-month alcohol use among individuals ages 12–20 dropped 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), 2020a). 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 or 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. Approximately 59.9 percent of individuals ages 12–20 who reported drinking in the past month on the 2019 National Survey on Drug Use and Health (NSDUH) survey also reported binge drinking (CBHSQ, 2020a).

The benefits of reducing underage drinking are substantial, including saving lives and dollars and promoting the overall health of young people. In addition, delaying the age at which young people begin drinking may reduce their chances of developing AUD and of experiencing other negative consequences in adulthood (Grant & Dawson, 1997).

The implementation of effective policy and environmental strategies for reducing excessive alcohol use may 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 (Xuan et al., 2015).

In addition to focusing on trends in alcohol use, this report includes information about marijuana use in adolescents. Marijuana use by youth is associated with the use of alcohol, as well as with other substances, including tobacco, and other drugs (DuPont et al., 2018). Due to recent legalization and decriminalization in several states, it is important to monitor whether alcohol use increases, decreases, or stays the same as the state marijuana laws change. As of January 1, 2021, 15 states and the District of Columbia had legalized recreational use of marijuana by adults. Recent research indicates that legalization of recreational marijuana as well as greater retail availability of alcohol and recreational marijuana were positively associated with alcohol and marijuana co-use among adolescents (Bailey et al., 2020; García-Ramírez et al., 2021).

In 2006, Congress enacted the STOP Act to address underage drinking in the United States. The STOP Act, reauthorized in 2016 as part of the 21st Century Cures Act, 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) 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 2).
- A description of the federally coordinated approach to prevent and reduce underage drinking (Chapter 2).
- The extent of progress in preventing and reducing underage drinking nationally (Chapters 3 and 4).
- Surveillance data, including information about the initiation and prevalence of underage drinking, consumption patterns, and the means of underage access (Chapters 3 and 4).
- 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; 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 (HHS) has determined to be appropriate.

Adverse Consequences of Underage Drinking

Underage drinking affects the health and well-being 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 due to:

- Motor vehicle crashes and other unintentional injuries (such as fires/burns, falls, and drowning).
- Alcohol and drug overdoses.
- Homicide and suicide (CDC, 2020b).

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 can also increase societal costs over time due to the increased risk of chronic conditions among youth who start drinking at young ages, including AUD (NRC & IOM, 2004).

Direct Consequences of Underage Drinking

Mortality and Injury from Traffic Crashes

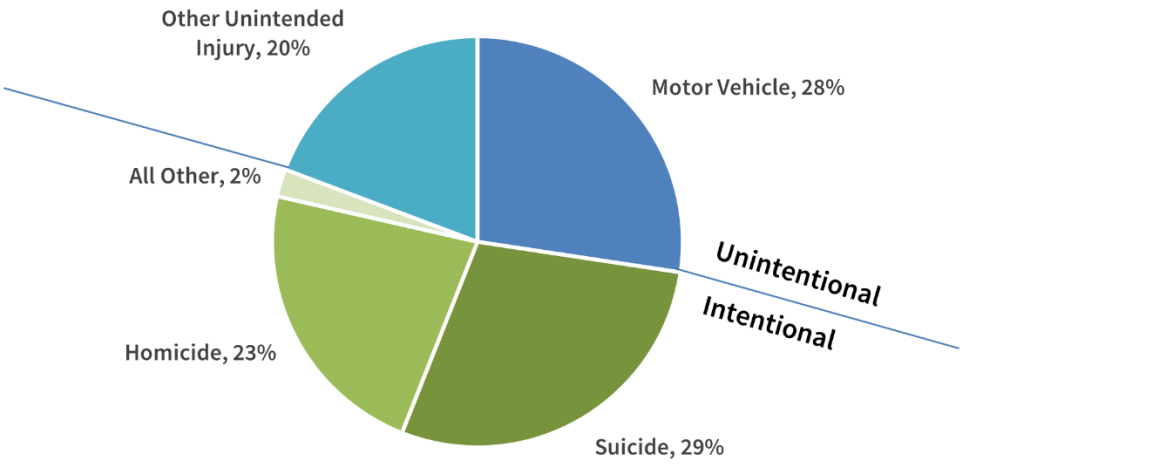
The greatest unintentional mortality risk for underage people who drink has been, and continues to be, from motor vehicle crashes. In 2019, of the 1,603 drivers ages 15–20 who were killed in motor vehicle traffic crashes:

- 386 (24 percent) had a blood alcohol concentration (BAC) of 0.01 percent or higher. Of those,
  - 318 (20 percent) had a BAC of 0.08 percent or higher.
  - 68 (4 percent) had a BAC of 0.01 to 0.07 percent.[20]

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 young people ages 12–20 years, including suicide, homicide, and other unintentional injuries (CDC, 2020c; see Exhibit 1.1).

Exhibit 1.1: Injury-Related Fatalities for Youth Ages 12–20: 2019 (CDC, 2020b)



In 2019, an estimated 5,385 youth ages 12–20 died from unintentional injuries; 3,160 involved motor vehicle crashes. The remaining 2,225 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, 2020b). A 1999 meta-analysis of alcohol involvement in unintentional injury deaths (other than those due to motor vehicle crashes) among persons age 15 years and older reported an overall alcohol-attributable fraction of 31 percent, although rates varied widely across studies and injury type (Smith et al., 1999).

Suicide was the leading cause of injury-related death for individuals ages 12–20 in 2019. 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.

[20] Special data analysis provided by the National Highway Traffic Safety Administration (NHTSA) for this report; National Center for Statistics and Analysis, 2020).

(Miron et al., 2019). From 2018 to 2019, rates declined significantly among persons aged 15–24 years (3.4 percent; 14.5 to 14.0) and in males aged 10–14 years (16.2 percent; 3.7 to 3.1; Stone et al., 2018). The largest relative increase in suicide rates— from 0.6 deaths/100,000 to 1.3 deaths/100,000 between 1999 and 2017—occurred among children ages 5–14 years (Woolf & Schoomaker, 2019).

Alcohol involvement is often implicated in adult and adolescent suicide attempts and completions. A 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 doses (Borges et al., 2017). Among a sample of adults admitted to the hospital for attempted suicide, the stated motivation for drinking before the suicide attempt affected the association between acute alcohol use and proximal suicide premeditation/intent. Those who drank to facilitate the suicide attempt had a greater intent to die by suicide than those who did not (Bagge et al., 2015). The direction and temporal aspects of the relationship between alcohol use and suicide ideation and attempts in adolescents is not fully understood (Bagge & Sher, 2008).

In the first meta-analysis to examine alcohol involvement in fatal nontraffic injuries 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 (which is now the third-leading cause of death for 12- to 20-year-olds). Data focused on youth from 17 states showed that among youth ages 10–19 years who died by suicide and were tested for alcohol, 12 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 following a suicide attempt had consumed alcohol beforehand, and of those cases, 72 percent were attributable to or caused by alcohol use (Miller et al., 2006).

Suicidal behavior in adolescents and in 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 percent, with consistent positive correlations between adolescent drinking, depression, and suicidality (Ganz & Sher, 2009). A recent meta-analysis concluded that, globally, and across all age groups, the odds of suicidal behavior is about three times higher among individuals with AUD compared with those without AUD (Conner & Bagge, 2019).

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.

Neurobiological research suggests that adolescence may be a period of unique vulnerability to the effects of alcohol. A recent 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 the attenuation 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).

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

Research to date does not address to what extent the negative consequences of adolescent alcohol exposure can be mitigated, and the 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 alcohol and drug use), this suggests that most effective prevention strategies for this age group involve policies that restrict access to alcohol (Spear, 2018).

Alcohol consumption by women of reproductive age, including underage females, may also pose developmental risks to their fetuses. Very early exposure to alcohol that occurs with alcohol consumption by the mother during pregnancy can result in fetal alcohol spectrum disorders, including fetal alcohol syndrome, which remains a leading cause of intellectual disabilities (Jones et al., 1973; Warren & Bast, 1988).

Risky Sexual Behavior

Underage drinking plays a significant role in risky sexual behavior, including unintended and unprotected sexual activity. Such behavior increases the risk for unplanned pregnancy and contracting sexually transmitted diseases, including infection with HIV/AIDS (Cooper & Orcutt, 1997). A recent meta-analysis of substance use and risky sexual behavior in adolescents (ages 12–17 primarily) concluded that although there is a positive relationship between alcohol use and risky sexual behavior, the relationship is complex. Individual, contextual, and environmental factors significantly impact the co-occurrence of these risk behaviors, with the association more clearly seen in females and moderated by ethnicity. The association is also found with multiple drugs, not just alcohol (Ritchwood et al., 2015). Similarly, a review of studies involving college students concluded that the association between alcohol use and risky sexual behavior is moderated by a number of factors, including gender, existing relationship with a partner, and level of drinking (Brown et al., 2016).

Impaired Academic Performance

In general, studies of underage drinking and academic performance indicate that drinking is associated with poorer school performance. A 2013 literature review reported that most of the 44 studies reviewed that included alcohol use as a variable reported statistically significant inverse relationships between health-risk behaviors (which includes alcohol use) and academic achievement. This was true for both cross-sectional and longitudinal studies (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 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 Ds and Fs; 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 education 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 to the above study findings, using data from the Youth Development Study, Mortimer (2003); Mortimer (2015); Owens et al. (2008); and Harris and Udry (2021) tracked a panel of youth from their freshman to senior years of high school. The authors failed to find a significant link across the high school years between increased drinking and diminishing academic performance.

College-age drinking has educational impacts. About 25 percent of college students report academic consequences as a result 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-high alcohol use who also engaged in low or no marijuana use (approximately 40 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 and Grant and Dawson (1997) found that more than 40 percent of people who initiated drinking before age 13 met DSM-IV diagnostic criteria for alcohol dependence at some time in their lives.[21] For youth ages 12-17, approximately 5.6 percent developed AUD within 12 months of first alcohol use (Volkow et al., 2021).

The onset of alcohol consumption in childhood or early adolescence is also associated with later use of drugs, drug dependence, and drug-related crash involvement (Hermos et al., 2008; Hingson et al., 2008). Use of both alcohol and marijuana or alcohol, marijuana, and cigarettes

[21] Note that the criteria for alcohol-related disorders in DSM-5 (APA, 2013) do not specifically address adolescents.

before age 16 is associated with a spectrum of young adult substance use problems as well as substance use disorder diagnoses (Moss et al., 2014).

Adults who started drinking at age 14 were three times more likely to report driving after drinking too much ever in their lives than were those who began drinking after age 21. Crashes were four times more likely for those who began drinking at age 14 than for those who began drinking after age 21 (Hingson et al., 2001).

Increased Risks from Concurrent and Simultaneous Substance Use

For people under age 21, marijuana is the second most commonly consumed illicit substance after alcohol.[22] In the 2019 Monitoring the Future (MTF) survey, 22.3 percent of 12th graders reported past-month use of marijuana (Miech et al., 2020). An analysis of multi-substance use patterns among youth ages 12–17 using NSDUH data (2002–14) revealed that 16.1 percent used multiple substances, and that use of more than one substance is associated with an increased likelihood of a substance use disorder. Use of multiple substances in youth has also been linked to heavier consumption patterns in adulthood compared with single or dual substance (Han et al., 2017). A recent analysis of MTF trends revealed that marijuana is increasingly the first substance in the sequence of adolescent drug use (Keyes, Rutherford, et al., 2019).

NSDUH data indicate 21.1 percent of individuals ages 12–20 who report past month alcohol use also report marijuana use concurrent with or within 2 hours of the most recent use of alcohol, compared with only 7.9 percent of those age 21 or older (CBHSQ, 2020a). A recent analysis of NSDUH data during the years covering 2002 to 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. Those who use both alcohol and marijuana on the same occasion tend to use both substances more frequently, in greater quantities, and experience more substance-related consequences. Co-use of alcohol and marijuana may signal the presence of an additional drug use disorder. Over 80 percent of young adults with a prescription drug use disorder (82.9 percent) or illicit drug use disorder (85.1 percent) reported alcohol and marijuana co-use, or alcohol use disorder and/or marijuana use disorder. The authors suggest 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 (McCabe et al., 2021).

An analysis of data collected by the MTF survey indicates that high school seniors who consume 10-plus drinks in a row and marijuana 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 extreme binge drinking (15-plus drinks in a row) also reported non-medical use of prescription medication, such as opioids, sedatives/anxiolytics, and stimulants (McCabe et al., 2017). An analysis of data from the MTF survey by McCabe et al. (2015) indicated that more than six in every 10 high school seniors who used non-medical stimulants in the past year also reported co-use of prescription stimulants, alcohol, and other drugs.

[22] 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.

The simultaneous use of substances while driving has significant public safety implications; impairment increases as the number of substances increases. 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 driving under the simultaneous influence of alcohol and illicit drugs in 2014. Although the trend in impaired driving has decreased since 2002, it remains a concern (Lipari et al., 2013).

Another concern is the potential combined effect of alcohol with opioids. A recent study found that respiratory depression caused by opioids—which can be fatal—is exacerbated by the effects of alcohol in young adults (Schrier et al., 2017). The 2017 NSDUH data indicated that 3.4 percent of underage individuals who currently drink reported misuse of opioids (CBHSQ, 2018). A recent study by Esser et al. (2019), using combined NSDUH data from 2012–14, found that prescription opioid misuse was most common among people 12–17 years old who binge drink (8.1 percent compared with 3.5 percent for all people who binge drink).

Social Costs and Associated Consequences

Mortality and Injury

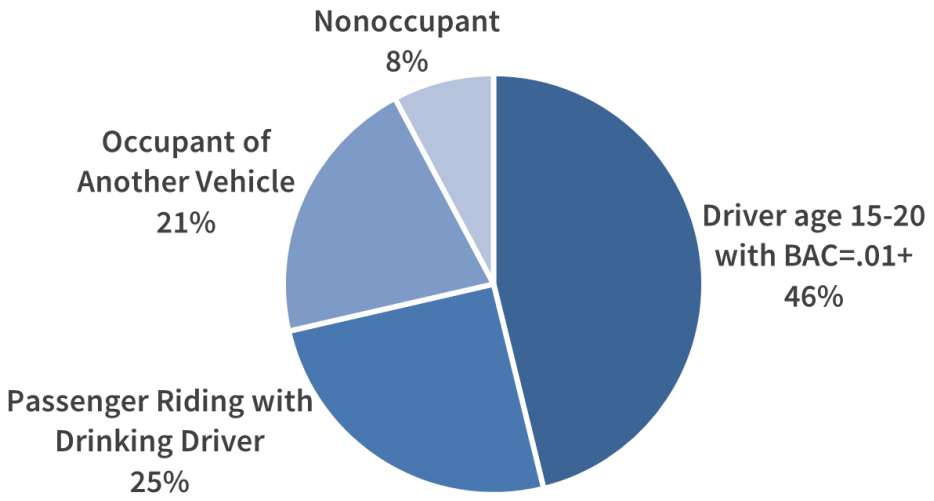
Persons other than the underage individuals who drink also experience the consequences of underage alcohol use, through destruction of property, unintentional injury, violence, and even death. In 2019, 836 people were killed in motor vehicle traffic crashes involving a 15- to 20-year-old driver with a BAC of .01 percent or higher. The distribution of fatalities by person type in 2019 is shown in Exhibit 1.2. As shown, 54 percent of all 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, occupants of other vehicles; National Highway Traffic Safety Administration, 2020b).

Police and Child Protective Services records suggest that individuals under age 21 commit 30 percent of murders, 31 percent of rapes, 46 percent of robberies, and 27 percent of other assaults (Miller et al., 2006). As the authors note, relying on reports of assault rather than agency records would yield higher estimates. The degree to which alcohol is a factor in violent crimes committed by persons under 21 is unknown. Review articles by Abbey (2011) and Nolen-Hoeksema (2004) suggest that underage drinking by both the person experiencing the assault and the assailant increases the risk of physical and sexual assault.

Social 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 percent experienced some form of sexual assault while at college (Krebs et al., 2009). One estimate based on a national survey of college students is 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).

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 2019: NHTSA, FARS 2019 Annual Report File (NHTSA, 2020)

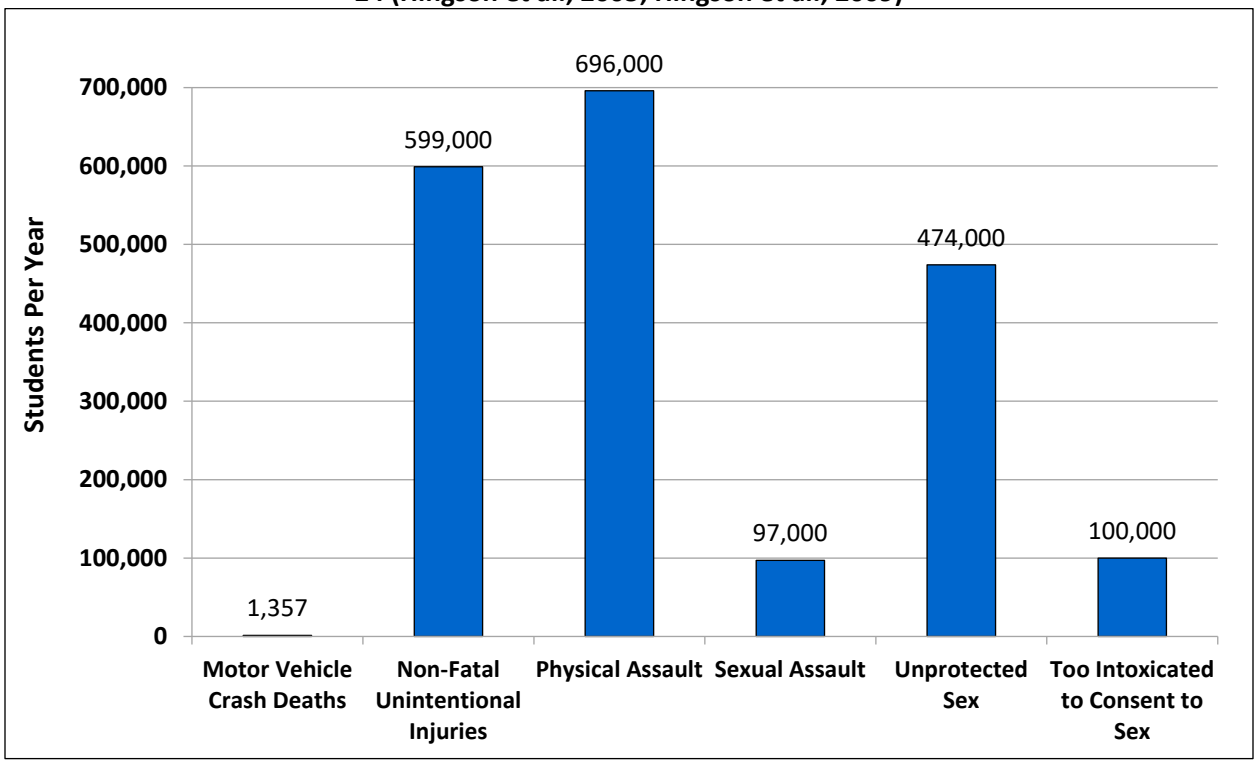


As noted above, a review by Abbey (2011) of three relevant studies concluded that approximately half of all reported and unreported sexual assaults involve alcohol consumption by the perpetrator, the person experiencing the crime, or both. Abbey and colleagues (2004) reported that if alcohol was involved, usually both the person experiencing the assault and the perpetrator had consumed alcohol. Estimates of perpetrators' intoxication during the incident ranged from 30 percent to 75 percent.

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 were assaulted or hit by another student who had been drinking. Another 599,000 were 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 when so intoxicated they were unable to consent (Exhibit 1.3). About 11 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 on young adults post high school found that, although four-year college students more frequently reported negative consequences resulting from alcohol use than did non-attenders, individuals in two-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 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).

Exhibit 1.3: Prevalence of Alcohol-Related Adverse Consequences Among College Students Ages 18–24 (Hingson et al., 2005; Hingson et al., 2009)



Chapter 2: A Coordinated Federal Approach to Preventing and Reducing Underage Drinking

CHAPTER 2: A COORDINATED FEDERAL APPROACH TO PREVENTING AND REDUCING UNDERAGE DRINKING

Summary of Chapter

Chapter 2 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 (EBPs) is described. (A brief description of federal programs offered by each of the ICCPUD agencies is provided along with a detailed inventory in Appendix B.) 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 prevent and reduce 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 below and summarized in Exhibit 2.1, the federal government has a long history of working on underage drinking; the approach has been more coordinated and intensive in recent years.

The federal government has enacted policies; conducted research and surveillance; and developed or supported 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

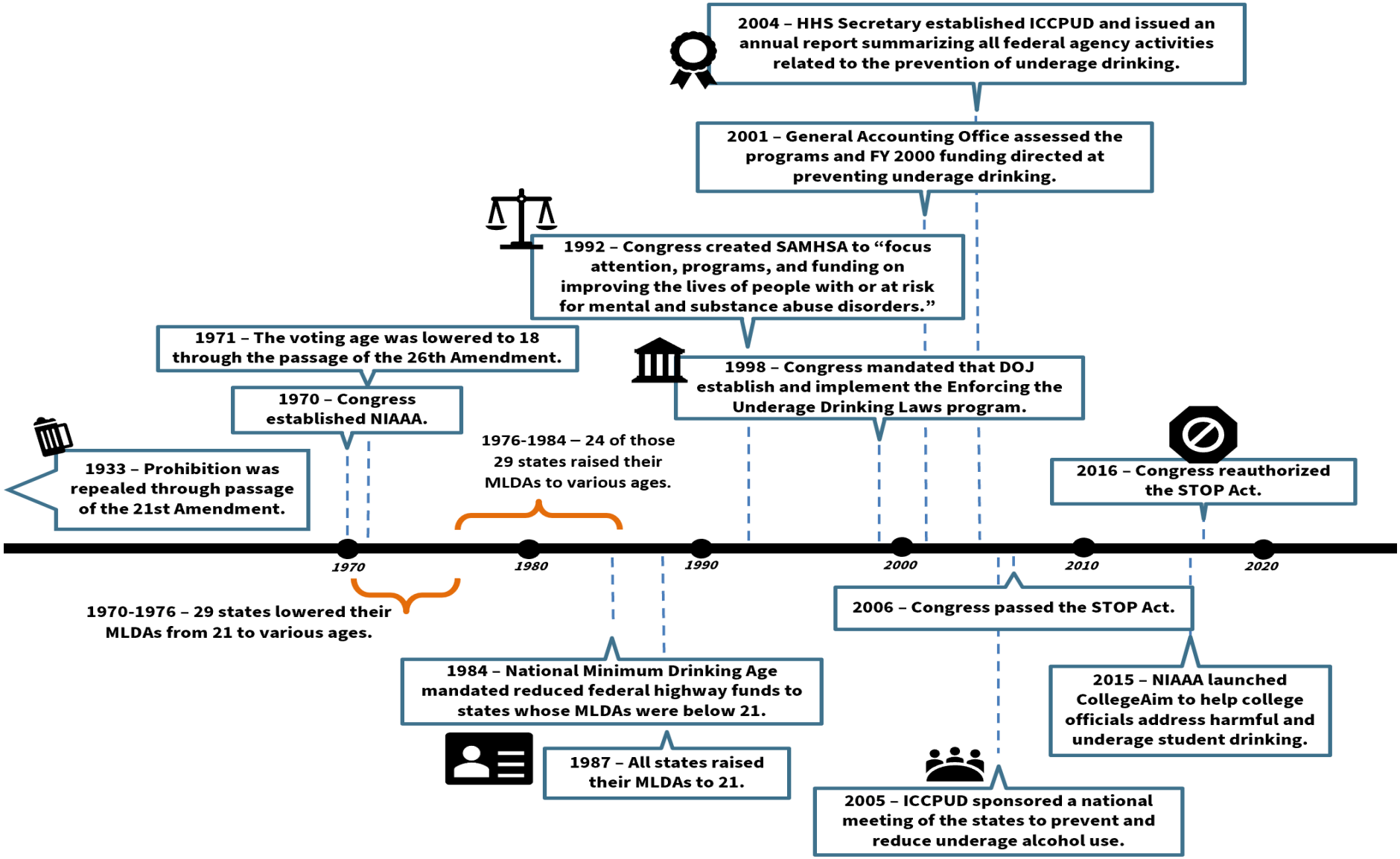
Legislation pertaining to the legal minimum drinking age in the United States can be traced back to the days of Prohibition. In 1933, Prohibition was repealed through passage of the 21st amendment. That amendment also gave individual states the power to regulate possession and sale of alcohol within their state, which included enactment of laws restricting youth access to alcohol. Most states then designated 21 years of age as the minimum legal drinking age (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 MLDAs 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 MLDAs 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 MLDAs to 21 years of age. By 1987, all remaining states had raised their MLDAs 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 (alcohol overdoses, accidental injuries, and injuries 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).

Exhibit 2.1 History of Federal Involvement in Reducing Underage Drinking



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. 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.

Additional Congressional Actions Between 1970 and 2004

Key Congressional actions during this time period 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 "promote, direct and support biomedical and behavioral research on the causes, consequences, treatment, and prevention of alcoholism and alcohol-related problems" (NIAAA Mission and Future, 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.

In 2001, the General Accounting Office (GAO), responding to a Congressional request, assessed and reported on the programs and 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 a number of federal agencies that conducted program activities related, at least in part, to addressing 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).

Passage of the MLDA, although effective in reducing access to alcohol, was not deemed sufficient to prevent underage drinking and its associated problems. A more comprehensive approach was determined to be necessary.

The STOP Act, ICCPUD, and the Comprehensive Plan

The conference report accompanying H.R. 2673, the "Consolidated Appropriations Act of 2004," directed the HHS Secretary to establish ICCPUD (see member list, sidebar) and to issue an annual report summarizing all federal agency activities related to the prevention of underage drinking. The HHS Secretary directed the SAMHSA Administrator (now the Assistant Secretary for Mental Health and Substance Use) to convene ICCPUD in 2004.

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

- *Secretary of Health and Human Services*
- *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 Centers for Disease Control*
- *Director of the National Institute on Alcohol Abuse and Alcoholism*
- *Director of National Institute on Drug Abuse*
- *Director of the Office of National Drug Control Policy*
- *Administrator of National Highway Traffic Safety Administration*
- *Administrator of the Office of Juvenile Justice and Delinquency Prevention*
- *Chairman of the Federal Trade Commission*

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

> *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 "formally establish and enhance the efforts of the interagency coordinating committee (ICCPUD) that began operating in 2004."

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). SAMHSA was directed by the HHS Secretary to convene ICCPUD and serve as the lead agency. In keeping with the STOP Act legislation'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 alcohol 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 Assistant Secretary for Mental Health and Substance Use, U.S. Department of Health and Human Services. Staff representatives from each agency participate in monthly meetings convened by the ICCPUD Staff 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 a Data Committee, composed of staff from member agencies that conduct research on underage alcohol use, its adverse consequences, and on 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 is also convening an Advisory Committee to Reduce Underage Drinking to serve as a continuing body providing recommendations to ICCPUD on the review and adoption of evidence-based policies, programs, and practices. A Technical Review Subcommittee will provide feedback on assumptions, methods, research, and presentations related to policies, programs, and practices for the STOP Act reports to Congress and the adult-oriented National Media Campaign.

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 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 EBPs as part of a federally coordinated approach to prevent and reduce underage drinking.

ICCPUD developed *A Comprehensive Plan for Preventing and Reducing Underage Drinking* (the *Comprehensive Plan*) that 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 the U.S. 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:

1. Strengthen a national commitment to address underage drinking.
2. Reduce demand for, availability of, and access to alcohol by people younger than 21 years.
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 sets out the vision, mission, and principles of ICCPUD. ICCPUD is currently developing a 2021 version of the *Comprehensive Plan.*

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 that the resulting programs and interventions are complementary and synergistic.

A graphic representation of this intended coordinated and collaborative approach is provided in Exhibit 2.2. 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.[23]

[23] "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.

Exhibit 2.2 Multifaceted Effort to Reduce Underage Drinking

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. 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 NIH served as co-leaders in developing Healthy People 2020 objectives for substance misuse, including underage drinking.[24] 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.

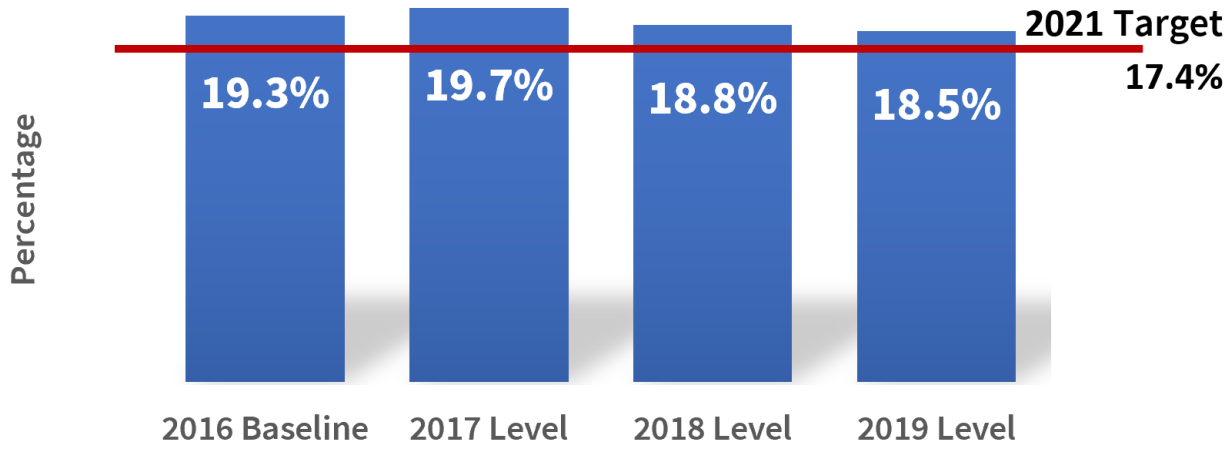
[24] For details regarding these substance use-related objectives, go to: https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents

New Targets for Reducing Underage Drinking

ICCPUD has set new targets for 2021 to ensure that current trends of reducing alcohol use continue. Note that the relevant data for 2021 will not be available until 2023.

2021 Target 1: By 2021, **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 2.3).

Exhibit 2.3: 2019 Prevalence of Past-Month Alcohol Use Compared With 2016 Baseline and 2021 Target: NSDUH, 2019 (CBHSQ, 2020a)



2021 Target 2: By 2021, **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 2.4).

2021 Target 3: By 2021, **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 2.5).

Exhibit 2.4: 2019 Prevalence of Past-Month Binge Alcohol Use Compared With 2016 Baseline and 2021 Target: NSDUH, 2019 (CBHSQ, 2020a)

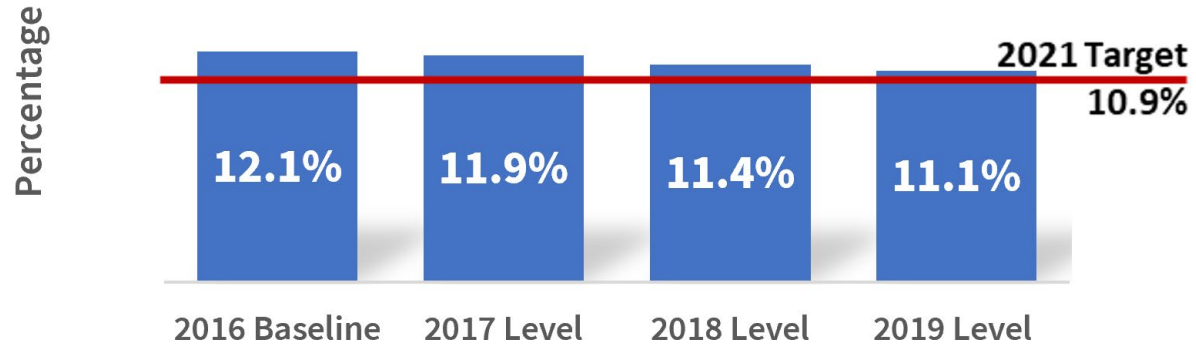
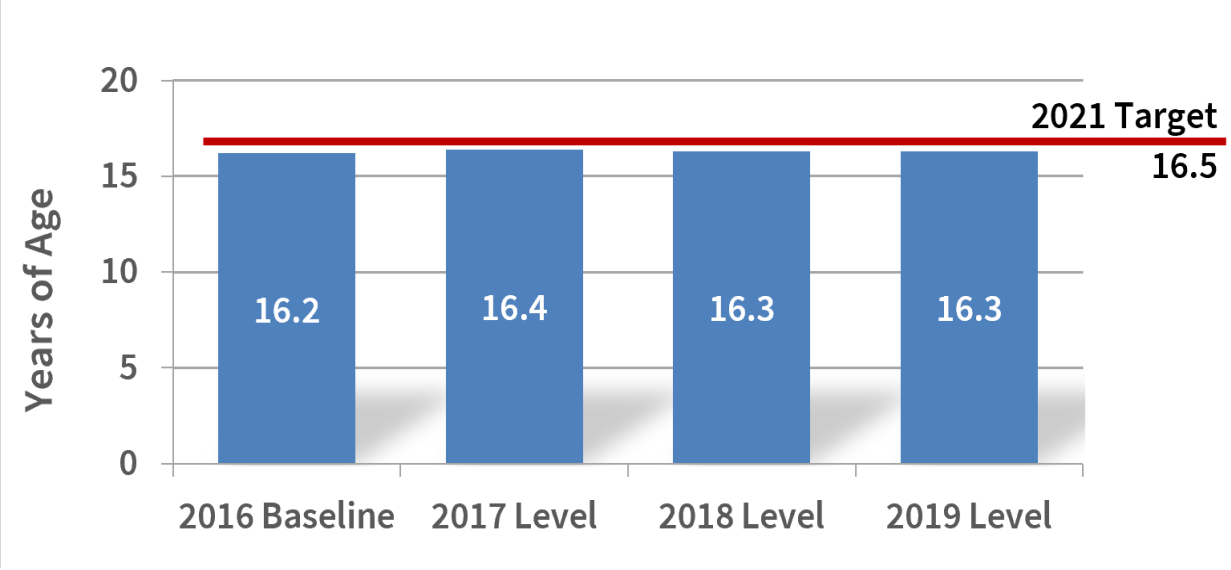


Exhibit 2.5: 2019 Average Age of First Alcohol Use Among Those Who Begin Drinking Before Age 21 Compared with 2016 Baseline and 2021 Target: NSDUH, 2019 (CBHSQ, 2021)



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

Agencies are required to use data to assess the efficiency and effectiveness of activities in their departments, agencies, and bureaus.[25] In line with these requirements, the STOP Act requires ICCPUD to include in the *RTC* evidence-based practices to prevent and reduce underage drinking and evidence-based treatment services for youth who need them.

Although there is currently no consensus on the precise definition of an EBP, the general concept of an evidence-based policy, program, or practice is clear: Some form of scientific evidence must support the proposed practice, the practice itself must be practical and appropriate given the

[25] Requirements are detailed in the Government Performance and Results Act (GPRA) of 1993, and its subsequent amendment, the Government Performance and Results Modernization Act in 2010.

circumstances under which it will be implemented and the population to which it will be applied, and the practice must have a 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 continues to expand and change. One of the key principles of evidence-based policymaking is evaluation—the ongoing gathering of data on what works, under what 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.

EBP Resource Center

In 2018, SAMHSA launched a new 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, as can be seen on the Resource Center's webpage: https://www.samhsa.gov/ebp-resource-center.

The EBP Resource Center is part of SAMHSA's new comprehensive approach to identifying and disseminating clinically sound and scientifically based policies, practices, and programs. This approach enables SAMHSA to more quickly develop and disseminate expert consensus on the latest prevention, treatment, and recovery science findings; collaborate with experts in the field to rapidly translate science into action; and provide communities and practitioners with tools to facilitate comprehensive needs assessment, match interventions to those needs, support implementation, and evaluate and incorporate continuous quality improvement into their prevention, treatment, and recovery efforts.

SAMHSA's vision for the EBP Resource Center is to be dynamic and responsive to changing science and evidence. Thus, SAMHSA plans to develop and disseminate additional resources such as new or updated Treatment Improvement Protocols, guidance documents, clinical practice policies, toolkits, and other actionable materials that incorporate the latest scientific evidence on mental health and substance use and address priority areas where more information or guidance are needed to help the field move forward. Several resources specific to underage drinking prevention and treatment are currently on the EBP site.

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 Programs and Practices

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

Reducing Underage Drinking: A Collective Responsibility (NRC & IOM, 2004)

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 to "review existing federal, state, and nongovernmental programs, including media-based programs, designed to change the attitudes and health behaviors of youth." NRC and 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 worked closely with SAMHSA and NIAAA to develop the 2007 *Call to Action* (HHS, 2007a). 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, 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 Preventative 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 the following intervention approach:

- Privatization of Retail Alcohol Sales

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

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

- Blood Alcohol Concentration (BAC) Laws
- Lower BAC Laws for Young (under age 21) or Inexperienced Drivers (also known as Zero Tolerance laws)
- Maintaining Current Minimum Legal Drinking Age (MLDA) 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 driver's breath)
- Mass Media Campaigns (which are most effective when combined with other effective laws and programs)
- Multicomponent Interventions with Community Mobilization
- School-Based Instructional Programs (to reduce riding with alcohol-impaired drivers

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 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 research and resources in supporting studies 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 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 the 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 2.6 and 2.7). 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 2.6: NIAAA CollegeAIM Individual-Level Strategies (NIAAA, 2019)

INDIVIDUAL-LEVEL STRATEGIES:
Estimated Relative Effectiveness, Costs, and Barriers; Public Health Reach; Research Amount; and Primary Modality[1]

COLLEGEAIM

COSTS: Combined program and staff costs for adoption/implementation and maintenance

EFFECTIVENESS: Success in achieving targeted outcomes	Lower costs $	Mid-range costs $$	Higher costs $$$
Higher effectiveness ★★★	**IND-3** Normative re-education: Electronic/mailed personalized normative feedback (PNF)—Generic/other[2] [##, B, ●●●, online/offsite] **IND-10** Skills training, alcohol focus: Self-monitoring/self-assessment *alone*[3] [#, F, ●●, online/offsite] **IND-21** Personalized feedback intervention (PFI): eCHECK UP TO GO (formerly, e-CHUG)[2] [#, B, ●●●, online]	**IND-9** Skills training, alcohol focus: Goal/intention-setting *alone*[3] [##, F, ●●, IPI] **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, ●●●●, IPI] **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]
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]	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). *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.*
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*[3] [#, F, ●●, IPG]	
Not effective X	**IND-7** Skills training, alcohol focus: Expectancy challenge intervention (ECI)—By proxy/didactic/discussion *alone*[3] [#, F, ●●, IPG]	**IND-1** Information/knowledge/education *alone*[3] [#, B, ●●●●, IPG] **IND-5** Values clarification *alone*[3] [#, 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*[3] [#, F, ●, IPI] **IND-18** Multi-component education-focused programs (MCEFP): Miscellaneous[2] [#, B, ●, online]	

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%

Barriers:
= Higher
= Moderate
= Lower

Public health reach:
B = Broad
F = Focused

Research amount:
●●●● = 11+ studies
●●● = 7 to 10 studies
●● = 4 to 6 studies
● = 3 or fewer studies

Primary modality:
IPI = In-person individual
IPG = In-person group
Online
Offsite

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 2.7: NIAAA CollegeAIM Environmental-Level Strategies (NIAAA, 2019)

ENVIRONMENTAL-LEVEL STRATEGIES:
Estimated Relative Effectiveness, Costs, and Barriers; Public Health Reach; and Research Amount/Quality[1]

COLLEGEAIM

EFFECTIVENESS: Success in achieving targeted outcomes	COSTS: Lower costs $	COSTS: Mid-range costs $$	COSTS: Higher costs $$$
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]

Legend

Barriers:
= Higher
= Moderate
# = Lower
C = Barriers at college level
S/L = Barriers at the state/local level

Public health reach:
B = Broad
F = Focused

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
0 = No studies

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 *2020-2025 Dietary Guidelines for Americans* are published jointly by HHS and the U.S. Department of Agriculture. These Guidelines specifically recommend that alcohol should only be consumed 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; men should limit their intake to two drinks or less, and women one drink or less, in a day. An additional caveat included in the latest guidelines is an acknowledgement that emerging evidence suggests that even drinking within the recommended limits may increase the overall risk of death from various causes, such as cancer and cardiovascular disease. Additional recommendations include avoiding heavy drinking and noting that calories from alcoholic beverages can easily contribute to excess calorie intake (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2020).

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

In 2016, the 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; 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 programs and policies for various groups of underage people, including the 0–10 age group, 10–18 age group, young adults, and college students.

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

The importance of SBIRT was recognized by Congress in the 2016 reauthorization of the STOP Act, which authorizes grants to pediatric health care providers to improve the use of SBIRT, including via training and dissemination of best practices (Public Law No. 114-255, 2016). The law defines screening as "using validated patient interview techniques to identify and assess the existence and extent of alcohol use in a patient."

Brief intervention is defined as "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."

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. Many 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 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 in adolescents ages 12–17 years. These interventions are recommended in populations age 18 and older, which includes older underage individuals who drink. Adaptation of the interventions for younger age groups may increase effectiveness (Curry et al., 2018), and further research regarding the use of SBIRT in the 12- to 17-year-old population is needed. A recent analysis of NSDUH data indicates adolescents are more likely to transition to an SUD within 12 months of cannabis and prescription misuse initiation than adults. This finding underscores the importance of screening for substance misuse in adolescents (Volkow et al., 2021). NIAAA has developed a screening guide titled *Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide* (NIAAA, 2011) available at https://www.niaaa.nih.gov/sites/default/files/publications/YouthGuide.pdf.

Many young people are neither asked by medical providers about their drinking nor advised to reduce or stop drinking. A nationally representative study of 10th graders (the NEXT Generation Health Study) sponsored by the Eunice Kennedy Shriver National Institute of Child Health and Human Development found that in the month prior to the survey, 36 percent reported drinking, 28 percent reported binge drinking, and 23 percent reported drunkenness. Of those who saw a physician in the year prior to the survey (82 percent), 54 percent were asked by their medical provider about drinking, 40 percent were advised about related harms, and 17 percent were advised to reduce or stop drinking. People who reported frequent drinking, binge drinking, or having been drunk were more often advised to reduce or stop. Nonetheless, only 25 percent

of these individuals received that advice from physicians. In comparison, 36 percent of people who frequently smoke, 27 percent of those who frequently use marijuana, and 42 percent of those who frequently use other drugs were advised to reduce or quit those behaviors (Hingson et al., 2013). The American Academy of Pediatrics recommends 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).

A recent 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 *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 2.8) and has tracked state adoption of these policies in the *State Performance & Best Practices for the Prevention and Reduction of Underage Drinking Report* (*SPBP Report*) and the individual *State Reports*, also required by the STOP Act. 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 2.8: 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 underage person	X		X	X	X	
Consumption by underage person	X		X	X	X	
Internal possession by underage person	X					
Purchase or attempt to purchase alcohol by underage person	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[26]	X
Loss of driving privileges for alcohol violations by people under age 21 (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 person under age 21	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					

[26] 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

Recognizing that a multi-dimensional approach to underage alcohol use is needed, the STOP Act incorporates intervention and treatment, enforcement of policies directed at underage alcohol use prevention, and research on the evidence base for adolescent-oriented programs, as well as prevention activities. The need for adolescent substance use treatment is urgent and ongoing. As detailed in Chapter 3, in 2019, 1,270,000 (3.3 percent) of adolescents had an alcohol use disorder, while 2,572,000 (6.7 percent) had a substance use disorder involving alcohol, cannabis and/or other drugs (including misuse of prescription medications). Current substance use intervention and treatment programs are not addressing the needs of most adolescents; 95 percent of adolescents who needed treatment in a specialized facility did not receive this treatment, according to the most recent NSDUH data (CBHSQ, 2021). Because adolescents commonly

present with multi-substance use disorders, 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. Generally, they will have experienced fewer adverse consequences at this point from alcohol and drug use than adults due to their shorter duration of use. They may also have had direct protection from consequences due to 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 to indicate 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 (Conrad et al., 2007; National Institute on Drug Abuse, 2014). Unlike adults, who enter treatment primarily through self-referral, adolescents are more likely to enter into treatment due to a referral by the justice system, a parent, a mental health clinician, or school staff (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 co-morbid conditions, such as mental disorders, homelessness, and engagement in criminal activity or violence. In adolescents, transitional age youth and adults, these factors have been shown to impact 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

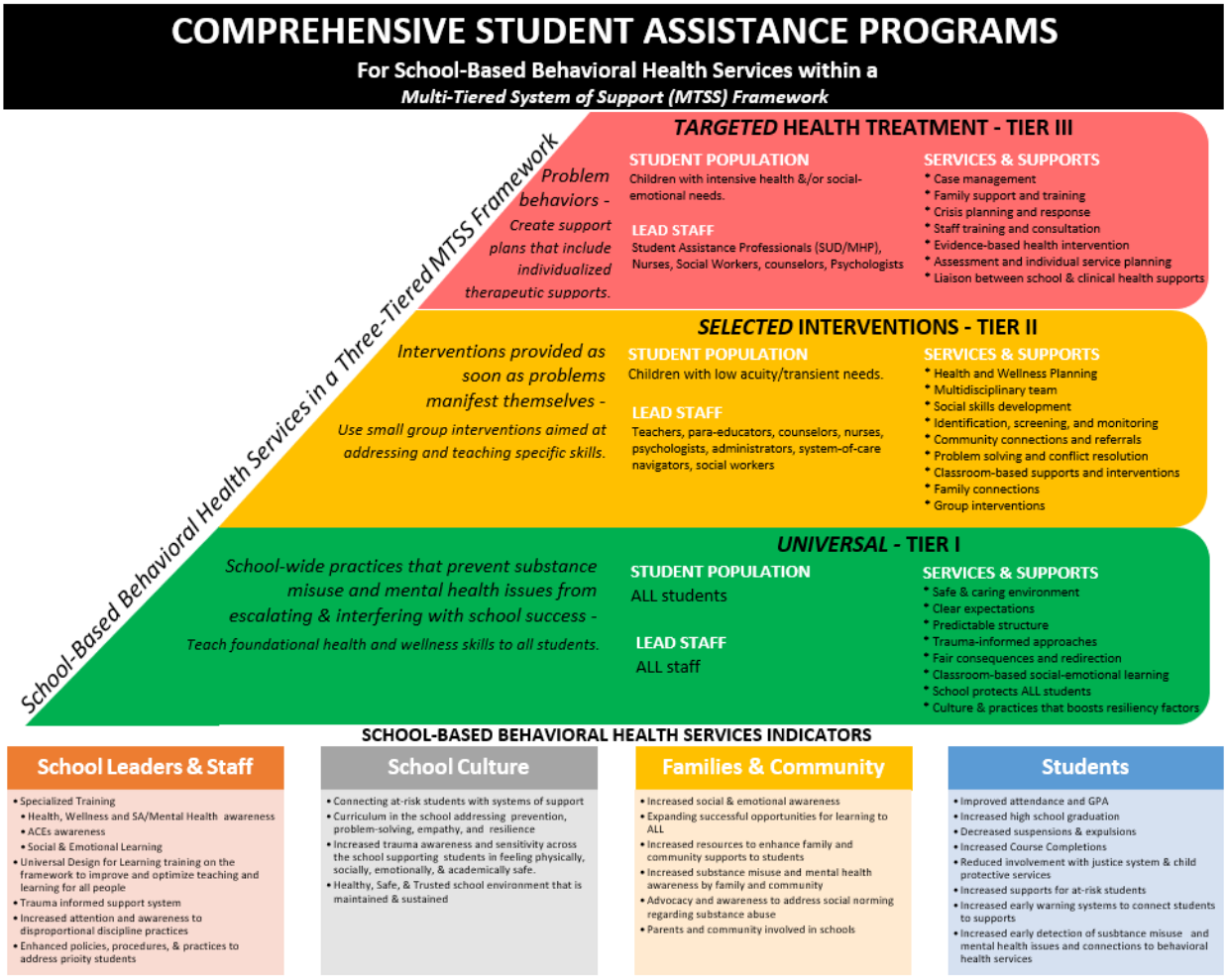
Adolescent-specific substance use treatment was not instituted until the 1930s; initially, even these facilities and programs continued to be populated primarily by adults. Treatment for adolescents was more prevalent in the late 1940s through the 1950s as adolescent narcotic use increased; the programs initially were focused on heroin treatment. In the 1960s marijuana and alcohol use became more of an issue within the adolescent population, and the adolescent programs expanded to address these drugs. However, the treatment models tended to be same as those used for adults, and treatment was generally not effective. Some of the modifications that began in the 1960s to help address the specific needs of adolescents included greater emphasis on psychological assessment and service provision; a less rigid approach to rule violations; reduced emphasis on confrontation as an approach; and the use of younger, more educated staff members (Dennis et al., 2003).

During the 1990s, more appropriate youth-focused treatment programs were developed. NIDA identified adolescent drug treatment as a high priority in 1993. That same year, SAMHSA established the Addiction Technology Transfer Centers (ATTC), an international, multidisciplinary resource for professionals in the addiction treatment and recovery services field**.** The ATTC Network is currently comprised of 10 U.S.-based Centers, two National Focus Area Centers, and a Network Coordinating Office (*About the ATTC Network | Addiction Technology Transfer Center (ATTC) Network*). In 1998, NIAAA launched treatment programs in conjunction with the Center for Substance Abuse Treatment (CSAT), and more funding was added for these programs in 2003.

From 1997 to 2004, SAMHSA funded the Cannabis Youth Treatment (CYT) experiment as part of a cooperative agreement to gain a better handle on the needs of adolescents presenting to treatment, to manualize five of the more promising approaches, and to compare them in a four-site trial with 600 youth and their families to assess comparative and cost effectiveness (Dennis et al., 2002). The CYT experiment kicked off a renaissance of adolescent substance use treatment research and programs. This included wide-scale replication of the interventions and several new interventions. Compared to the 10 years before and after CYT, the field went from 0 to over 24 treatment approaches; increased incorporation of family and mental health treatment, using standardized measures; increased use of clinical trials and advanced quasi-experiments; and increased use of economic analysis.

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 also being developed, implemented, and evaluated. 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 (EAP) model developed in the 1960s–1970s that 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 help address a wide range of issues that could potentially impede adolescent academic achievement. These include alcohol and substance use, violence, or mental health problems (California Department of Education). SAPs are now designed to provide a variety of services to students in kindergarten through grade 12, including services that address normal developmental issues for students as well as issues related to substance use, psychological distress, suicide, and mental illness (SAMHSA, 2019). One framework available to school districts for developing these systems, to ensure the supports and strategies are available to all students, is termed a Multi-Tiered System of Support (MTSS; Exhibit 2.9). 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 family, which may facilitate engagement; assessment includes the school context, which constitutes a critical peer environment; evaluation can occur within the school settings; and the treatment may be more responsive to the changing needs of the individual (Wagner & Macgowan, 2006).

Exhibit 2.9 Student Assistance Programs



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 substance use disorders (SUD) 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).

Practice-Based Evidence

In 1998, SAMHSA's CSAT, as part of an overall effort directed at understanding adolescent substance use treatment, funded an effort to manualize 10 programs that were considered exemplary and to provide ongoing formal evaluation (*Adolescent Substance Abuse Treatment in the United States*, 2003). The goal was to determine if these programs used the same technology to provide and evaluate treatment and whether their outcomes would be similar to the evidence-based treatment approaches being evaluated in CYT. Treatment models assessed included those for individual outpatient therapy; family-oriented outpatient programs; residential programs; and Modified Therapeutic Communities. The types of treatment implemented and assessed included behavioral therapies such as Cognitive Behavioral Therapy (CBT), Motivational Enhancement Therapy (MET), and Contingency Management (CM) in various combinations of settings and number of sessions. Initial treatment was assessed with different models of follow-up care,

including Assertive Continuing Care (ACC). The 10 approaches did do better than treatment as usual at the time, but not as well as the CYT approaches had in the original clinical trial or subsequent replications in community- and school-based settings (Dennis et al., 2014).

A series of meta-analyses (Tanner-Smith et al., 2015; Tanner-Smith & Lipsey, 2015; Tanner-Smith & Risser, 2016; Tanner-Smith et al., 2013) resulted in a consistent set of findings that: a) treatment as usual and psychoeducational approaches were no better than no treatment, b) evidence-based treatment approaches were significantly better than treatment as usual, and c) interventions that involved families or family therapy did better still. This included brief and school-based interventions. In particular, brief alcohol interventions yielded beneficial effects on alcohol consumption and alcohol-related problems in non-treatment seeking populations of adolescents and young adults (Tanner-Smith & Lipsey, 2015).

Evaluations of SAP programs have generally shown positive outcomes related to reduction of substance use and in some instances in academic performance (Substance Abuse and Mental Health Services, 2019; Wagner & Macgowan, 2006). Using MET/CBT5 in schools was as or more effective and cost-effective than using it in community-based programs off site (Belur et al., 2014). Using an Adolescent Community Reinforcement Approach in school-based settings was as or more effective; moreover, it reduced the years from first use to first treatment and health disparities by gender and race (Hunter et al., 2014). Recovery high schools post-treatment were associated with improved performance on standardized tests and reduced absenteeism/school problems (Rattermann, 2014).

SAPs appear to be most effective when they are integrated into school-based support systems that also address academic success. Integration and a complementary interface of SAP services with an existing multi-tiered 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 the "Principles of Addiction Treatment" in 1999, which provides treatment principles for adults who abuse illicit and prescription drugs, alcohol, and tobacco, as well as addressing the special treatment needs for people aged 12 to 17. NIDA subsequently issued "Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide" in 2014 to highlight adolescent treatment issues specifically (NIDA, 2014). The principles, as summarized by Winters et al. (2018) are provided in Exhibit 2.10 below. [27]

Exhibit 2.10 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

[27] Used with permission of the author.

	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.
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.
12. Completing treatment and having a continuing care plan are important.	The length of treatment will vary based on the severity of the adolescent's substance use disorder; however, studies have shown outcomes are best when an individual is in treatment 3 months or longer. The adolescent can also benefit from continuing care.
13. Adolescents should be tested and treated for sexually transmitted diseases and hepatitis.	Drug using adolescents are at an increased risk for sexually transmitted and blood borne diseases (e.g., human immunodeficiency virus, hepatitis B and C) due to the increase in high-risk behaviors that result from drug use. Addressing this in treatment can help decrease high-risk behaviors thereby reducing the likelihood of infection.

Federal Agencies Involved in Preventing and Reducing Underage Drinking

As noted above, multiple federal agencies are involved in preventing and reducing underage drinking. A graphical representation of the agencies, with a brief description of their role in underage drinking prevention, is provided in Exhibit 2.11. The 16 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 is provided in Appendix B.

Exhibit 2.11: Federal Agencies in the ICCPUD

Government Response to 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 continuously introduced, but youth behavior and experimentation with different ways to consume alcohol change over time.

Emerging Issues

The emergence in 2019 of the severe acute respiratory syndrome coronavirus 2 (SARS CoV-2), the virus that causes COVID, initiated rapid changes in multiple areas that are anticipated to have an impact on alcohol use and potential misuse. Societal changes and concomitant psychological impacts include increased social isolation, financial uncertainty and economic losses, and a reduced availability of resources for treatment of alcohol-related problems. Increases in anxiety, depression, insomnia, and stress have been identified. Concurrently, 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 pick-up.

The impact of these changes overall, and specifically on underage drinking rates, is not yet known. A survey of adolescents in 2020 indicated that although perceived availability of alcohol declined during the pandemic at the largest levels ever recorded in 46 years, prevalence of adolescent binge drinking did not significantly change (Miech et al., 2021). Preliminary data from beverage sales and several large-scale surveys suggest there have been substantial increases in alcohol consumption in subgroups of the adult population. A recently conducted, large cross-sectional study of adults indicated there were significant increases in alcohol consumption following the enactment of stay-at-home orders and the relaxation of alcohol regulations. A greater proportion of women were exceeding drinking limits compared with men and Black, non-Hispanic respondents compared with White, non-Hispanic respondents (Barbosa et al., 2020). An analysis of data from a survey of young adults (ages 18 to 25) indicated that alcohol consumption, particularly in those who already consumed alcohol, increased after the arrival of the pandemic (Sharma et al., 2020). A non-random assessment of students at one university found that alcohol consumption increased over time after closure of the university; higher psychological distress, indicated by more symptoms of depression and anxiety, was associated with higher alcohol consumption overall. However, those individuals who reported more social support consumed less alcohol, indicating interventions focused on providing support may be effective in reducing or preventing alcohol misuse (Lechner et al., 2020).

At the policy level, many states designated restaurants and bars as “essential business” during the pandemic, which precipitated significant changes in state policies regarding alcohol such as allowing curbside pick-up and/or carryout of alcohol, online sales and direct-to-consumer home delivery and shipping. There was an immediate effect on sales; off-premise alcohol sales in March of 2020 increased substantially compared with the same time period in 2019. Wine sales increased by 27.6 percent, spirits increased 26.4 percent, and beer/flavored malt beverages/cider sales increased 14 percent (Pellechia, 2020). The increase in sales continued throughout 2020; the time period from March through June of 2020 represented the largest year-over-year increase in alcohol sales since 1993 (Barbosa et al., 2020).

Over 30 states (33 as of August 2020) have authorized “to-go” cocktails; several of the states are already moving to make these changes permanent (Associated Press; Durbin, 2020). Home delivery has the potential to completely 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 nature of the harms, 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). The effects of policy changes and their impact on adult and underage drinking will continue to be monitored.

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

"Hard seltzers" have recently surged in popularity; sales increased 283 percent from 2019 to mid-2020 and then 368 percent from 2019 to mid-2020 (Bakker, 2019; Prokop, 2020). 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.

Topics that will be monitored closely by ICCPUD include:

- The effects of the recent SARS-COV-2 pandemic on adolescent alcohol use. This includes:
    - an assessment of the intersection of mental health issues in adolescents and related changes in drinking patterns due to stress, anxiety, and depression.
    - the potential connection between alcohol use, COVID-19 susceptibility and severity, and "long-haul" COVID.
- Recent changes in state policies related to alcohol delivery and off-premises consumption.
- The effects on both adult and adolescent drinking due to the increased availability of alcohol products due 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 marijuana policies and laws, and possible resulting changes in consumption patterns and substance use perception of risk.
- 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.

Looking Forward

ICCPUD agencies are committed to using a comprehensive approach to prevent and reduce 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.

Estimates of spending on underage drinking prevention programs during FY 2020 are provided in Exhibit 2.12.

Exhibit 2.12: Expenditures by Select ICCPUD Agencies for Programs Specific to Underage Drinking

ICCPUD Agency	Actuals										
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY2019	FY2020
CDC	$1,200,000	$1,041,730	$1,081,200	$986,587	$949,894	$1,100,000	$900,000	$900,000	$900,000	$616,432	$34,200
ED	$40,580,995	$8,782,000[a]	—[b]	—[b]	—[b]	0	0	0	0	0	0
NIAAA	$56,000,000[c] $2,000,000[d]	$57,000,000	$62,000,000	$62,000,000	$59,000,000	$52,000,000	$55,000,000	$51,000,000	$56,000,000	$58,000,000	$61,000,000
SAMHSA[e]	$62,542,390	$63,779,872	$67,953,616	$84,555,315	$89,422,285	$103,104,523	$104,332,643	$104,497,445	$100,445,393	$110,173,115	$ 111,596,815
OJJDP[f]	$25,000,000	$20,708,500	$4,862,895	$5,000,000	$2,500,000	0	0	0	0	0	0
NHTSA	$625,000	$600,000	$645,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000	$600,000
TOTAL	$129,323,385	$143,130,102	$136,542,711	$153,141,902	$152,472,179	$156,804,523	$160,832,643	$156,997,445	$157,945,393	$169,389,547	$173,231,015

Note: Table reflects ongoing agency updates

[a] ED's Office of Safe and Drug Free Schools received significant budget cuts in FY 2011, and this figure represents continuation costs for the Grants to Reduce Alcohol Abuse program, which was eliminated in FY 2012. In FY 2011, ED also provided support ($1,874,450) for the Higher Education Center (HEC) for Alcohol and Other Drug Abuse and Violence Prevention, which focused in part on underage drinking on college campuses.

[b] In FYs 2012 and 2013, ED consolidated the functions of the HEC into a new technical assistance center, the National Center on Safe Supportive Learning Environments. However, the exact amount of funding of that Center specific to underage drinking cannot be determined. Similarly, although underage drinking prevention was one activity among many in certain grant projects funded by ED in FYs 2011, 2012, and 2013, the exact amount of funding specific to underage drinking cannot be determined. Not included, as in prior years, are estimates of Safe Schools/Healthy Students grant activity that focuses on alcohol misuse prevention.

[c] NIAAA FY 2010 non-American Recovery and Reinvestment Act (ARRA) funding.

[d] NIAAA FY 2010 ARRA funding.

[e] FY 2017–18 figures include SPF State Initiative Grants (SIG), Under Age Drinking, Adult Media Campaign, STOP Act grants, and ICCPUD. FY 2017–18 figures also include PFS, which is a subset of SPF SIG.

[f] OJJDP's EUDL program received significant budget cuts in FY 2012. Support for EUDL programming was $25 million annually from FY 1998 until FY 2011, when there was a reduction to $5 million, which resulted in the elimination of the EUDL block grant program for all states and territories.

Chapter 3: The Nature and Extent of Underage Drinking in the United States

CHAPTER 3: THE NATURE AND EXTENT OF UNDERAGE DRINKING IN THE UNITED STATES

Summary of Chapter

Chapter 3 provides an overview of the current nature and extent of underage drinking, utilizing data provided primarily by three major national surveys funded by the federal government, described at the beginning of this chapter. This chapter, in conjunction with Chapter 4, addresses these key mandates from the 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 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 chapter concludes by summarizing the progress made to date.

Federal Surveys Used in This Report

Progress on reducing underage drinking and current status on consumption is monitored through three major national surveys funded by the federal government that collect data on, among other topics, underage drinking and its consequences:

- The annual National Survey on Drug Use and Health (NSDUH).
- The annual Monitoring the Future (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 4. In general, NSDUH data are used as the primary source; MTF and YRBS data are cited as the primary source when 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, uses a different data collection method (e.g., Chen et al., 2017; Fendrich & Johnson, 2001; Harrison, 2001), and a different sampling frame and weighting approach (see for example, Cowan, 2001). The only overlap in the survey populations sampled is students in the 10th and 12th grades in traditional schools in 47 states (Exhibit 3.1). 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.[28]

[28] 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.

Exhibit 3.1: Summary of Major Federal Surveys Assessing Underage Drinking[29]

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, noninstitutionalized population age 12 or older	Civilian, noninstitutionalized population age 12 or older in the United States (residents of households and individuals in noninstitutional group quarters)	Annually since 1990	In-person visit to home; audio computer-assisted self-interviews
MTF[30]– National Institute on Drug Abuse (NIDA)	Measurement of alcohol, tobacco, 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	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	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 classroom

Each of these surveys is revised periodically to reflect the current state of the research in underage drinking. For example, in 2015, the NSDUH definition of binge drinking was changed from five drinks on a single occasion in the past 30 days for both males and females to five drinks for males or four drinks for females. This change was made to reflect the evidence that there are differences in how alcohol is processed by males and females and to harmonize the definition of binge drinking in the NSDUH with the definition used in other national surveys. Trend data for female and total binge drinking prior to 2015 are therefore not currently available from this data source (CBHSQ, 2017).

For the 2017 survey, the YRBS also adopted a gender-specific definition of binge drinking that uses four or more drinks of alcohol in a row for females and five or more drinks in a row for males, based on a 30-day recall period (Kann et al., 2018). The MTF survey continues to define binge drinking as having five or more drinks on at least one occasion in the 2 weeks prior to the

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

[30] For comparability with 2019 NSDUH (the data available as this report was being prepared in 2020-21), the latest MTF data included in this report are also from 2019. The 2020 MTF data became available in December 2020 and will be included in the next report.

survey for both males and females (Johnston, Miech, O'Malley, et al., 2019). Exhibit 3.2 provides a summary of the definitions of alcohol consumption across the various surveys.

Exhibit 3.2: Definitions of Alcohol Consumption by Survey

Measure	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]

Measure	Survey Source	Definition
		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.
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.

Extent of Progress: Reducing Alcohol Consumption

Progress in the reduction of 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.

An examination of trend data across the three federally sponsored surveys suggests that meaningful progress has been made in reducing the extent of underage drinking over the past 2 decades, although there was some evidence in 2017 of a potential end of the decline (Johnston et al., 2018). In 2019, data from the NSDUH survey showed an overall decline compared to 2018 in the incidence of past-month, binge, and heavy alcohol use for youth ages 12–20 (CBHSQ, 2020a). Data from the MTF survey reflect ongoing declines in past month alcohol use in general for 8th, 10th, and 12th graders (Johnston 2019 overview). YRBS measures of current alcohol use and drinking before age 13 show declines over a multi-year period, although there was not a significant change from the previous survey administration (CDC, 2020a). Detailed descriptions of specific trends for the different measures of alcohol use overall and by demographic subgroups are provided below; as noted, NSDUH data are used as the primary source for most measures, with additional discussion provided for the MTF and YRBS findings.

There are several ways to measure underage alcohol use. The 2019 NSDUH survey data are the basis for the current status and trends over time for three measures of alcohol consumption—past-month use, lifetime use, and binge and heavy alcohol use—that are provided in this section. Related measures from the MTF and YRBS surveys are provided when available. Additional details on differences by age and gender are also included within each section.

7.0 million young people ages 12–20 reported using alcohol in the past month (CBHSQ, 2020a).

Past-Month Alcohol Use: NSDUH

Past-month alcohol use is defined for the NSDUH survey as having had at least one drink in the 30 days prior to the survey interview. NSDUH data from 2019 indicate that approximately 18.5 percent of 12- to 20-year-olds in the United States (or about 7.0 million young people) reported alcohol use in the past month (CBHSQ, 2020a).

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 2019 NSDUH survey, a higher percentage of youth who are 12–20 used alcohol in the past month (18.5 percent) than marijuana (12.1 percent), tobacco products (9.1 percent), or illicit drugs other than marijuana (3.2 percent; CBHSQ, 2020a; see Exhibit 3.3).

Exhibit 3.3: Past Month Use of Alcohol, Marijuana, Other Illicit Drugs, and Tobacco Products by 12- to 20-Year-Olds: 2019 NSDUH Data (CBHSQ, 2020a)

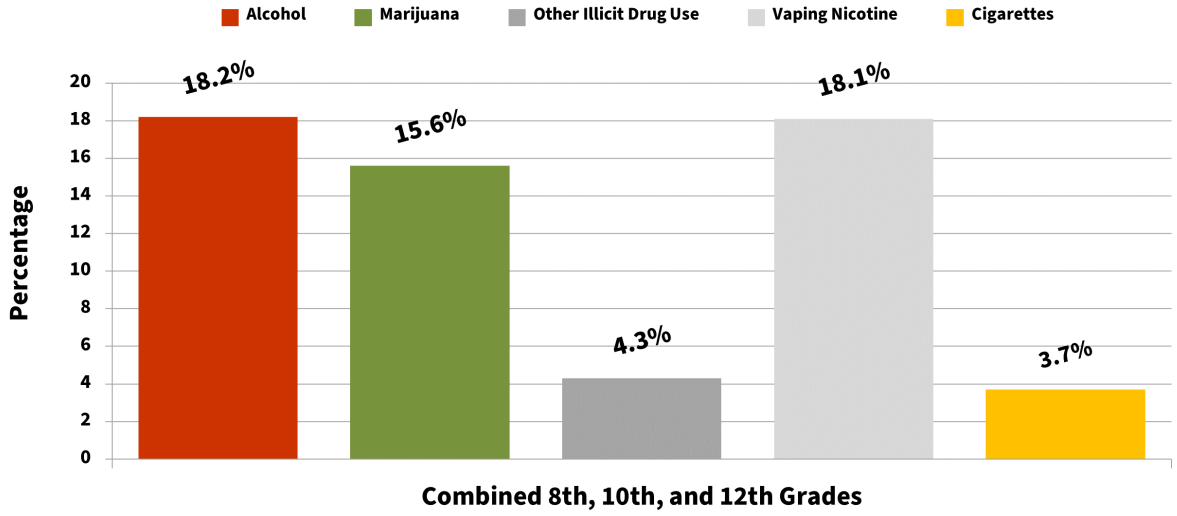
Used in Past Month:	Percentages
Alcohol	18.5
Marijuana	12.1
Tobacco Products	9.1
Illicit Drugs Other Than Marijuana	3.2

Past-Month Alcohol Use: MTF and YRBS

Results from the 2019 MTF survey show no significant change in past-month alcohol use from 2018 to 2019: In 2019, 18.2 percent of students (grades 8, 10, and 12 combined) reported drinking in the 30 days prior to the survey compared with 18.7 percent in 2018 (Miech et al., 2020). YRBS (2019) survey data show 29.2 percent of students in grades 9–12 reported having had at least one drink in the 30 days before the survey (Jones, Underwood, et al., 2020).

MTF data show the same patterns of overall substance use as is demonstrated in the NSDUH data. As shown in Exhibit 3.4, a higher percentage of youth in grades 8, 10, and 12 combined used alcohol (18.2 percent) in the month prior to being surveyed than used marijuana (15.6 percent), other illicit drugs (4.3 percent), or cigarettes (3.7 percent). There has been a substantial and significant increase in reported vaping of nicotine this past year, for the second year in a row, with reported use now at 18.1 percent (Miech et al., 2020).

Exhibit 3.4: Past-Month Adolescent Alcohol, Cigarette, Marijuana Use, and Vaping—Combined Grades: 2019 MTF Data (Miech et al., 2020)



YRBS data also indicate greater use of alcohol in the past month (29.2 percent) than marijuana (21.7 percent), prescription opioids (7.2 percent), or cigarettes (6.0 percent) by high school students (CDC, 2020a; Creamer, 2020). However, 36.5 percent of 9th to 12th graders reported use of any tobacco product, including by vaping (Creamer, 2020).

Past-Month Alcohol Use: NSDUH Trends

Past-month alcohol consumption by young people ages 12–20 has declined 35.5 percent between 2004 and 2019 (CBHSQ, 2020a).

An assessment of NSDUH-based past-month use trends indicates there has been a general decline in underage past-month alcohol consumption over time among 12- to 20-year-old youth. There has been a 35.5 percent relative decline since 2004[31]—when the Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) was first convened—through the current time period (Exhibit 3.5; CBHSQ 2020a).

Past-Month Alcohol Use: NSDUH by Age and Gender

Exhibit 3.5 also provides a summary of past-month underage consumption trends by selected age groups. 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 from 2004 to 2019 (CBHSQ, 2021).

Males and females ages 12–20 tend to start drinking at about the same age and have approximately the same prevalence of any past-month alcohol use overall.

[31] This decrease is statistically significant at the 0.05 level.

Exhibit 3.5: Past-Month Alcohol Use for 12- to 20-Year-Olds: 2004–19 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.

According to 2019 NSDUH data, past-month alcohol use is reported by 17.2 percent of males and 19.9 percent of females ages 12–20 (CBHSQ, 2021). Prevalence differs by age and gender; prevalence was significantly higher for females than males in 2019 for ages 14–15 and 18–20 but was similar between females and males for the remaining age groups (Exhibit 3.6; CBHSQ, 2021).

In the 2019 MTF data, 8.3 percent of 8th-grade females and 7.3 percent of 8th-grade males reported drinking. Tenth-grade females were at 18.6 percent and males at 18.1 percent, and in the 12th grade, females (28.5 percent) and males (29.8) reported alcohol use in the past 30 days at approximately the same level.

Lifetime Alcohol Use: NSDUH

Lifetime alcohol use in the NSDUH represents respondents reporting ever having had alcohol (more than a sip) in their lifetime. In 2019, 39.7 percent of underage (ages 12–20) youth reported lifetime alcohol use (CBHSQ, 2020a).

Alcohol has been consumed by 39.7 percent of people ages 12–20 at some point in their lives (CBHSQ, 2020a).

Lifetime Alcohol Use: MTF

Per the MTF, 41.5 percent of students have had alcohol at some point in their lives (Miech et al., 2020).

Lifetime Alcohol Use: NSDUH Trends

The lifetime alcohol use trend, as demonstrated in Exhibit 3.7, declined 27.7 percent from 2004 to 2019 (CBHSQ, 2020a).

The percentage of underage youth who have used alcohol in their lifetime continues to decline (CBHSQ, 2020a).

Exhibit 3.6: Past-Month Alcohol Use by Age and Gender: 2019 NSDUH Data (CBHSQ, 2021)

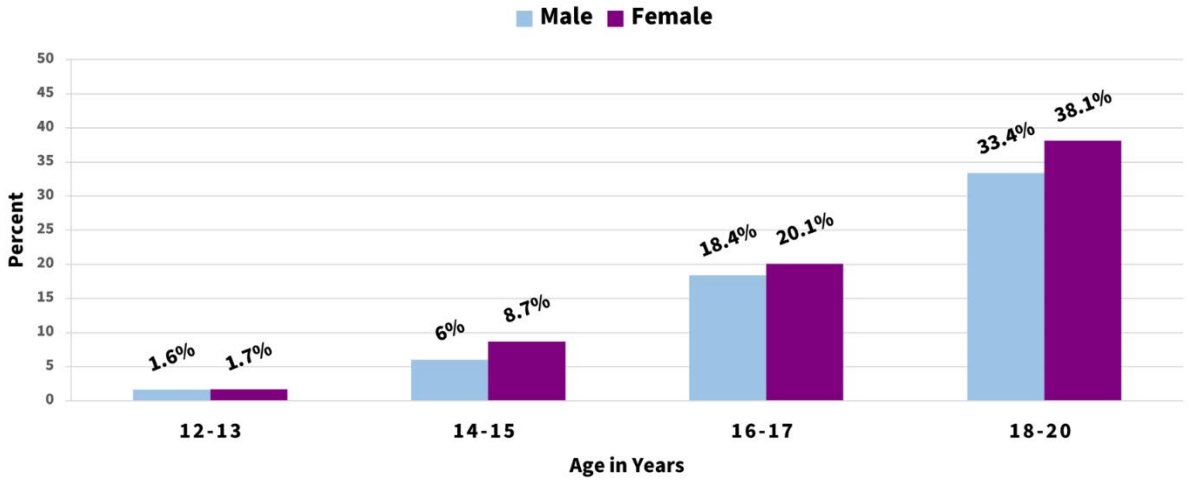
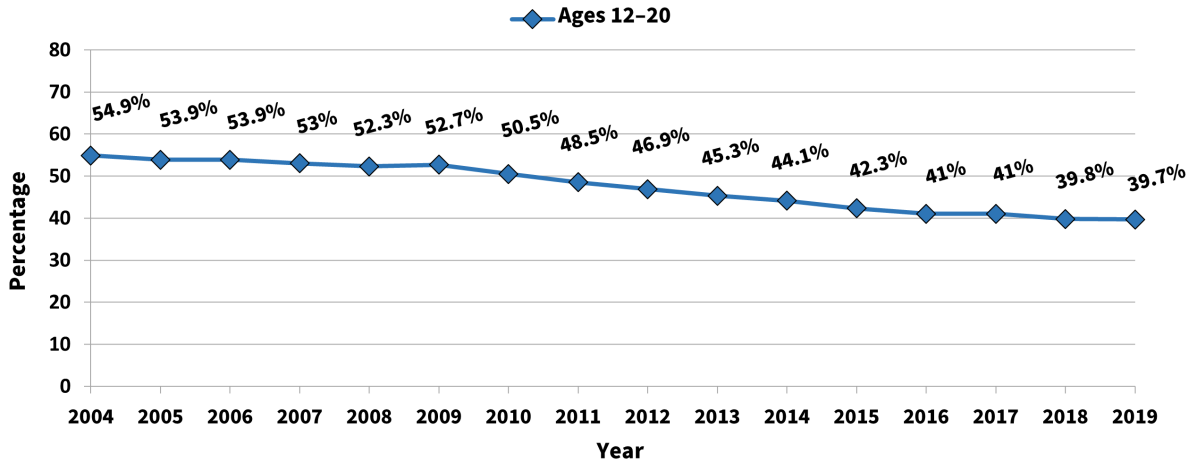


Exhibit 3.7: Trends in Lifetime Use of Alcohol by 12- to 20-Year-Olds: 2019 NSDUH Data (CBHSQ, 2020a)



Binge Drinking: NSDUH

Among 12- to 20-year-olds, 11.1 percent engaged in binge drinking[32] on at least 1 day in the past 30 days, according to NSDUH. This represents 4.2 million underage youth (CBHSQ, 2020a).

4.2 million underage youth reported binge drinking in the past 30 days (CBHSQ, 2020a).

Binge Drinking: MTF and YRBS

According to the MTF, 8.7 percent of students (8th, 10th, and 12th grades combined) reported consuming five or more drinks in a row in the 2 weeks prior to the survey (Miech et al., 2020). YRBS data indicate 13.7 percent of students in grades 9–12 reported four (for females) or five (for males) or more drinks in a row in the 30 days prior to the survey (YRBS 2019).

[32] 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 .08 percent or above for most individuals (Krieger, et al., 2018).

Binge Drinking: NSDUH Trends

Trends in binge drinking are shown in Exhibit 3.8. There was a significant relative decline overall for youth ages 12–20 for binge drinking in 2019 compared with 2015[33] (CBHSQ, 2021).

Exhibit 3.8: Past-Month Binge Alcohol Use for 12- to 20-Year-Olds: 2015–19 NSDUH Data (CBHSQ, 2021)

Age	2015	2016	2017	2018	2019	% Change 2015–19
12–20	13.4%	12.1%*	11.9%*	11.4*	11.1*	-17.2%

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

Binge Drinking: MTF and YRBS Trends

MTF trend data among students in grades 8, 10, and 12 indicate binge drinking[34] 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 1991–2016 were significant—with 8th graders declining by 70 percent, 10th graders by 50 percent, and 12th graders by 30 percent.

Although there was some indication of a leveling off in the rates in 2017 (Johnston et al., 2018), rates declined again in 2018. In 2019, the 8th grade binge drinking rate was 3.8 percent, which is 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 at 14 percent in 2019 (Miech et al., 2020).

A similar assessment of binge drinking trends based on YRBS data indicates binge drinking increased significantly from 1991–99, and then declined significantly from 1999–2015. Using only people who were current drinkers in the denominator, it was determined that a majority of high school students who drank also binge drank (57.8 percent) and of those who binge drank, 43.8 percent consumed eight or more drinks in a row (Esser, 2017). The prevalence of binge drinking, while increasing slightly in 2019, was not significantly different (at 13.7 percent) from the 2017[35] rate (13.5 percent; CDC).

Binge Drinking: NSDUH by Age and Gender

In 2019, binge drinking rates increased steadily from age 12–20, peaked at ages 21–25 (41.6 percent), and then decreased beyond young adulthood (data not shown for adults who drink; CBHSQ 2020a; CBHSQ, 2021). Exhibit 3.9 provides a summary of trends for past-month binge alcohol use by selected age categories (for data from 2015 on). Significant declines in binge drinking from 2015–19 are evident for all age groups (CBHSQ, 2021). The percentages 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).

[33] 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 for 2015 cannot be compared with those from previous years.
[34] Binge drinking in the MTF survey is defined as five or more drinks for both males and females.
[35] 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 previous years.

Exhibit 3.9: Past-Month Binge Alcohol Use for 12- to 20-Year-Olds by Age: 2015–19 NSDUH Data (CBHSQ, 2021)

Age	2015	2016	2017	2018	2019	% Change 2015–2019
12–13	0.7	0.3	0.6	0.3*	0.5	-28.6%
14–15	3.8	3.7	3.8	3.6	3.2	-15.8%
16–17	12.6	10.2	10.9*	9.8*	10.8*	-14.3%
18–20	27.8	26.2	24.9*	24.1*	22.9*	-17.6%
12–17	5.8	4.9	5.3	4.7*	4.9*	-15.5%
12–20	13.4	12.1	11.9*	11.4*	11.1*	-17.2%

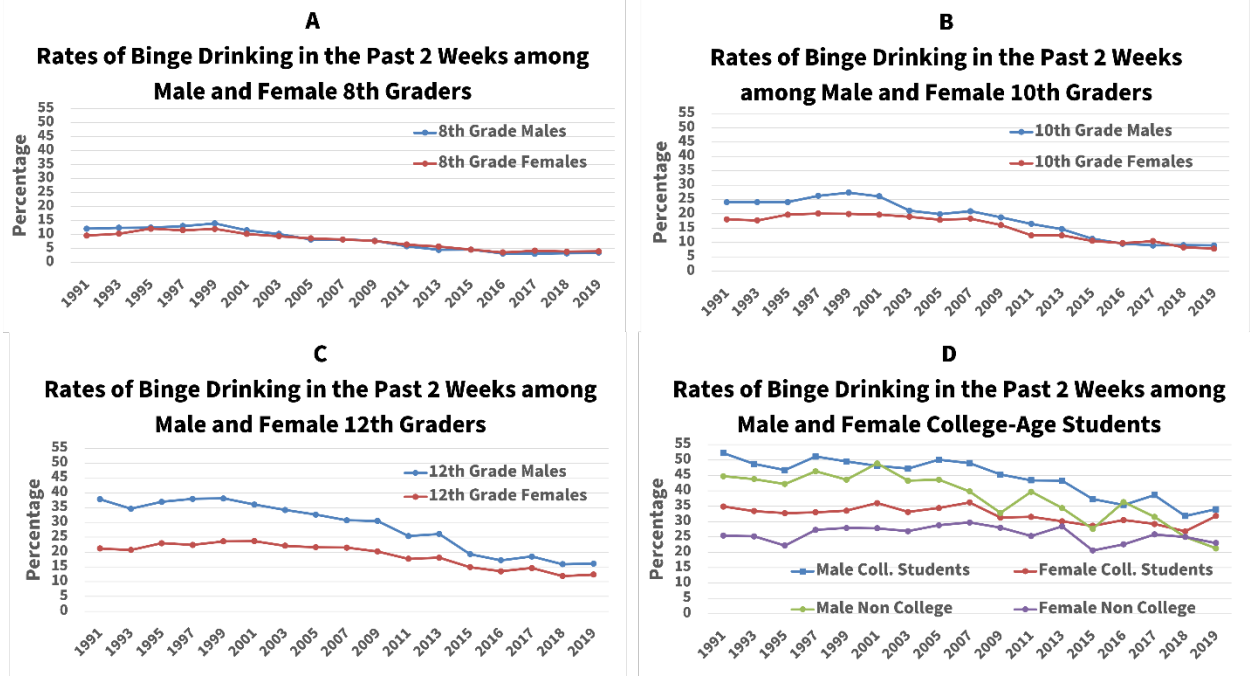
*Difference between 2015 estimate and this estimate is statistically significant at the 0.05 level.

Binge Drinking: MTF by Age and Gender

MTF trend data demonstrate that since 1991, rates of binge drinking have generally been decreasing across all grade groups, including college-age respondents (ages 19–22), with rates for males decreasing faster than for females (Exhibit 3.10). 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 2019, the difference was only 3.7 percentage points (Miech et al., 2020).

Any discussion of gender differences in underage drinking should include consideration of the 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 blood alcohol concentration (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 (perceived effects of alcohol as a function of amount consumed), putting them at greater risk for binge and heavy drinking (Schulte et al., 2009).

Exhibit 3.10: Rates of Binge Drinking in the Past 2 Weeks Among Male and Female 8th, 10th, and 12th Graders and College/College-Age Students:[36] 1991–2019 MTF Data (Johnston et al., 2020; Miech et al., 2020)



Although overall alcohol consumption, binge, and high intensity drinking are decreasing among adolescents and young adults, gender rates are converging due to 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 3.11). This trend of greater increases in consumption for women compared with men appears to continue into older adult years, age 60 and older (Keyes, Jager, et al., 2019).

Exhibit 3.11 Alcohol Consumption Patterns by Developmental Period, Gender and Age Cohort (Keyes, Rutherford, 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

[36] MTF Volume 2 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 age 21 or over.

Heavy Alcohol Use: NSDUH

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 with heavy alcohol use also engage in binge drinking (CBHSQ, 2020b). Approximately 2.2 percent of 12- to 20-year-old respondents (approximately 825,000) are classified as engaging in heavy drinking in the 2019 NSDUH; 2.1 percent of males ages 12–20 report heavy drinking compared with 2.3 percent of females (CBHSQ, 2020a).

Approximately 825,000 underage youth reported heavy alcohol use in the past 30 days (CBHSQ, 2020a).

Heavy Alcohol Use: NSDUH Trends

Trends in heavy alcohol use based on NSDUH survey results indicate that heavy consumption declined significantly in 2019 compared with 2015 (Exhibit 3.12; CBHSQ, 2020a). It should be noted that heavy alcohol use was significantly higher in 2019 than 2018 for those in the 12- to 17-year-old overall age group and the 16- to 17-year-old subgroup (CBHSQ, 2020a).

Heavy alcohol use in underage people who drink has declined since 2015 (CBHSQ, 2020a).

Exhibit 3.12: Trends in Heavy Alcohol Use for 12- to 20-Year-Olds: 2015–19 NSDUH Data (CBHSQ, 2020a)

Age	2015	2016	2017	2018	2019	% Change 2015–19
12–20	3.3%	2.8%*	2.5%*	2.3%*	2.2%*	-33.3%

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

Extreme Binge Drinking: MTF and YRBS

A troubling subset of binge drinking is high intensity (also referred to as extreme binge) drinking, 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. According to MTF data for 2019, 5.3 percent of 12th graders reported consuming 10 or more drinks in a row, and 3.2 percent reported consuming 15 or more drinks in a row within the previous 2 weeks (Miech et al., 2020).

Similarly, YRBS data from 2019 indicated that 3.1 percent of high school students (grades 9–12) reported consuming 10 or more drinks within a couple of hours at least once in the last month (CDC, 2020a).

Extreme Binge Drinking: MTF Trends

Trends in extreme binge or high-intensity drinking have been tracked for 12th graders by MTF since 2005. During this time period, there has been a decline of 5.3 percentage points for 10 or more drinks in a row and a decline of 2.5 percentage points for 15 or more drinks in a row compared with a decline of 12.7 percentage points for all binge drinking. Although rates for 12th graders increased slightly in 2019, these rates were still at or near the lowest levels recorded (Miech et al., 2019).

Alcohol Use and Sexual Identity: YRBS

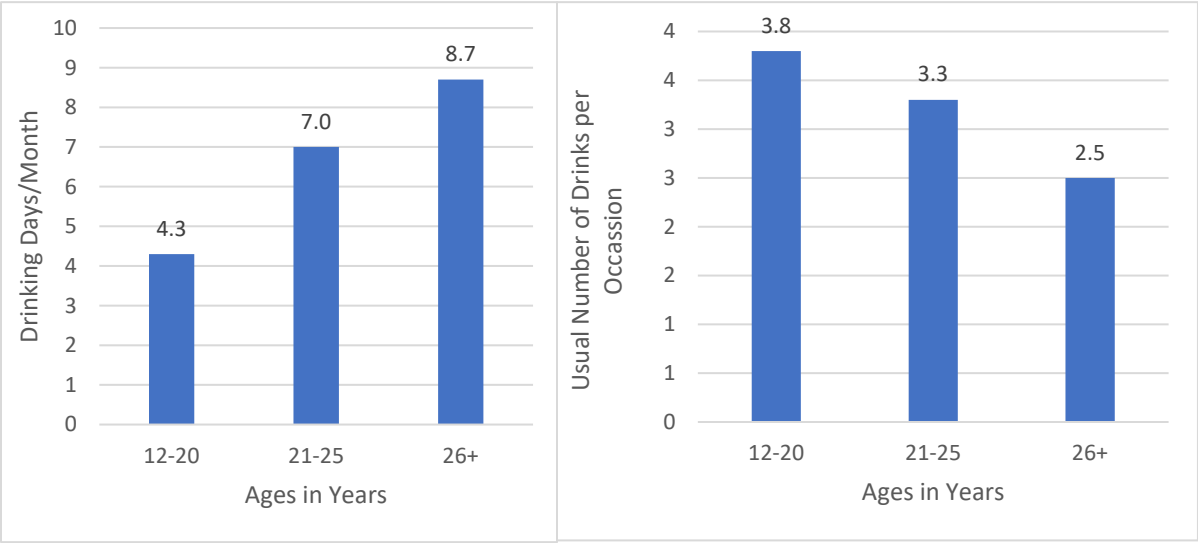
The YRBS began assessing differences in substance use by sexual identity in 2015. In 2017, a YRBS pilot study of 10 states and nine urban school districts found that youths who identified as transgender were more likely than those identifying as cisgender to report lifetime use of alcohol (Johns et al., 2019). For 2019, those high school students in grades 9 to 12 identifying as lesbian, gay, or bisexual were significantly more likely to report current alcohol use (33.9 percent) than those identifying as heterosexual (28.8 percent) and those reporting they were currently unsure (25.3 percent). However, there was no significant difference in binge drinking by sexual identity, with 13.4 percent of those identifying as heterosexual (across all grades 9 to 12), 15.6 percent of those identifying as lesbian, gay, or bisexual, and 13.1 percent of those who are unsure of their identity reporting binge drinking (Jones, Clayton, et al., 2020).

Binge Drinking Patterns: NSDUH and YRBS

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 the NSDUH survey, participants were asked about the number of drinks consumed on their last occasion of alcohol use in the past month. Underage people who drink consumed, on average, about four (3.8) drinks per occasion, slightly more than four (4.3) times a month, whereas adults who drink (age 26 or older) averaged two and one-half drinks per occasion, about nine (8.7) times a month (CBHSQ, 2021; Exhibit 3.13).

Youth ages 12–15 can, according to a theoretical analysis, reach the same BAC after consuming three to four drinks within 2 hours as people ages 18 and 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.

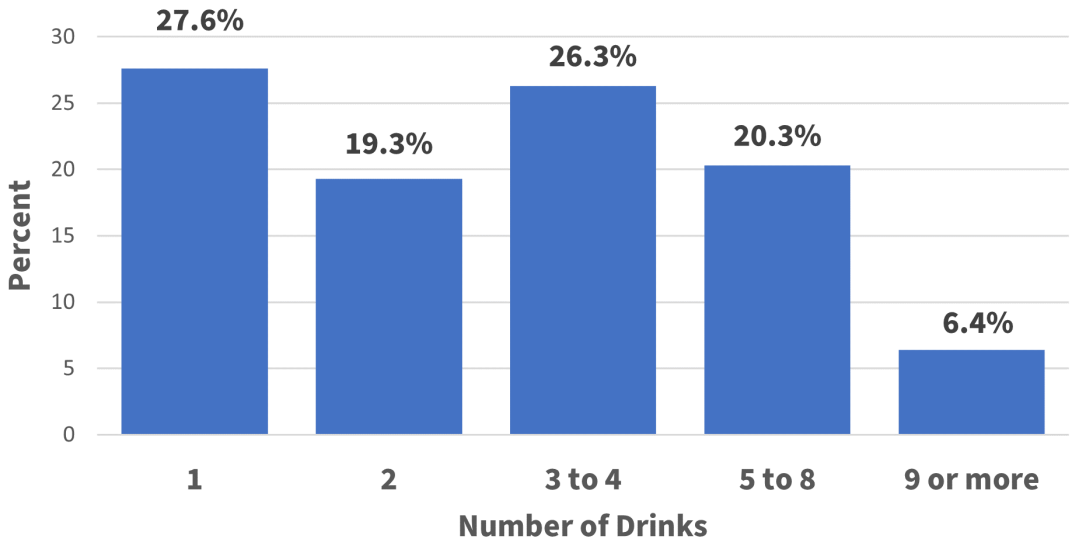
Exhibit 3.13: Number of Drinking Days per Month and Usual Number of Drinks per Occasion for Youth (12–20), Young Adults (21–25), and Adults (≥26): 2019 NSDUH Data (CBHSQ, 2021)



Combining the results from the 2018 and 2019 surveys, slightly more than half (53 percent) of underage people who drink report consuming three or more drinks on a single occasion.

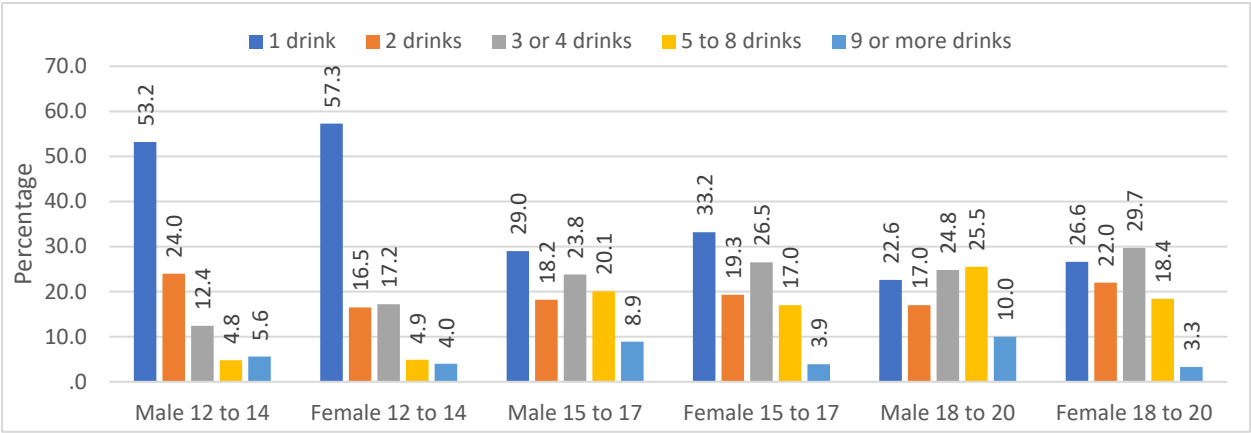
Twenty-seven percent of underage youth consume five or more drinks, and 6.4 percent consume nine or more drinks (Exhibit 3.14; CBHSQ, 2021).

Exhibit 3.14: Number of Drinks Consumed on a Single Occasion by Underage (Ages 12–20) Youth: 2018, 2019 Combined Data NSDUH (CBHSQ, 2021)



According to combined 2018–2019 NSDUH data (Exhibit 3.15), the total number of drinks consumed on the last occasion of alcohol use differs by age and gender. Among past-month alcohol users ages 12–20, the number of drinks consumed on the last occasion increases significantly for each age group (i.e., 15- to 17-year-olds consume significantly more drinks per occasion than do 12- to 14-year-olds; 18- to 20-year-olds consume significantly more drinks than 15- to 17-year-olds and 12- to 14-year-olds). Overall, females ages 12–20 are significantly more likely than males to report consuming fewer drinks per occasion (one to four drinks); males ages 12–20 are more likely than females to consume five or more drinks (CBHSQ, 2021).

Exhibit 3.15: 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: 2018, 2019 Combined Data NSDUH (CBHSQ, 2021)



Race and Ethnicity: NSDUH

According to combined 2004–19 NSDUH data,[37] White individuals ages 12–20 were more likely to report past 30-day alcohol use than any other racial or ethnic group of the same age. The detailed prevalence of past-month alcohol use by gender and race/ethnicity was:

- White males (28.0 percent); White females (27.5 percent).
- Hispanic or Latino males (21.9 percent); Hispanic or Latina females (20.6 percent).
- Native Hawaiian or Other Pacific Islander males (20.7 percent); Native Hawaiian or Other Pacific Islander females (22.1 percent).
- Males of multiple races (20.6 percent); females of multiple races (22.8 percent).
- American Indian or Alaska Native males (19.7 percent); American Indian or Alaska Native females (21.4 percent).
- Black or African American males (17.0 percent); Black or African American females (16.9 percent).
- Asian males (15.7 percent); and Asian females (14.3 percent; CBHSQ 2021).

NSDUH data (2015–19 combined) on binge alcohol use among males and females ages 12–20 by gender and race/ethnicity are shown in Exhibit 3.16 (CBHSQ, 2021). Estimates of underage binge drinking by gender and race/ethnicity include:

- White males (14.5 percent); White females (14.9 percent).
- Hispanic males (10.1 percent); Hispanic females (10.5 percent).
- Native Hawaiian or Other Pacific Islander males (7.6 percent); Native Hawaiian or Other Pacific Islander females (10.1 percent).
- Males of multiple races (9.5 percent); females of multiple races (12.4 percent).
- American Indian or Alaska Native males (8.6 percent); American Indian or Alaska Native females (10.5 percent).
- Asian males (7.3 percent); Asian females (7.4 percent).
- Black or African American males (6.5 percent); Black females (7.1 percent).

Extent of Progress: Early Initiation of Drinking and Alcohol Use Disorder

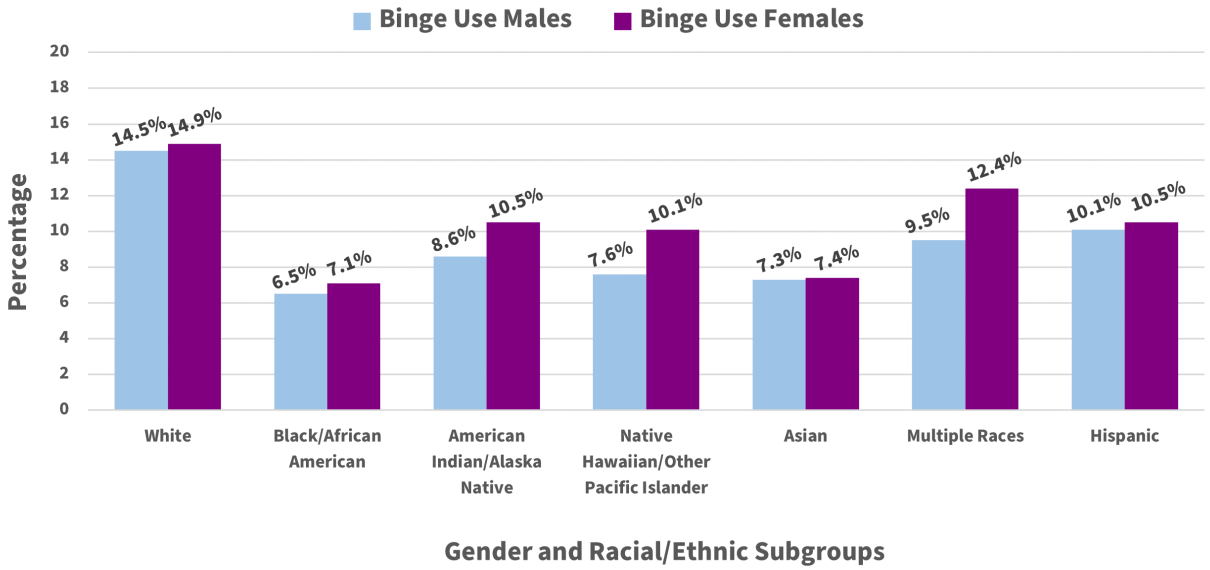
Youth who report drinking before age 15 are more likely to experience problems, including intentional and unintentional injury to self and others after drinking (Hingson et al., 2000; Hingson & Zha, 2009); violent behavior, including predatory and dating violence (Blitstein et al., 2005; Ellickson et 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 (R. W. Hingson et al., 2002); and physical fights (Hingson et al., 2001).

Recent 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.,

[37] To provide sample sizes sufficient to produce reliable estimates for each race/ethnic group, multiyear estimates of past-month alcohol use and binge drinking by race/ethnicity were calculated.

2009; Hawkins et al., 1997; Liang & Chikritzhs, 2015; Robins & Przybeck, 1985) and alcohol dependence in adulthood (Grant & Dawson, 1998).

Exhibit 3.16: Binge Drinking in the Past Month Among People Ages 12–20 by Race/Ethnicity and Gender, Annual Averages: 2015–19 Combined Data NSDUH (CBHSQ, 2021)



Age of First Use of Alcohol: NSDUH

Drinking often begins at a young age. The average age of first use for people who initiated drinking before age 21 is about 16.3 years old. However, among those who initiated alcohol use in the past year, 798,000 reported being ages 12–14 when they initiated. This means that for every day in 2019, approximately 2,186 young people 12–14 years of age drank alcohol for the first time (CBHSQ, 2021).

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

- 15.0 years old among people with lifetime alcohol use.
- 15.1 years among people with past-month use.
- 15.3 years among people with past-year use.
- 15.0 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 3.7 percent of 12th grade respondents (Miech et al., 2020).

YRBS data shows that 15.0 percent of high school students begin drinking before age 13 (CDC, 2020a).

Age of First Use: NSDUH Trends

Delaying the age of first alcohol use can ameliorate 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 3.17, among past-year initiates[38] of alcohol use who initiated before age 21, 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).[39]

Exhibit 3.17: Average Age of First Use Among Past-Year Initiates of Alcohol Use Who Initiated Before Age 21: 2004–19 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 Alcohol Use Disorder Among Youth: NSDUH

Slightly more than 3 percent of underage youth met criteria for AUD (CBHSQ, 2020a).

Problematic alcohol use as defined by NSDUH is determined by the presence of a DSM-IV-TR (APA, 2000) diagnosis of alcohol abuse or dependence. According to 2019 NSDUH data, about 3.3 percent of 12- to 20-year-olds met criteria for DSM-IV-TR alcohol use disorder (AUD; CBHSQ, 2020a).

Prevalence of AUD Among Youth: NSDUH Trends

Underage alcohol use disorders have declined since 2004 (CBHSQ, 2021).

Trends in DSM-IV-TR AUD among people ages 12–20 from 2004–19 are provided in Exhibit 3.18. There has been an ongoing and significant decline in AUD (a 65.6 percent decline since 2004). Nonetheless, the prevalence of AUD among underage people who drink remains high (CBHSQ, 2021).

Exhibit 3.18: Past-Year Alcohol Use Disorder for 12- to 20-Year-Olds: 2004–19 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 by Age and Gender

As shown in Exhibit 3.19, according to combined 2018–19 NSDUH data, the prevalence for DSM-IV-TR AUD for 18- to 20-year-olds (7.0 percent) is significantly lower than for 21- to 24-year-olds (11.4 percent), 25- to 29-year-olds (9.7 percent) and 30- to 34-year-olds (8.0 percent).

[38] Past-year initiates are people who drank alcohol for the first time in their lives in the 12 months before the survey interview.
[39] Appendix C further discusses methodological issues in measuring age at first use and other indicators of alcohol initiation.

In addition, 0.4 percent of 12- to 14-year-olds and 2.8 percent of 15- to 17-year-olds met criteria for AUD (CBHSQ, 2021). The prevalence of AUD is highest among those ages 21–24.

Exhibit 3.19: Prevalence of Past-Year DSM-IV-TR AUD by Age: 2018, 2019 Combined NSDUH Data (CBHSQ, 2021)

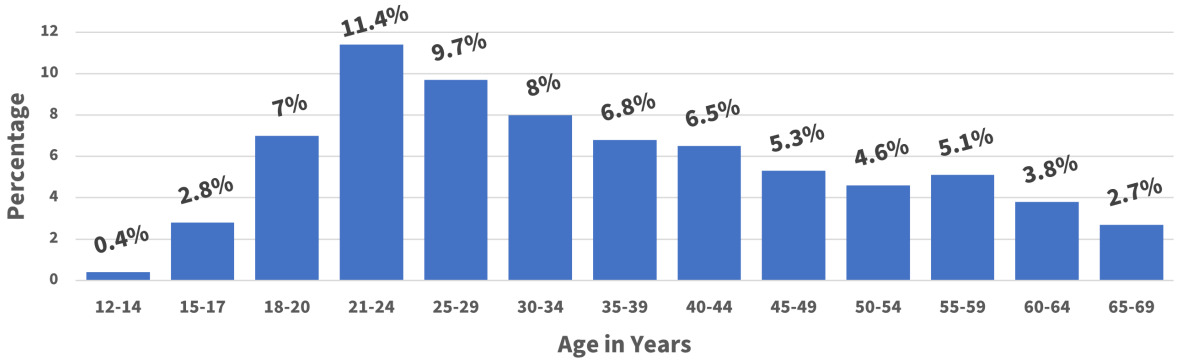


Exhibit 3.20 provides trends in AUD by age and gender from 2004–19. There has been a significant decline in prevalence for all groups since 2004. Females were significantly more likely to have an AUD than males in 2019 (CBHSQ, 2021).

Exhibit 3.20: Past-Year DSM-IV-TR Alcohol Use Disorder for 12- to 20-Year-Olds, by Age and Sex: 2004–19 NSDUH Data (Center for Behavioral Health Statistics and Quality, 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.**

Extent of Progress: Driving After Drinking

As detailed in Chapter 1, the greatest mortality risk for underage people who drink continues to be from motor vehicle crashes. Approximately 59 percent of unintentional deaths of 12- to 20-year-olds in 2019 were from motor vehicle accidents (CDC, 2020c).

The 2019 NSDUH survey indicates that 3.2 percent of youth ages 16–20 reported driving under the influence of alcohol at least once in the past year. This represents a significant decrease from the 4.2 percent reported in 2018 but is still a troubling number of drivers (approximately 690,000 in 2019) likely to cause property damage, injuries, and deaths related to traffic crashes (CBHSQ, 2020a).

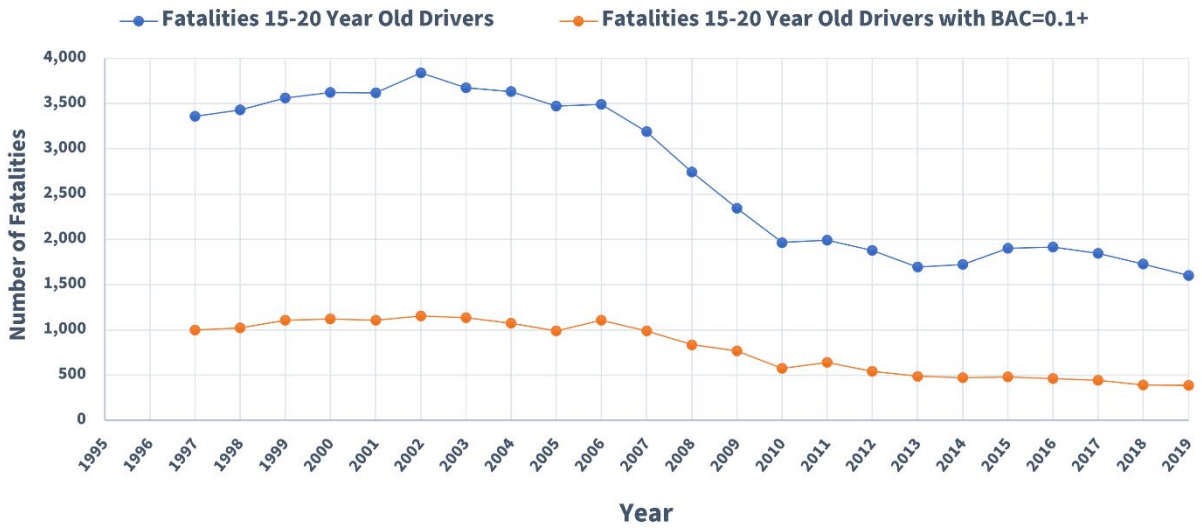
Driving After Drinking: FARS, MTF and YRBS Trends

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 85 percent since 1982, shortly before passage of the National Minimum Age Drinking Act in 1984 (National Highway Traffic Safety Administration, 2020b). Data since 1997 from NHTSA's FARS are provided in Exhibit 3.21.

Using MTF data, O'Malley and Johnston (2013) reported—and have subsequently updated through annual special analyses—longitudinal data for high school seniors who reported any of the following behaviors in the past 2 weeks: Driving after drinking any alcohol; driving after five or more drinks; being a passenger when the driver has had any alcohol; or being a passenger with a driver who has had five or more drinks (Miech et al., 2020). As demonstrated in Exhibit 3.22, all four of these behaviors have declined in the last decade, although reports of driving after binge drinking or riding with a driver who had been binge drinking rose slightly this year. Rates remain unacceptably high, especially given the risks associated with driving after even small amounts of alcohol.

The 2019 YRBS data indicate that 5.4 percent of high school students reported driving after they consumed alcohol. Trend analysis of data from 2013–19 indicates there has been a significant linear decrease in this prevalence rate (CDC, 2020a).

Exhibit 3.21: Trends in Fatalities for 15- to 20-Year-Old Drivers: NHTSA, FARS 1997–2019 Final File and 2020 Annual Report File (NHTSA, 2020a, 2020b)



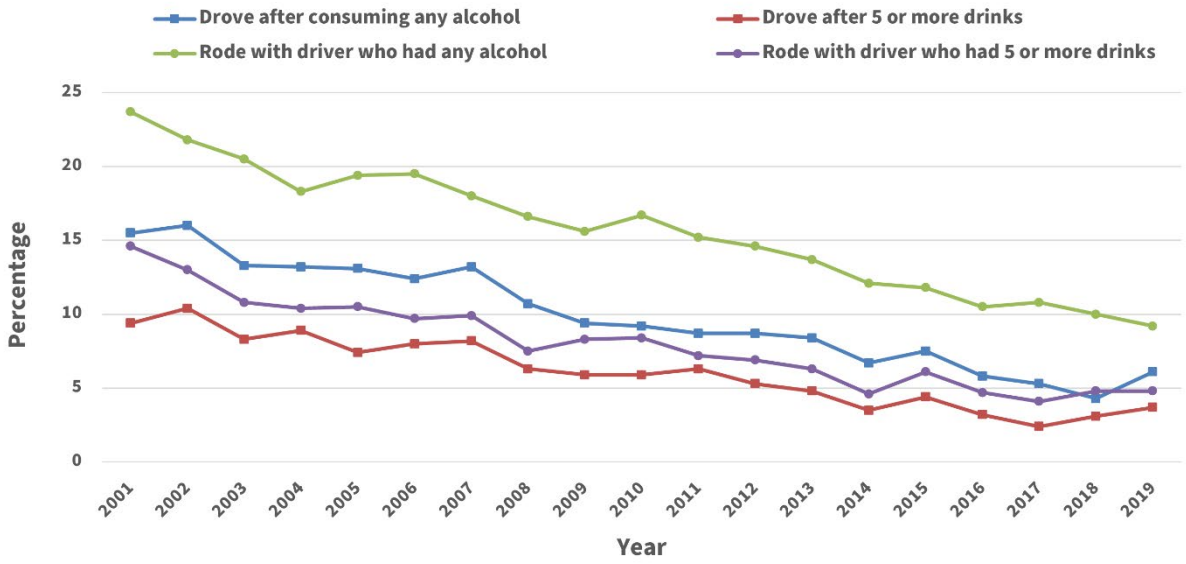
Driving After Drinking: MTF and NSDUH by Age and Gender

Males in the 12th grade were more than twice as likely as 12th grade females to report driving after five or more drinks (O'Malley & Johnston, 2013). Very high percentages of high school seniors who drove after drinking five or more drinks experienced consequences. O'Malley and Johnston (2013) reported that 43.2 percent received a ticket or warning, and 30.2 percent were involved in a crash.

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

The simultaneous use of substances while driving has significant public safety implications; impairment increases as the number of substances increases. An analysis of NSDUH data on driving under the influence noted that 10.1 percent of individuals ages 16–20 reported driving under the influence of alcohol and/or illicit drugs in 2019 (CBHSQ, 2020a). Although the trend in impaired driving has decreased since 2002, it remains a concern (Lipari et al., 2013).

Exhibit 3.22: Trends in Percentage of 12th Graders Reporting Driving After Alcohol Use or Riding After Alcohol Use by the Driver: 2019 MTF Data (Miech et al., 2020; O'Malley & Johnston, 2013)



Summary of Progress

The above data demonstrate that meaningful progress has been made in reducing underage drinking prevalence, DSM-IV-TR alcohol use disorder, and related problems such as traffic fatalities.

Factors that have contributed to this progress are varied and complex; however, one factor has likely been increased attention to the risks of underage drinking over the past few decades. During this time period, federal initiatives, particularly adoption of the age 21 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.

Despite progress, underage alcohol use, particularly binge use, in the United States continues to be a widespread and serious problem, the consequences of which remain a substantial threat to public health. Rates of underage drinking, particularly binge drinking, are still unacceptably high, resulting in preventable and tragic health and safety consequences for the nation's youth, families, communities, and society. The recent leveling off of declines indicate that ongoing attention is needed to all of these factors to ensure rates continue to stay low or decline further. Therefore, the Interagency Coordinating Committee on the Prevention of Underage Drinking remains committed to an ongoing, comprehensive approach to preventing and reducing underage drinking.

Chapter 4: Factors Affecting Underage Alcohol Use

CHAPTER 4: FACTORS AFFECTING UNDERAGE ALCOHOL USE

Summary of Chapter

Chapter 4 discusses factors influencing underage drinking, beginning with population-level factors, including the policy environment, adult drinking patterns, availability and access to alcohol, and advertising. The chapter then discusses social contexts, including locations such as underage drinking parties and the college environment. 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 availability and appeal of alcohol (e.g., alcohol policies and their enforcement, marketing practices, media exposure); the various physical, social and cultural contexts in which adolescents live (e.g., family, peers, 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:

- Public 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 Policy Environment

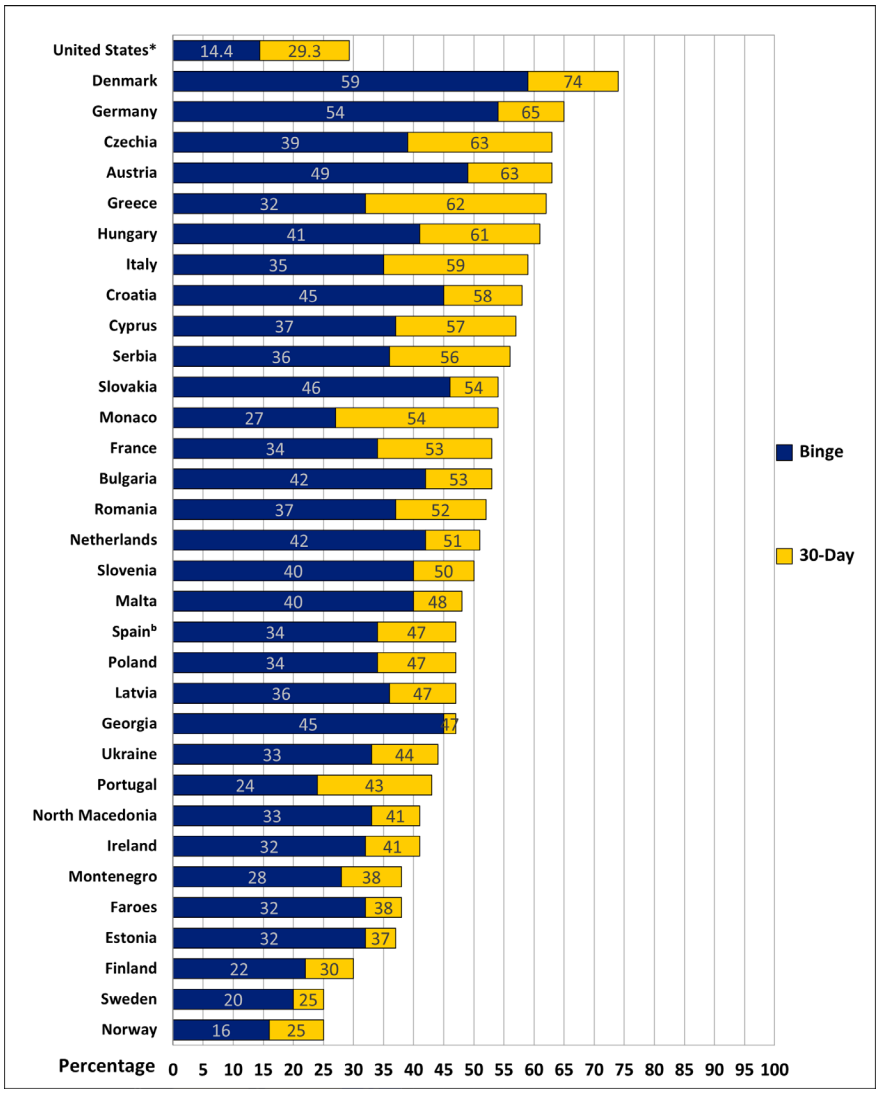
There is a large body of scientific literature on the effectiveness of alcohol policies, such as alcohol taxes, regulating alcohol outlet density, and commercial host (dram shop) liability, in reducing excessive drinking, including underage drinking.[40] Stronger state alcohol policies directed to the 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 (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).

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

[40] For a detailed review of these and other alcohol 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 higher MLDA in the United States relative 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, a significant proportion of young people ages 15–16 report binge drinking at rates much higher than in the United States (Exhibit 4.1; ESPAD Group, 2020). In all other countries listed in Exhibit 4.1, the MLDA is lower than in the United States. These data call into question the suggestion that having a lower MLDA might result in less problem drinking by adolescents.

Exhibit 4.1: 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 European School Survey Project on Alcohol and Drugs (ESPAD Group, 2020)



Notes: 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 European School Survey Project on Alcohol and Drugs 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

Alcohol is Perceived as Readily Available by the Underage Population

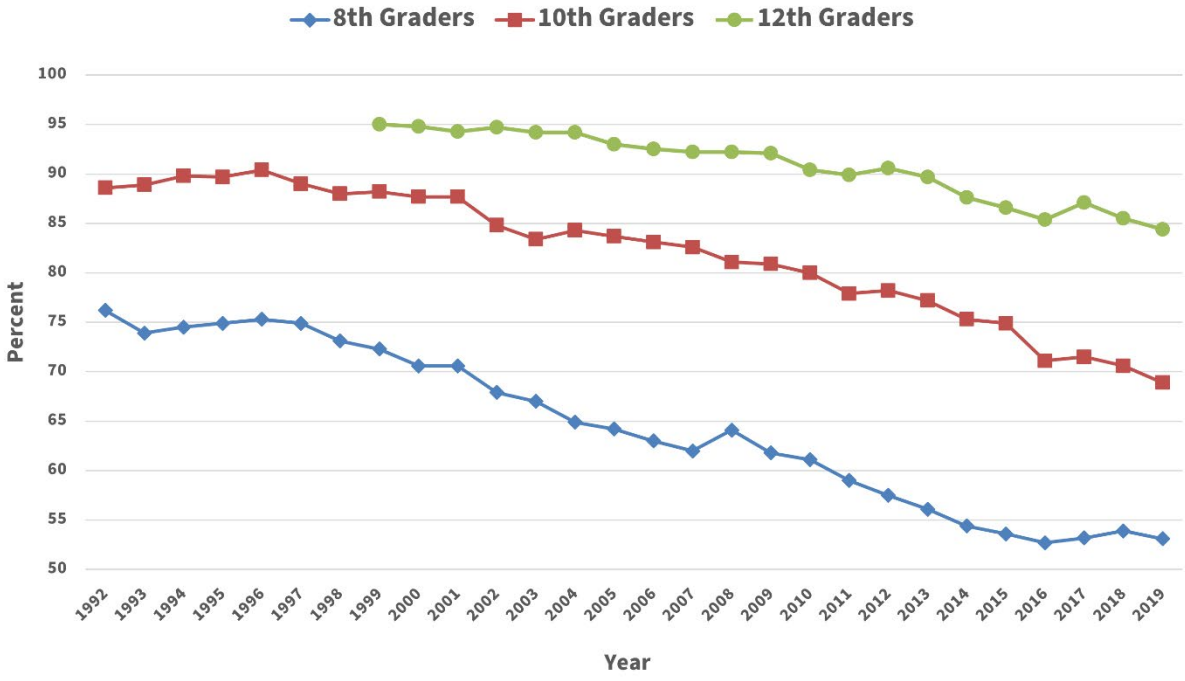
The relationship among alcohol availability, levels of consumption, and occurrence of alcohol-related problems is well documented in the *Surgeon General's Call to Action (Department of Health and Human Services, 2007)*. As shown in Exhibit 4.2, most teens see alcohol as readily available.

According to data collected from the 2019 MTF survey, the following percentage of students reported that alcohol would be "fairly easy" or "very easy" to get (Miech et al., 2020):

- 53.1 percent of 8th graders.
- 68.9 percent of 10th graders.
- 84.4 percent of 12th graders.

Perceived availability has generally declined since the 1990s (although there was a slight uptick for 2017 and 2018; Exhibit 4.2). 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 may lead to further reductions in perceived availability.

Exhibit 4.2: Changes Over Time in Percentage of 8th, 10th, and 12th Graders Who Say Alcohol Is Fairly Easy or Very Easy to Get: 2019 MTF Data (Miech et al., 2020)



Alcohol Is Available from a Variety of Sources

The most common sources of alcohol varied substantially by age, as shown in Exhibit 4.3.

For youth ages 12–14, the most common sources were (CBHSQ, 2020a):

- Getting it from a parent or guardian (30.5 percent).

- Taking it from their own home (21.1 percent).
- Receiving it free from someone under age 21 (13.4 percent).

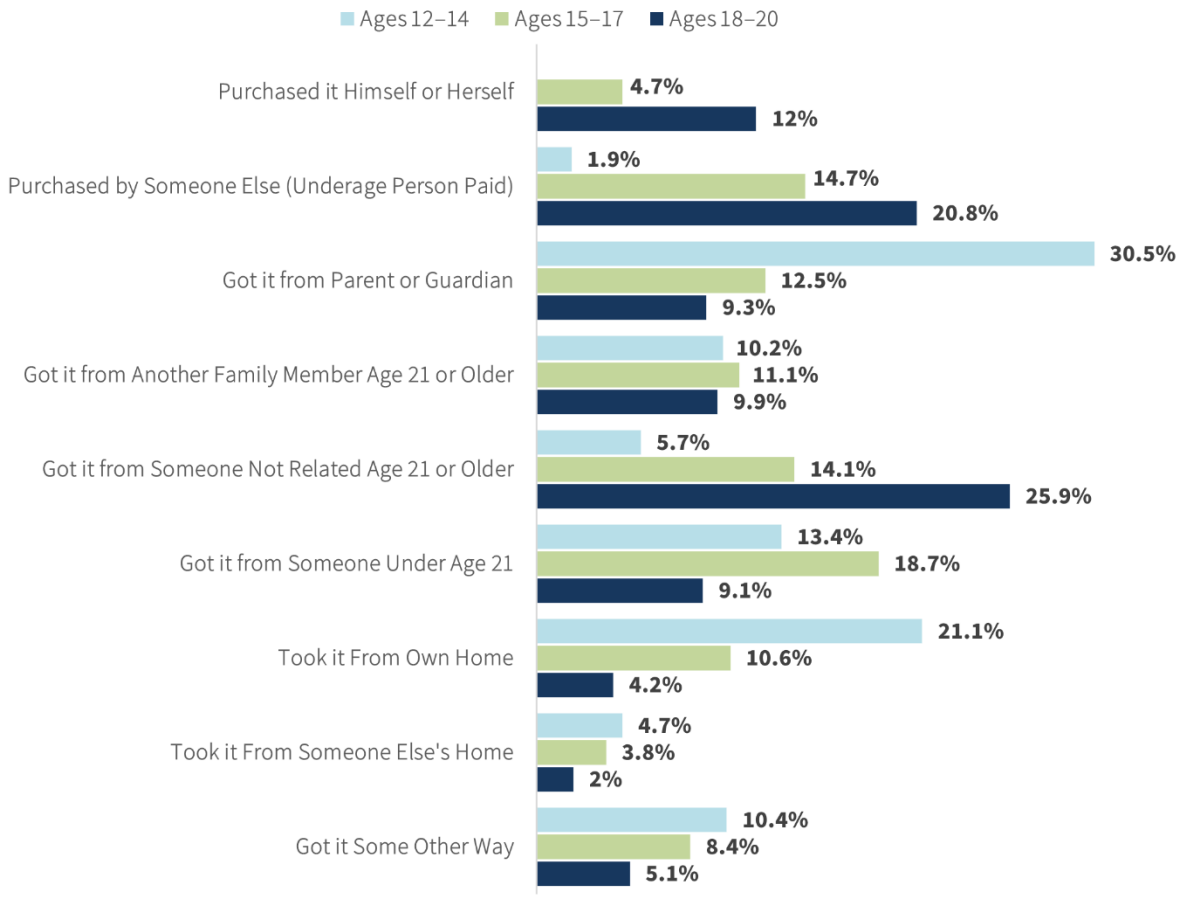
For youth ages 15–17, the most common sources were (CBHSQ, 2020a):

- Receiving it free from someone under age 21 (18.7 percent).
- Giving someone else money to purchase the alcohol (14.7 percent).
- Receiving it free from an unrelated person age 21 or older (14.1 percent).

For youth ages 18–20, the most common sources were (CBHSQ, 2020a):

- Receiving it for free from an unrelated person age 21 or older (25.9 percent).
- Giving someone else money to purchase the alcohol (20.8 percent).
- Purchasing it themselves (12.0 percent).

Exhibit 4.3: Source of Last Alcohol Used Among Past-Month Alcohol Users Ages 12–20, by Age Group: 2019 NSDUH Data (CBHSQ, 2020a)



NSDUH divides sources of last alcohol use into two categories: The underage person who drank (1) paid (he or she purchased it or gave someone else money to do so) or (2) did not pay (he or she received it for free from someone or took it from his or her own home or someone else's home). Data from 2019 show that among all underage people who currently drink, 28.0 percent

paid for alcohol the last time they drank, either purchasing the alcohol themselves or giving money to someone else to do so (CBHSQ, 2020a).

Older underage people 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: 33.1 percent of 18- to 20-year-olds did so compared with 19.5 percent of 15- to 17-year-olds and 3.5 percent of 12- to 14-year-olds. Underage males who drink were more likely to have paid for alcohol themselves on their last drinking occasion (30.9 percent) than their female counterparts (25.5 percent; CBHSQ, 2020a).

YRBS data showed that high school students who drank usually obtained alcohol from others, but those who binge drank were three times more likely than those who currently drank but did not binge drink to give others money to purchase alcohol for them and to purchase alcohol themselves (Esser, 2017).

Enforcement of furnishing laws is one key to reducing youth access to alcohol. A 2013 multi-community 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 compliance checks showed a decline of drinking and driving crashes with drivers under age 21 (George et al., 2018). In another study, a high-visibility enforcement campaign targeting underage drinking and driving appeared to reduce underage driving after drinking among U.S. college students (Johnson, 2016).

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 recent 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). To assess whether there is evidence of causality demonstrated between the marketing of alcohol and underage alcohol use (onset and severity of consumption), eight manuscripts were commissioned addressing elements of the Bradford Hill criteria[41] as part of a larger Cochrane review that is in progress.

The reviews addressed evidence from neurobiological models (Courtney et al., 2020), psychological processes (Jackson & Bartholow, 2020), cognitive responses to advertising (Henehan et al., 2020), econometric evidence (Saffer, 2020), and the effects of digital marketing (Noel et al., 2020). A review by Weitzman and Lee (2020) explored the similarities in the current literature on alcohol to that 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) conclude 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

[41] The criteria are: 1) Strength of association effect size), 2) consistency, 3) specificity, 4) temporality, 5) biological gradient (dose–response relationship), 6) plausibility, 7) coherence, 8) experimental evidence, and 9) analogy (Hill, 1965).

during adolescence and also one cause of binge drinking." The authors propose a research and policy agenda to continue to address alcohol advertising and underage 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 more than five times more likely to consume brands that advertise on national television and 36 percent more likely to consume brands that advertise in national magazines (Siegel et al., 2016).

The STOP Act requires the RTC 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 companies representing 70 percent or more of alcohol marketing dollars and required them to provide demographic data about the audience for each individual ad disseminated during the study period.

These studies have resulted in significant improvements in industry self-regulation over time. For example, FTC's *1999 Alcohol Report* (FTC, 1999) revealed that industry self-regulatory codes permitted as much as half of the audience for individual ads to consist of persons under 21. Even then, only half of the companies were able to demonstrate compliance with this weak standard (Evans & Kelly, 1999). The agency subsequently recommended that the industry raise its placement standard.

In 2003, FTC reported that the alcohol industry had come into substantial compliance with the prior 50 percent adult standard. More significantly, the agency announced that the alcohol industry had agreed to modify its voluntary codes to require that adults (age 21-plus) constitute at least 70 percent of the audience for each individual alcohol ad, based on reliable data. To facilitate compliance, the revised codes of the beer and spirits industries required members to conduct periodic post-placement audits and promptly remedy any identified problems (FTC, 2003).

In its 2008 report, FTC data showed that 92.5 percent of advertising placements in magazines, newspapers, radio, and television during the study period (the first half of 2005) complied with the 70 percent standard; further, because placements that missed the target were concentrated in smaller media, more than 97 percent of total alcohol advertising "impressions" (individual exposures to advertising) were due to placements that complied with the standard. In total, 86.2 percent of the alcohol advertising audience consisted of legal-age adults (FTC, 2008).

The FTC's *2014 Alcohol Report* evaluated industry compliance with the 70 percent standard, as well as Internet and social media marketing. Data for the study period (the first half of 2011) showed that 93.1 percent of the companies' placements in measured media (television, radio, magazine, newspaper, and Internet websites whose audience characteristics, including age, are measured by demographic services) met the 70 percent standard (FTC, 2014).

When data were aggregated across companies and media, 85.4 percent of alcohol advertising impressions (individual ad exposures) were seen by adults (age 21-plus), and 14.6 percent were seen by underage persons. The overall audiences for major social media (Facebook, Twitter, and

YouTube) exceed the standard that over 70 percent of the audience must be over 21; Facebook further limits alcohol ad viewing to people who previously registered as 21-plus, and Twitter and YouTube offer 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-plus population).

Another study of youth exposure to alcohol advertising found that from 2001–09, youth exposure to alcohol advertising on television in the United States, as measured by gross rating points, increased 71 percent. During the same period, adult (ages 21–49) exposure to alcohol advertising on television increased by 64 percent. This is largely attributable to increased alcohol advertising on cable television programs, particularly by distilled spirits companies (Jernigan et al., 2013).

In 2009, 13 percent of youth exposure on cable television came from advertising that was non-compliant with the industry's voluntary placement standards (Center on Alcohol Marketing and Youth, 2010; Jernigan et al., 2013). A subsequent analysis of the 2005–12 television advertising data noted that if alcohol advertisers avoided media (primarily on cable television) already identified as non-compliant with the underage restrictions, exposure of underage youth to more than 14 billion non-compliant alcohol advertising impressions could have been avoided. The authors advise incorporation of these "no-buy" lists into industry self-regulation practices (Ross et al., 2016).

A subsequent series of reports analyzing youth exposure to alcohol advertising found that underage youth were 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 due to alcohol advertising that did not comply with the alcohol industry voluntary guidelines (i.e., were noncompliant). Further analyses found the majority of exposures exceeding voluntary alcohol industry guidelines were from a small number of brands, programs, and network dayparts (Alger et al., 2021).

Despite improvements, underage youth are still exposed to billions of alcohol advertisements annually on cable television alone. Therefore, given the strong association between youth exposure to alcohol advertising and underage drinking, some advocates have proposed additional limits on alcohol marketing. However, as noted by the Surgeon General in his report on alcohol, drugs, and health (HHS, 2016), studies evaluating the relationship between alcohol advertising and youth consumption typically have not controlled for other factors known to influence underage drinking, such as parental attitudes and drinking by peers. Further, studies have yet to determine whether reducing alcohol marketing leads to reductions in youth drinking (HHS, 2016). Therefore, 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.

Effects of Adult Drinking Patterns

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 household or community, or some combination of these.

Nelson et al. (2009) demonstrated this relationship at the population level as well, using Youth Risk Behavior Survey (YRBS) state-based estimates for youth and data from the Behavioral Risk Factor Surveillance System (BRFSS) for adults. When pooled across years, state estimates of youth and adult current drinking and binge drinking from 1993–2005 were significantly correlated. Analyzing YRBS data from 1999–2009, 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 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.

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.

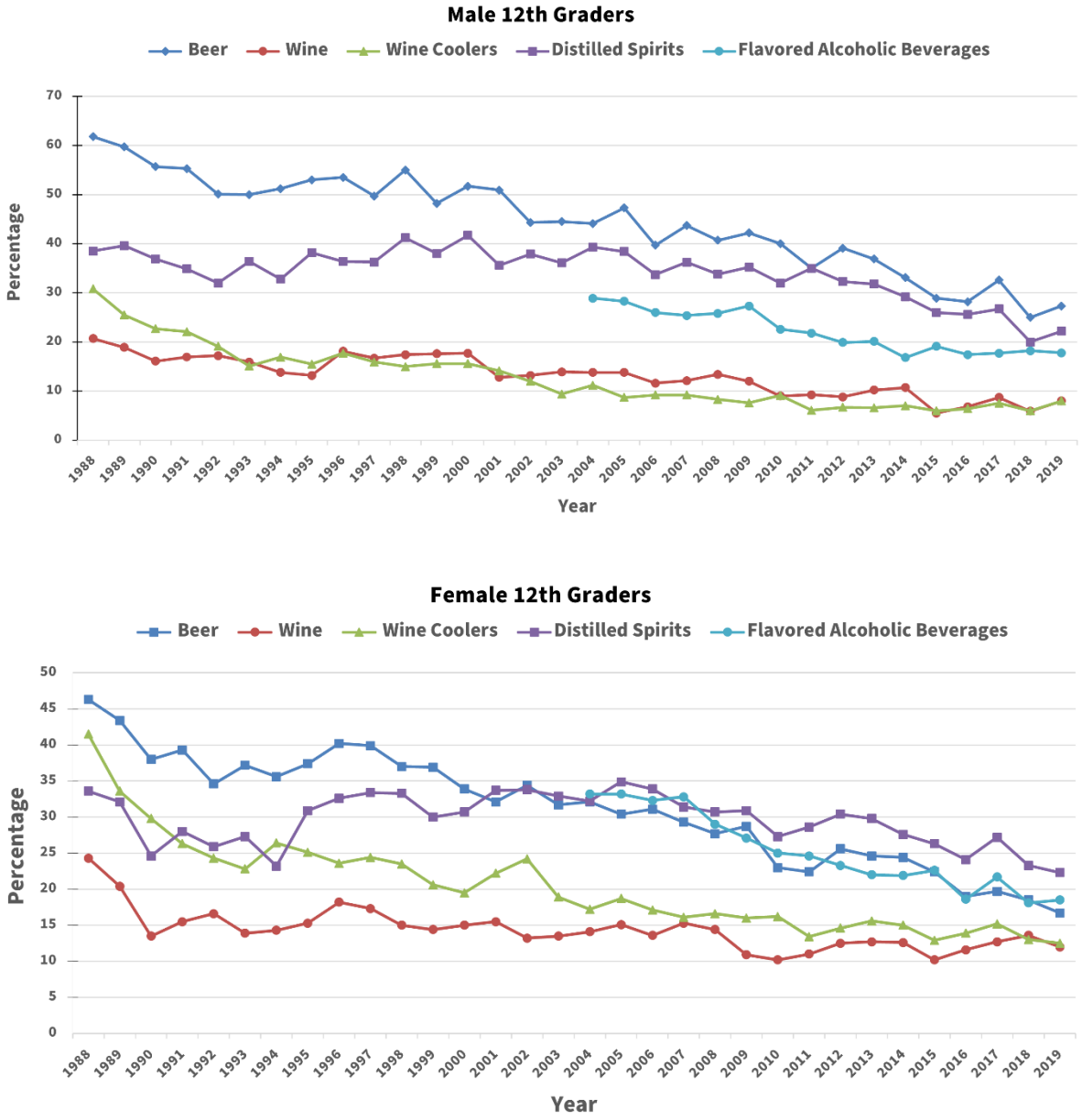
Alcohol Use by Beverage Type

Different alcohol 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 youths 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.

Since 1988, data from the MTF survey indicate beverage choices have shifted markedly for both male and female 12th graders (Exhibit 4.4; Johnston et al., 2020). In 1988, beer was the beverage of choice for both sexes by a large margin. However, by 2011, for males, consumption of beer had declined, and consumption of distilled spirits had increased such that the two were equally reported that year. In subsequent years, choice of beer has slightly exceeded choice of spirits for males. For females, a similar change occurred earlier (in 2005); females continue to choose distilled spirits over beer by a slight margin (Johnston et al., 2020).

In 2004 (the first year that flavored alcoholic beverages were included in the survey), female choice of beer, distilled spirits, and flavored alcoholic beverages was about the same. 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, also declined during this period (Johnston, Miech, O'Malley, et al., 2019).

Exhibit 4.4: Trends in Percentage of Male and Female 12th Graders Using Specific Types of Alcoholic Beverages in the Past 30 Days: 1988–2019 MTF Data (Johnston, Miech, O'Malley, et al., 2019)



Data from eight states (a subset of YRBS data) indicate that, among students in grades 9–12 who reported 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 for 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) 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 all binge drinking reports. Siegel and colleagues (2013) found that the top 25 brands account for about half of all 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, DeJong, Albers, et al., 2013). These products are cheap and given that they are twice as strong (151–190 proof) as standard spirits products (80–101 proof), underage consumers may find it very difficult to gauge their alcohol consumption, increasing the likelihood of injury.

Epidemiologic data on the use of high-potency grain alcohol is currently limited. Siegel and colleagues (2013), utilizing an Internet panel of youth ages 13–20, found that 5.8 percent reported consuming 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.[42] 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 pre-mixed caffeinated alcoholic beverages from the marketplace in November 2010. However, young people continue to mix alcohol and energy drinks on their own. An NIAAA-supported research study assessed the extent of this practice and its public health and safety effects on college students (Patrick & Maggs, 2014). A sample of 508 students reported alcohol and energy drink use on 4,203 days (4-day bursts of daily surveys) over four consecutive semesters, starting in their freshman year. Of the sample, 30.5 percent reported combined use at least once, and respondents consumed energy drinks on 9.6 percent of the days when they reported drinking alcohol. Heavier drinking, longer times drinking, and increased negative effects occurred when alcohol was combined with energy drinks compared with drinking occasions without energy drinks (Patrick & Maggs, 2014).

Another study found that underage individuals from 13–20 who drink and self-mix alcoholic beverages with energy drinks, energy shots, or caffeine pills were more likely to engage in heavier drinking, including binge drinking, and were also at increased risk for adverse alcohol-related outcomes compared with traditional mixing (combining alcohol with soda, coffee, or tea) and people who do not drink 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 2019 NSDUH survey data, most

[42] 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.

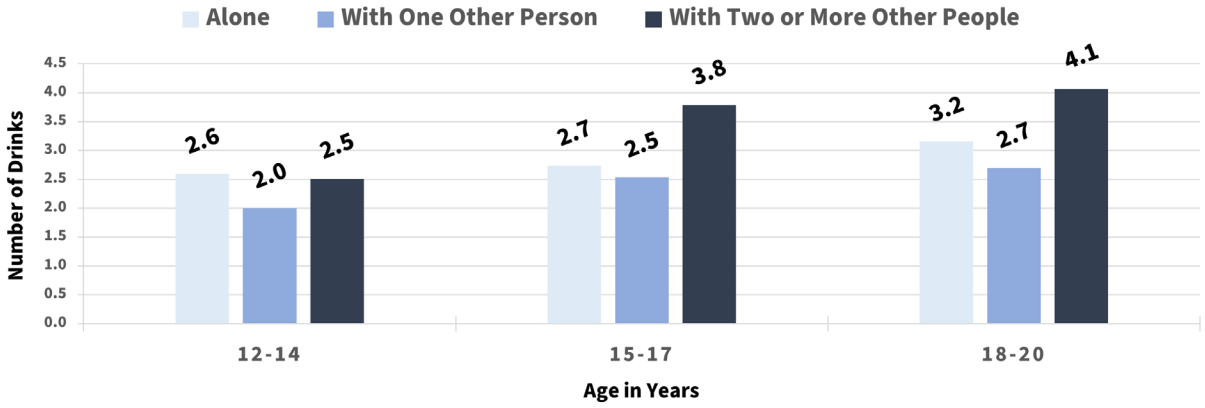
(74.2 percent) people ages 12–20 who consumed alcohol in the past month were with two or more people the last time they drank, 16.3 percent were with one other person the last time they drank, and 9.5 percent were alone (CBHSQ 2020a).

Most underage males and females who drink were with two or more other people on their last drinking occasion (72.1 percent of males who drink and 76.1 percent of females who drink). The percentage of males who reported drinking alone was 11.7 compared with 7.4 percent of females; 16.5 percent of females who drink reported drinking with one other person compared with 16.1 percent of males who drink (CBHSQ 2020a).

Social context also influences the number of drinks consumed. Based on an analysis of combined 2018-2019 NSDUH survey data, underage people who drank with two or more other people on the last occasion in the past month had more drinks on the last occasion on average (3.9 drinks) than did those who drank with one other person (2.6 drinks) or drank alone (3.0 drinks; CBHSQ, 2021).

Males consumed significantly more drinks than did females when drinking with two or more people. When the last drinking occasion was with two or more other people, males averaged 4.6 drinks, whereas females averaged 3.4 drinks (CBHSQ, 2021). Number of drinks consumed by social context also varies by age group, as shown in Exhibit 4.5.

Exhibit 4.5: 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: Annual Averages Based on 2018–19 NSDUH Data (CBHSQ, 2021)



Location of Alcohol Use

Most underage people who drink reported last using alcohol in someone else's home (47.1 percent) or within their own home (40.5 percent), based on the 2019 NSDUH survey. The next most popular drinking locations were at a restaurant, bar, or club (8.2 percent); at some other place (5.6 percent); or at a park, beach, or parking lot (4.8 percent; CBHSQ, 2020a).

Thus, most young people drink in social 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 an unsupervised home of individuals other than the person

drinking, and 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 drink were more likely than those in younger age groups to have been in a restaurant, bar, or club on their last drinking occasion (10.7 percent for ages 18–20 versus 2.8 percent for ages 12–14 and 2.8 percent for ages 15–17; Exhibit 4.6; CBHSQ 2020a). The number of drinks consumed is also affected by location and age group (Exhibit 4.7).

Exhibit 4.6: Drinking Location of Last Alcohol Use Among People with Past-Month Alcohol Use Ages 12–20 by Age Group: 2019 NSDUH Data (CBHSQ, 2020a)

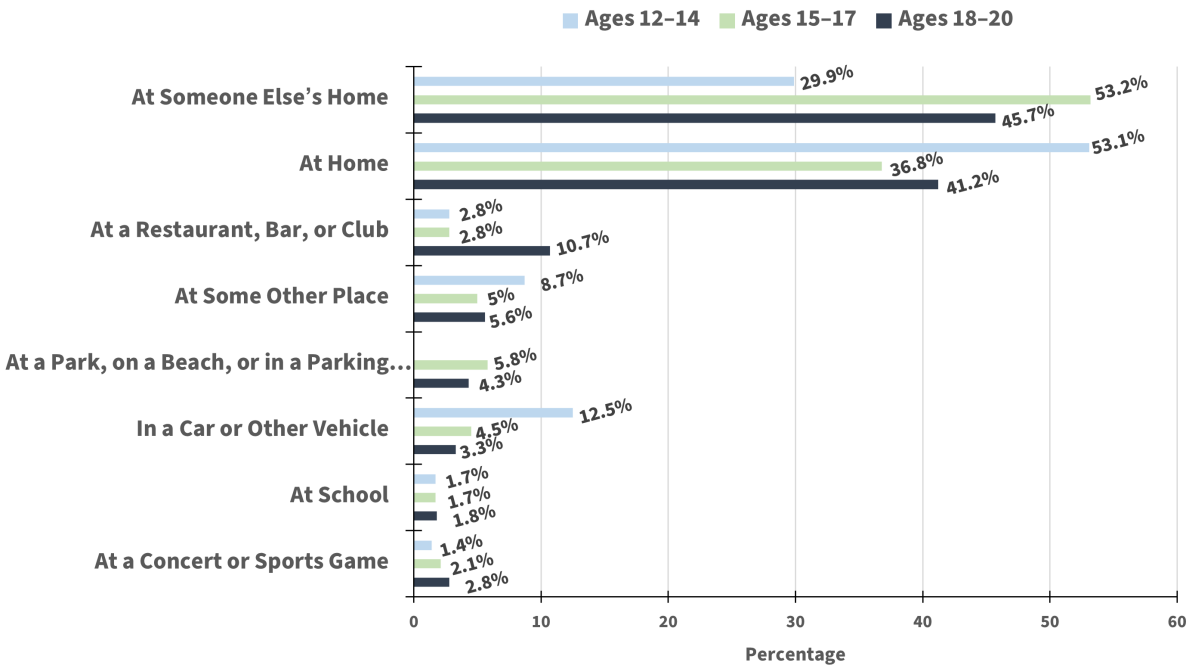


Exhibit 4.7: Mean Number of Drinks per Location by Age Group: 2018, 2019 Combined NSDUH Data (CBHSQ, 2021)

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 12-14	*	*	2.8	5.7	*	*	2.2	2.5
Ages 15-17	3.5	2.2	4.0	3.1	3.6	3.5	3.0	4.0
Ages 18-20	4.9	5.0	4.9	1.8	4.6	4.1	3.3	4.2

* 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) at private residences. Such drinking occasions include parties at which large numbers of youth are present. Drinking parties attract those age 21 and over 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).

Parties are settings for binge drinking and other patterns of consumption leading to high blood alcohol concentrations (Clapp et al., 2008; Clapp et al., 2006; Demers et al., 2002; Paschall & Saltz, 2007; Usdan et al., 2005; Wagoner et al., 2012).

Factors that increase the risk of high BACs include the size of the party and the number of people drinking (Wagoner, et al., 2012), drinking games (Clapp et al., 2008; Clapp et al., 2006), "bring your own booze" policies (Clapp et al., 2006), parties sponsored by fraternities (Paschall & Saltz, 2007), and parties where illicit drugs are available (Clapp et al., 2006).

Demers and colleagues (2002) suggested that large parties have a greater facilitative effect on men's than on women's drinking. 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 drink 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 or allow such events to take place on their property. Paschall, Lipperman-Kreda, Grube, and Thomas (2014) rated such policies for comprehensiveness and stringency. They found a small but significant negative relationship between the strength of the policies and underage drinking at parties among people who 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):

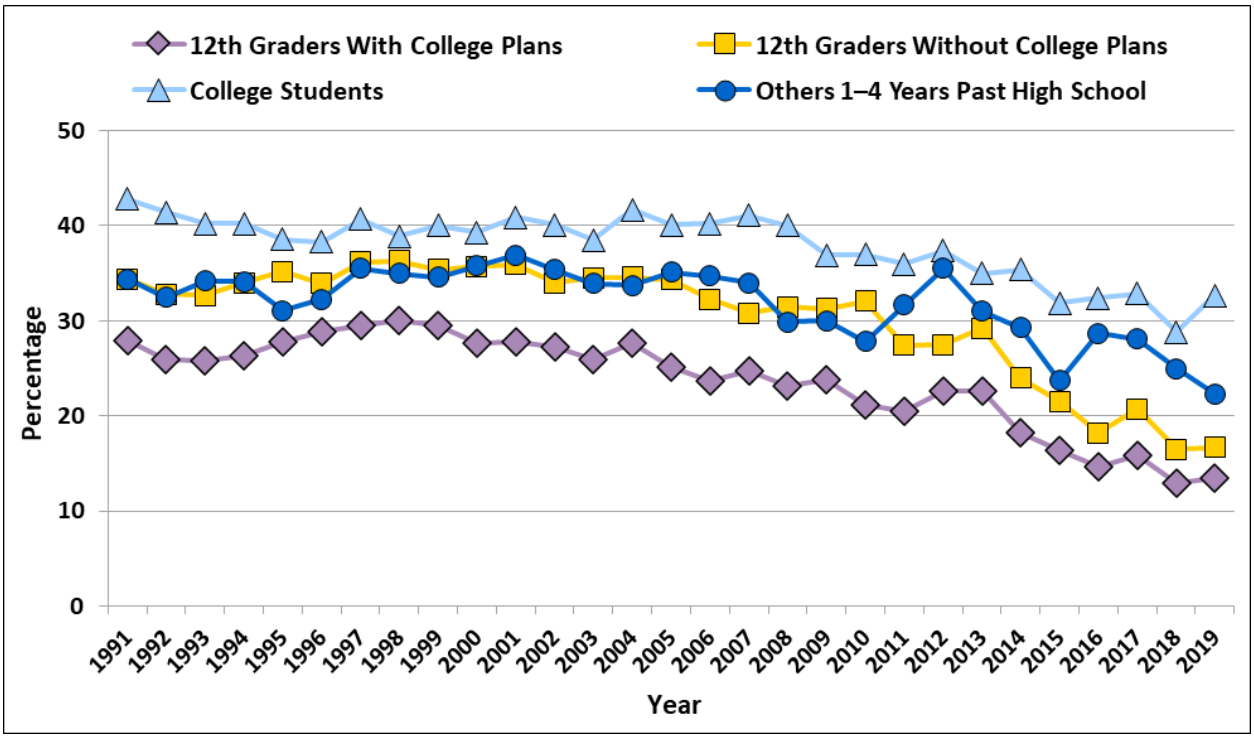
> *The tradition of drinking has developed into a kind of culture—beliefs and customs—entrenched in every level of college students' environments. Customs handed down through generations of college drinkers reinforce students' expectation that alcohol is a necessary ingredient for social success. These beliefs and the expectations they engender exert a powerful influence over students' behavior toward alcohol.*[43]

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

[43] 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).

Although college-bound 12th graders are consistently less likely than non-college-bound counterparts to report binge drinking (13.5 percent those with college plans versus 16.7 percent of those without college plans), individuals in college[44] report higher rates of binge drinking than do individuals of the same age who are not attending college (Exhibit 4.8; (Johnston et al., 2020). Of full-time college students, 62.2 percent drink currently compared with 50.1 percent of their non-college attending age peers; 32.7 percent report binge drinking behavior in the past 2 weeks compared with 22.3 percent of their non-college peers (Miech et al., 2020; Schulenberg et al., 2020).

Exhibit 4.8: 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: 1991–2019 MTF Data (Miech et al., 2019; Schulenberg et al., 2019) I and II



Binge-drinking rates among college students have declined from 40.2 percent in 1993 to a current rate of 32.7 percent (Schulenberg et al., 2020); however, drinking patterns remain a concern. Whereas binge drinking tends to be lower among non-college peers (22.3 percent in 2019, extreme binge drinking (which represents the upper levels of already dangerous levels of consumption) is of concern among both college students and non-college peers, particularly for males. According to 2019 MTF data, 10.3 percent of college students (18.9 percent of males, 5.6 percent of females) reported consuming 10 or more drinks in a row in the past 2 weeks. In

[44] College students are defined as those follow-up MTF respondents 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 of the year in question. Non-college same-age peers are follow-up MTF respondents 1–4 years past high school who do not report taking courses. Both groups include a percentage of individuals who have reached the legal drinking age. Underage college students drink about 48 percent of the alcohol consumed by students at 4-year colleges (Wechsler et al., 2002).

comparison, for non-college peers, 12.0 percent (20.9 percent of males and 7.5 percent of females) reported consumption of 10 or more drinks (Schulenberg et al., 2020).

These findings suggest that 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).

Additional information about detailed patterns of alcohol use among emerging adults (ages 18–24), including binge drinking, alcohol-impaired driving, and alcohol-related deaths and overdose hospitalizations, is provided in an article by Hingson et al. (2017). Of particular concern is the finding that alcohol-related overdose deaths increased in this age group during the 1998–2014 timeframe.

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 both binge drinking by 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).

Family, Peer, and Individual Factors

Biological factors (such as genes and hormones) and social factors (such as family, peers, school, and the overall culture) 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 and societal basis. The next sections address some of the social and individual factors correlated with alcohol consumption and related outcomes.

Parental and Peer Influences

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

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 proven beneficial in reducing adolescent alcohol use (Beck et al., 2003; Ennett et al., 2001; Resnick et al., 1997; Watkins et al., 2006).
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 the parent, is always associated with a greater likelihood of drinking during adolescence over time.

As previously noted, research has also shown that drinking by underage youth (e.g., high school students) is strongly correlated with drinking by adults living in the same state, and that the drinking of youth and adults is strongly influenced by state alcohol control policies (Nelson et al., 2009b; Xuan et al., 2015). 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).

Another recent article assessing the interaction of peer and parental influences found that adolescents whose parents engaged in binge drinking were more like 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. One study found 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, 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).[45] For example, the current 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 that reduce the risk of excessive alcohol consumption to help protect all students, including those who may be most vulnerable to drinking excessively due to genetic factors or prior exposure to excessive drinking in their homes.

[45] "Problematic use" was defined as having at least one DSM-IV abuse or dependence symptom for alcohol.

CHAPTER 5

Evaluation of the National Media Campaign: "Talk. They Hear You."®

CHAPTER 5—EVALUATION OF THE NATIONAL MEDIA CAMPAIGN: "TALK. THEY HEAR YOU"

Summary of Chapter

Chapter 5 provides the *2021 Report to Congress on the Prevention and Reduction of Underage Drinking (2021 RTC)* on the national media campaign, "Talk. They Hear You."® (TTHY), as required by the Sober Truth on Preventing Underage Drinking Act (STOP Act). It 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 the likely effectiveness of a national youth-focused media campaign to combat underage drinking. The chapter begins by providing background 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 reduce the impact of substance misuse and mental illness on America's communities. In particular, SAMHSA works toward underage drinking prevention by supporting state and community efforts, promoting the use of evidence-based practices, educating the public, and collaborating with other agencies and interested parties. In 2004, the U.S. Department of Health & Human Services (HHS) Secretary directed SAMHSA to convene the newly established Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) and serve as the lead agency. ICCPUD was formalized in 2006 with Congress's passage of the STOP Act. Created to coordinate all federal agency activities related to the problem of underage drinking, ICCPUD's vision is to provide national leadership in both federal policy and programming to support state and community activities that prevent and reduce underage drinking. ICCPUD's mission is (1) to facilitate collaboration among the federal ICCPUD member agencies, state and local governments, private and public national organizations, and agencies responsible for the health, safety, and well-being of America's children and youth; and (2) to provide resources and information on underage drinking prevention, intervention, treatment, enforcement, and research.

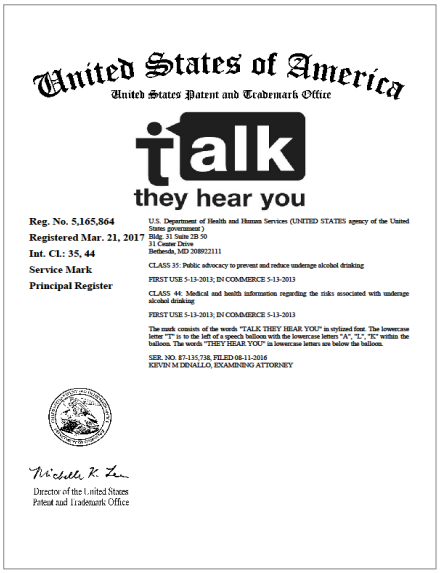
Under ICCPUD's leadership, SAMHSA's Center for Substance Abuse Prevention developed the TTHY campaign in response to directives set forth in Section 2(d) of the STOP Act, requiring the HHS Secretary to fund and oversee a national adult-oriented media public service campaign and to report annually on the production, broadcasting, and evaluation of this campaign. 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 two of the core goals laid out in ICCPUD's "Preventing & Reducing Underage Drinking 2018 Comprehensive Plan":

- Goal 1: Strengthen a national commitment to address the problem of underage drinking; and

- Goal 2: Reduce demand for, the availability of, and access to alcohol by persons under the age of 21.

To maintain its lasting message and keep it consistent and relevant over time, the TTHY campaign trademarked its logo in 2016, making it the official property of HHS (Exhibit 5.1). This trademark instills trust in the campaign, lends credibility to TTHY materials, and promotes consistency when organizations implement TTHY in their communities.

Exhibit 5.1: TTHY Service Mark Certificate



United States of America
United States Patent and Trademark Office

talk
they hear you

Reg. No. 5,165,864
Registered Mar. 21, 2017
Int. Cl.: 35, 44
Service Mark
Principal Register

U.S. Department of Health and Human Services (UNITED STATES agency of the United States government)
Bldg. 31 Suite 2B 50
31 Center Drive
Bethesda, MD 208922111

CLASS 35: Public advocacy to prevent and reduce underage alcohol drinking

FIRST USE 5-13-2013; IN COMMERCE 5-13-2013

CLASS 44: Medical and health information regarding the risks associated with underage alcohol drinking

FIRST USE 5-13-2013; IN COMMERCE 5-13-2013

The mark consists of the words "TALK THEY HEAR YOU" in stylized font. The lowercase letter "t" is to the left of a speech balloon with the lowercase letters "A", "L", "K" within the balloon. The words "THEY HEAR YOU" in lowercase letters are below the balloon.

SER. NO. 87-135,738, FILED 08-11-2016
KEVIN M DINALLO, EXAMINING ATTORNEY

Director of the United States Patent and Trademark Office

Launched in 2013, the campaign's original goal was to provide parents and caregivers with the resources they need to address the issue of alcohol with their children.

However, in 2017—amid the nation's opioid crisis and changes in laws regarding marijuana in a growing number of states across the country—the campaign received separate funding to expand content to include information on alcohol in conjunction with other substances. Recognizing the dynamic national context, SAMHSA expanded TTHY to prepare parents and caregivers to talk with their children about alcohol and other drugs, including prescription pain medications and marijuana.

Historically, TTHY has focused on reaching the parents and caregivers of children ages 9–15 for early intervention. In 2018, the campaign expanded this age range and now includes resources for parents and caregivers of children under the age of 21. The campaign is currently in its eighth year and has evolved into an ongoing communications initiative. In that time, the campaign has also become a well-recognized brand with 1,328 partners in all 50 states and more than 300 cities.

Exhibit 5.2: TTHY Print Public Service Announcement (PSA)

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. The campaign's goal is to reduce underage drinking and other substance use by providing parents and caregivers of children under age 21 with information and resources to discuss the issues of alcohol and other drugs with their children (Exhibit 5.2).

The literature on prevention suggests that parental interaction with youths regarding underage drinking and other substance use may provide a unique opportunity for prevention and early intervention. 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 children.

TTHY campaign objectives include[46] the following:

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

TTHY Target Audience

Alcohol use by those younger than the legal age of 21 remains a serious public health and safety problem, undermining the well-being of America's young people. Nearly $24.3 billion (about 10 percent) of the total $249 billion economic cost of excessive alcohol consumption is related to underage drinking, much of that due to premature mortality of underage youths (Sacks et al., 2015).

Alcohol also continues to be the most widely used substance among America's youth, with a higher proportion drinking alcohol than using tobacco, marijuana, or other drugs. SAMHSA's 2019 National Survey on Drug Use and Health (NSDUH) found that a higher percentage of youths (18.8 percent) ages 12 to 20 used alcohol in the past month than used tobacco products (10.1 percent) or illicit drugs (13.4 percent; Center for Behavioral Health Statistics and Quality (2020a).

NSDUH also found that underage alcohol consumption in the past month increased with age in a steady progression from 1.7 percent for 12- to 13-year-olds to 35.7 percent for 18- to 20-year-olds. By ages 18–20, 22.9 percent of young people reported binge alcohol use and 4.7 percent reported heavy alcohol use in the past month (CBHSQ, 2020).

Alcohol use is also associated with a greater likelihood of using other substances, including marijuana, tobacco, and other drugs (DuPont et al., 2018). According to NSDUH, 12.1 percent of those ages 12–20 had used marijuana, 9.1 had used tobacco products, and 0.8 percent had misused opioids in the past month (CBHSQ, 2020). Hospitalizations of 18- to 24-year-olds for overdoses involving a combination of opioids and alcohol also tripled between 1998 and 2014 (Hingson et al., 2017).

Fortunately, parents have a significant influence on young people's decisions about alcohol consumption (Tael-Öeren et al., 2019; Yap et al., 2017). In fact, parental attitudes toward

[46] Although TTHY campaign objectives have been expanded to include a broader target youth age range and substances beyond alcohol, evaluation funding remains limited to the original mandate: parents of children ages 9–15 and alcohol-related indicators only.

drinking as well as parental communication can have a substantial impact on adolescent alcohol use, particularly among younger adolescents (Koning et al., 2014). Research also suggests that one of the most influential factors in child development is a strong, open relationship with a parent (Center on the Developing Child, 2021).

Although most adults support public policy aimed at reducing youth access to alcohol, there is evidence to suggest that parents are unaware of the pervasiveness and risk of underage drinking (CR et al., 2018). Further, parents who do not discourage underage drinking may have an indirect influence on young people's alcohol use (Bailey et al., 2018).

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. When parents create supportive and nurturing environments, children make better decisions. 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 using alcohol and other drugs.

As noted, SAMHSA's TTHY campaign focuses 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 (Hingson & White, 2014). 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/caregivers and youths 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; the campaign website; partner networks; and direct outreach. Campaign messages:

- Emphasize the importance of parents 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);
- Offer advice to parents about preparing children to deal with peer pressure issues that may lead to alcohol and other drug use;
- Highlight underage drinking and other substance use statistics that are likely to catch parents' attention;
- Focus on helping parents 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 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). PSAs direct viewers and listeners to the campaign website (https://www.samhsa.gov/underage-drinking) for additional information and tools as well as downloadable versions of the television, radio, and print PSAs.

Exhibit 5.3: Typical Parent/Child Opportunity for Conversation

A select number of these materials are currently available in both English and Spanish, with several Spanish-language versions released in 2016. A series of print PSAs directed at Native American audiences has also been distributed to markets in Alaska, Arizona, and Oklahoma. The campaign continues to diversify its audiences based on emerging data, partner feedback and needs, and collaboration opportunities with other federal agencies and stakeholder organizations.

In 2018, the TTHY campaign released a set of PSAs that included one creative focused on a military audience and another for a general audience. Both focused on substances other than alcohol. The military audience PSA was developed as part of a collaboration with the U.S. Department of Defense to make the campaign's message more relevant for parent populations in the military. A third PSA featuring television actress Torrey DeVitto and her musician father, Liberatori "Liberty" DeVitto, highlighted the positive outcomes of talking to children about alcohol and other drugs.

In 2019, the TTHY campaign developed a collection of three PSAs focused on underage drinking and other substance use prevention, along with separately funded PSAs specifically focused on vaping and marijuana use prevention. The additional PSA topics emerged as a priority in direct response to the doubling of vaping rates from 2017–19 and the ongoing changes in laws regarding marijuana in a growing number of states across the country. Each of these new creative executions addresses underage drinking prevention as well as other substances that are often used in combination with alcohol.

In 2020, the campaign received clearance to conduct a staggered release of the TTHY PSAs developed in 2019. Due to the significant impact of COVID-19, the campaign prioritized distribution and promotion of the new PSAs that best reflected the social distancing expectations facing many families at home, at school, and in communities across the country.

As discussed in Exhibit 5.4, since the campaign launched in 2013, TTHY television, radio, and print PSAs have collectively garnered more than 14.9 billion impressions. Distribution has generated an estimated $193.97 million in free airtime and ad space.

Exhibit 5.4 Return on Investment of the TTHY National Media Campaign

The TTHY earned media campaign[47] has yielded more than a $15-to-$1 return on investment for every dollar invested. 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 who are implementing the campaign locally and to learn specific details about their prevention efforts.

Since the campaign's inception, initial investment costs for development and implementation have been a little more than $1,000,000 per year, totaling $12,544,309 over a 12-year period. Earned media outreach efforts have generated an estimated $193.97 million in earned media placements on major networks and affiliates—with television, print, and radio PSAs having collectively garnered 14.9 billion impressions in all 50 states and in more than 300 cities. 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. With partner engagement and outreach included, the campaign has earned more than 39,270 donated labor hours from local community organizations since its inception, which equates to approximately 19 full-time employees and $885,539 in estimated salary.

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, original soundtracks, PowerPoint presentations, a product catalog, Web banners, buttons, and a scannable quick response code for promoting the campaign on partner websites.

Under ICCPUD's guidance, the campaign continued to develop new TTHY materials for parents and caregivers, educators, and community organizations in 2020. In particular, the campaign began creating a "Parents' Night Out" presentation series—consisting of three interactive sessions—to inform, prepare, and motivate parents and caregivers to start talking with their children about underage drinking and other drug use. The series is intended for in-person and virtual use by schools and community prevention coalitions.

The campaign also received approval to release a new set of TTHY products for parents and caregivers, student assistance professionals and other educators, and community partners. This included the five new television and radio PSAs developed in 2019, a discussion starter video, 15 print PSAs, four brochures, three posters, a product catalog, and four resource guides/toolkits. The student assistance–specific products were created to showcase the importance of student

[47] "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." (Top Rank Marketing, n.d.)

assistance professionals, school leaders, and families working together to support the needs of students who may be struggling with substance use, mental health, or school-related issues.

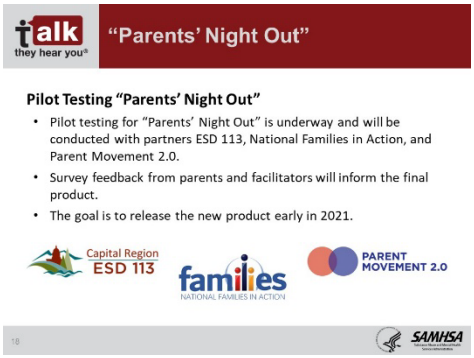
Partner Engagement

To date, TTHY brand licenses have been assigned to 1,328 prospective and current campaign partners. The campaign works with these local, state, and national partners to support outreach and the dissemination of campaign materials across the United States. Partners include government agencies as well as prevention, retail, healthcare, community, and school-based organizations.

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

The TTHY campaign sent 19 targeted emails with customizable social media content, newsletter blurbs, and blog posts to more than 1,200 contacts interested in receiving campaign updates in 2020. 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 email open and link click rates for government campaigns with a 19.46 percent average open rate and 3.21 percent average click rate.

Exhibit 5.5: "Parents' Night Out" Field Testing Partners



In 2020, 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 feedback session—where partners were encouraged to share their thoughts on the campaign website, available products, and future product needs—and a meeting introducing the campaign's new "Parents' Night Out" product, which is currently in development.

The TTHY campaign also secured interest from Capital Region ESD 113, National Families in Action, and Parent Movement 2.0 to serve as prevention partners and conduct field testing of the new "Parents' Night Out" presentation in 2020–2021 (Exhibit 5.5). As described in the Office of Management and Budget (OMB) package being developed, these partners will include five standard poll questions asked in real time throughout their local presentation and a short customer satisfaction survey distributed immediately following the presentation.

Website

The TTHY website (Exhibit 5.6) provides a centralized resource for all campaign information and products. Materials and information are organized by audience category: parent/caregiver, partner, or media. Educational and informational documents 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, educators, and communities can take to help 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 can download a family agreement template that enables parents and children to pledge their commitment to avoid underage drinking. Other tools provide answers to children's frequently asked questions about alcohol and other drugs and present five primary conversational goals for parents emphasizing the importance of:

1. Indicating disapproval of underage drinking and other substance use;
2. Demonstrating concern for their child's happiness and well-being;
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 substance use.

Exhibit 5.6: TTHY Materials Are Available on the SAMHSA Website (https://www.samhsa.gov/underage-drinking)

Collective promotional activities from January 1, 2020, through December 31, 2020, helped drive 81,149 visits and 164,109 views to the TTHY website, which was a 51 percent increase in visits from 2019. These promotional activities also helped drive 1,497 visits and 4,696 views to the Spanish version of the TTHY website, which was a 384 percent increase in visits from 2019.

Mobile Application

Available to parents since July 2015, the TTHY mobile application (Exhibit 5.7) is available through Google Play™, the Windows® Store, and the App Store.®

Exhibit 5.7: TTHY Mobile App

The app features an interactive simulation using avatars to help parents practice bringing up the topic of alcohol, asking relevant questions, and keeping the conversation going in a role-play environment. The app was downloaded 12,849 times as of December 2020.

In 2019, SAMHSA posted social media messages promoting the TTHY mobile application. These social media posts garnered 264 engagements (i.e., reactions, comments, shares, and

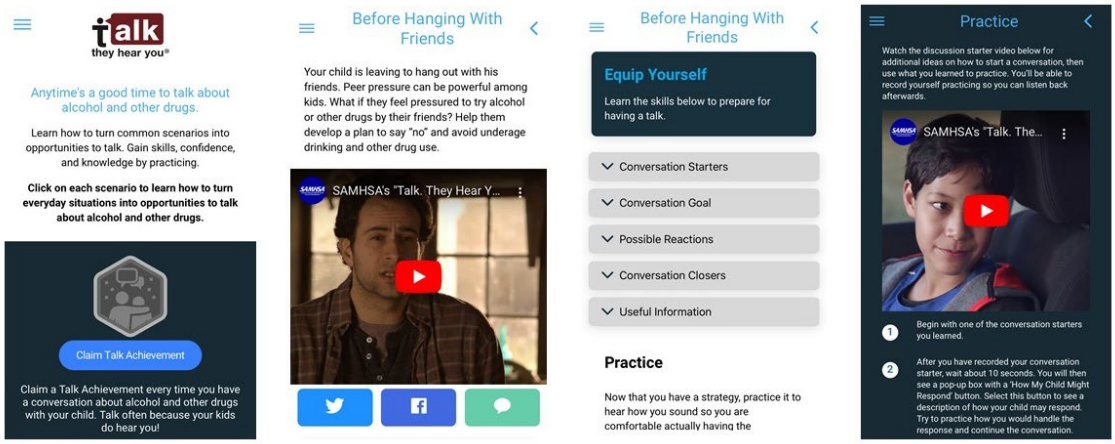
replies) and contributed to 2,484 visits and 5,213 page views to https://www.samhsa.gov/underage-drinking/mobile-application.

A 2019 review in the peer-reviewed journal *Health Promotion Practice* described the app in detail and concluded that it "shows broad dissemination potential that is likely to translate into healthier, more productive in-person conversations with underage drinkers" (Stellefson et al., 2019).

In previous years, the campaign used additional social media promotion tools to promote the mobile application. More detailed information on these efforts can be found in the *2016 RTC* (available at https://www.stopalcoholabuse.gov).

In 2020, the campaign also continued developing the next iteration of the TTHY mobile app (Exhibit 5.8). This new app will help parents and caregivers learn how to turn everyday situations into opportunities to talk with their children about alcohol and other drugs. It will also help them gain the necessary skills, confidence, and knowledge to start and continue these important conversations as their kids get older by providing a safe and accessible medium to practice. The new mobile app's content management system will enable the campaign to promote featured campaign products for parents and caregivers, educators, and communities; make them available for download; and enable users to share these materials via their social media networks. It will also enable the campaign to send push notifications to users to promote key campaign messaging and materials more frequently and strategically. The new mobile app is scheduled to launch in 2021 and will replace the previous version.

Exhibit 5.8: Next Iteration of TTHY Mobile App



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 United States, the annual Survey of State Underage Drinking Prevention Policies and Practices 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 suggest that the majority of the states (75 percent) participate in some kind of media campaign aimed at preventing underage drinking and that 29 states

reported participating in the TTHY campaign directly. Of those, four out of five states (79 percent) reported that their most frequent form of collaboration was disseminating TTHY materials at the local level. Most (72 percent) 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 and relatable and that resonate with the campaign's target audiences. Thus, the STOP Act called not only for ongoing development, as detailed above, but 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 were 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 will 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, youths, 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, and the feedback from parents and caregivers is integrated into the campaign. Feedback received during these formative market testing sessions is incorporated into final campaign materials prior to launch. Thus, following the NCI model (Exhibit 5.9), SAMHSA pretests messages, materials, and concepts during their development.

Exhibit 5.9: The National Cancer Institute (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, forge new directions for the communications initiative.

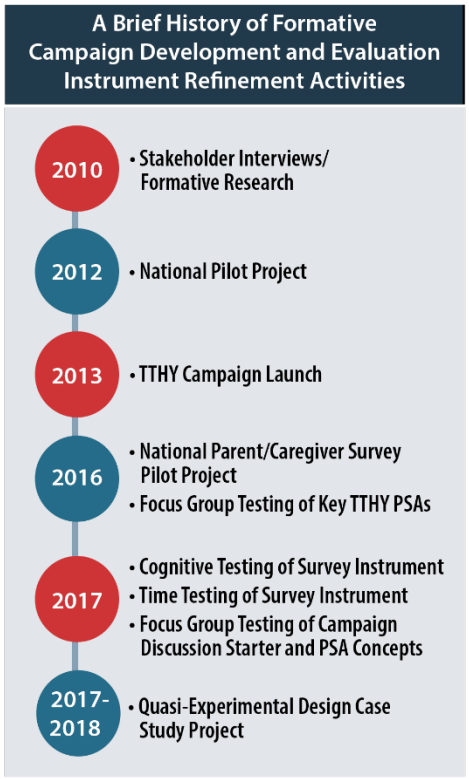
Although summative evaluation happens at the end of the evaluation cycle, it should not be viewed as an

endpoint. Throughout the life of the campaign, SAMHSA continues to invigorate TTHY by incorporating findings from ongoing process evaluation efforts. These evaluative "check points" track the evolving needs of target audiences so that messages and materials retain their relevance and appeal among intended campaign targets.

A Brief History of Formative Campaign Development and Evaluation Instrument Refinement Activities

Before the launch of the TTHY campaign in 2013, SAMHSA conducted an initial national pilot project in 2012 to evaluate and refine the campaign's creative materials and objectives (Exhibit 5.10). Feedback received from this effort was incorporated into materials before the official campaign launch. Additionally, the pilot project confirmed that TTHY did have an impact on parent knowledge, attitudes, and behaviors (KABs) regarding underage drinking.

Exhibit 5.10: Formative Evaluation



Extensive details of the pilot project are presented in the 2014 report, *The Development and Implementation of a National Media Campaign to Address Underage Drinking*, and a topline summary of the effort is included in the 2015–2016 versions of the *RTC*, available at https://www.stopalcoholabuse.gov. Following this effort, a national parent/caregiver survey pilot project was launched in January 2016 to further inform evaluation planning and execution for the TTHY campaign.[48] Findings from this project indicated that a national survey/questionnaire effort would be feasible for ongoing TTHY tracking efforts.

SAMHSA then conducted focus groups for additional TTHY campaign development (September–November 2016). Five focus groups were conducted to test key TTHY PSAs. Based on focus group results, additional edits were made to both the creative campaign elements and the survey instrument. Specific recommendations from these focus groups are provided in the 2017 report, *Advancing the Evaluation of the "Talk. They Hear You." Initiative: A Formative Research Project Assessing the National Survey Effort to Determine Reach and Impact of SAMHSA's Underage Drinking Prevention National Media Campaign*. A topline report of evaluation findings and recommendations for further refining both the survey instrument and the TTHY campaign materials is also detailed in the Campaign Evaluation Strategy section of the *2018 RTC* (https://www.stopalcoholabuse.gov).

Subsequent to these efforts, additional refinements were made to the survey instrument (for eventual use in both the case study and parent questionnaire described later in this report) via an iterative process of review among SMEs in the survey design space as well as a rigorous

[48] The intent of the ongoing, iterative survey instrument development efforts was to create a valid instrument for use in both the case study and parent questionnaire efforts described in more detail in this chapter.

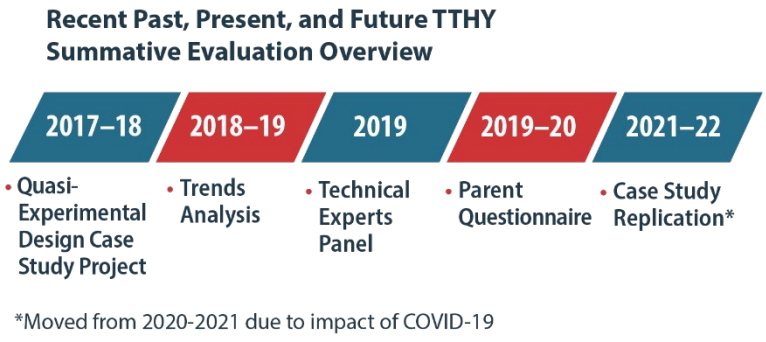
cognitive testing procedure. As described more fully in the *2018 RTC*, cognitive testing of the survey instrument was conducted from August–September 2017 among a small sample (N=8) of respondents falling within the campaign target audience. Small-scale cognitive testing activities, such as those conducted for this effort, are the gold standard for ensuring valid evaluation instrumentation and are well-accepted among behavioral scientists and evaluators for helping to eliminate "unwarranted suppositions, awkward wordings, or missing response categories" (Presser et al., 2004, p. 109).[49]

Based on the feedback from these efforts, final edits were made to the survey instrument before its eventual use in the 2017–2018 case study project (described below). A full report of this testing on the case study procedures and recommendations is included in the archived *2017 Cognitive Testing Report* (https://www.stopalcoholabuse.gov). The final survey was then time-tested in September 2017 to confirm that burden estimates were within the limits suggested in the OMB package submitted for this project, a full accounting of which can be found in the archived *Time Testing Report*,[50] also available at https://www.stopalcoholabuse.gov.

The 2012 initial pilot project, the 2016 pilot survey feasibility project, subsequent focus groups in 2016 and 2017, and iterative SME reviews of the survey instrument and cognitive testing of the revised survey in 2017 were all employed to further develop TTHY campaign elements as well as refine evaluation designs, data collection procedures, and survey/questionnaire instrumentation for subsequent TTHY campaign evaluation efforts.

Recent Past, Present, and Future TTHY Summative Evaluation Overview

Exhibit 5.11: Summative Evaluation



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 are in progress (Exhibit 5.11).

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 KABs to affect 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 are in various stages of implementation. The first is a quasi-experimental design case study project, which was fielded

[49] Note: In addition to cognitive testing of the evaluation instrument, SMEs in evaluation design and analytics further reviewed the survey for domain area relevance and data optimization. Iterative rounds of edits to word choice, question ordering, and formatting to ensure clarity and quality data outputs were also executed before, during, and after the cognitive interview testing period.

[50] A topline report of evaluation findings of these efforts can also be found in the *2018 RTC* (https://www.stopalcoholabuse.gov).

from October 2017–June 2018 and completed in summer 2018 to further supplement findings from the parent questionnaire and trends analysis described below. Planning for a replication of this case study effort is currently underway for the 2021–2022 school year.

The second method used to evaluate TTHY is a parent questionnaire, for which OMB package #0930-0385 was approved on August 19, 2019 (expiration date: August 31, 2022). Questionnaire fielding launched in December 2019 and was completed in January 2020. The parent questionnaire will eventually be released on a biennial or annual basis. However, the campaign is currently reevaluating the methodology of its initial approach to improve the questionnaire and will submit an OMB package update, which may impact the timing and frequency.

The final project conducted was the trends analysis, which was launched in the last quarter of 2018 and completed in August 2019.

The case study (and its replication), the parent questionnaire, and the trends analysis projects were designed to track the short-, intermediate-, and long-term outcomes of the TTHY campaign. These evaluation activities (and any subsequent findings gleaned to date) are described in more detail below. To ensure comparable data, we are employing methodologies in the case study replication effort that are consistent with the baseline approach. 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).

Case Study Replication Project

The TTHY campaign case study was designed in 2017 to explore details of *if* and *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 like TTHY can shift attitudes on underage drinking among 12- to 18-year-olds and their parents/caregivers.

Within the case study, parents/caregivers and students from both middle schools are first surveyed about KABs about underage drinking. Following 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 if 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; 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 starting at a young age, highlight the risks and dangers of underage alcohol use, offer advice to parents/caregivers

on how to prepare their children to deal with peer pressure, and encourage parents/caregivers to build autonomy in their children in making the right decisions.

The baseline pre- and post-exposure surveys will assess *how* the campaign impacted KABs among parents and caregivers. Results between school sites and between students and parents/caregivers will be compared, controlling for demographic variables. Additionally, one-on-one in-depth interviews will be 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 having 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 have been postponed until the next fiscal year (2021–2022). All school participation will resume in late spring 2021.
- The TTHY case study (OMB Package 0930–0373) was renewed on July 21, 2020 (expiration date: July 31, 2023) through OMB. One school is currently recruited as of July 2020 and will begin participation after the COVID-19 postponement has concluded. Recruitment for the "control" school is set to begin in late spring 2021.

Parent Questionnaire

In late 2019 through early 2020, the TTHY campaign conducted a questionnaire for parents/caregivers of children ages 9–20 nationwide. This questionnaire aimed to garner insights on various creative components of the campaign, with the primary intent of improving current TTHY materials and providing guidance for future development. In particular, the questionnaire assessed respondent feedback on the following issues:

- TTHY product appeal;
- Whether parents/caregivers report learning anything new from the campaign materials;
- Whether parents/caregivers believe that TTHY encourages them to discuss underage drinking and other substance use with their children;
- Parents'/caregivers' intent to act; and
- How TTHY messaging and materials can be improved.

The questionnaire was a two-part instrument. The first section assessed parent/caregiver status, child(ren)'s age, and parental/caregiver beliefs and attitudes toward underage alcohol use and other substance use. The second section assessed parent/caregiver reactions to various campaign creative components.

In response to TTHY expanding its scope in 2017 and 2018 to encompass "other substances" in addition to alcohol, the parent questionnaire aids in evaluating the campaign materials that target behaviors beyond underage drinking. The parent questionnaire will also help the campaign better understand the types of messaging/communications that most impact certain subgroups of

parents/caregivers and substance use profiles, such as parents/caregivers of younger children (aged 9–14) and if the reception of the key messages varied by demographic categories.

The parent questionnaire was launched in December 2019 across the country and garnered over 5,000 responses from parents and caregivers with children ages 9–20. Respondents indicated that discussing underage drinking, tobacco product use, and/or "other substance" use with their children was less important than most other issues tested, such as academic achievement, mental health, and making friends. Regarding the importance of discussing the three core substance categories with their children, the majority ranked "other substance" use most important (90 percent), versus tobacco product use (85 percent) and underage drinking (84 percent).

More than 80 percent of parents/caregivers were confident in their ability to influence their child's decisions about all three substances, but more were confident in their ability to influence decisions about using "other substances." Seventy-one percent (71 percent) had discussed underage drinking with their child at least once in the past 3 months, compared to 68 percent who had discussed tobacco product use, and 64 percent who had discussed "other substance" use. Yet the majority (75 percent) of parents/caregivers felt their child was NOT susceptible to drinking alcohol, using tobacco products, or using "other substances" in the next 6 months.

After engaging with the materials, the vast majority of respondents (89 percent) agreed that "In the near future, I intend to discuss underage drinking, tobacco product use, and/or other substance' use with my child." Of the communication methods used (i.e., brochure, fact sheet, or video PSA), the video PSA was rated as the most appealing by parents, who felt that the creative concepts offered in the video aided in communication with their kids, specifically around "other substances."

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 SAMHSA has met many markers for early success, including strongly resonating with intended TTHY audiences. The growing body of evidence presented in this report supports that key campaign messages serve as important cues to action that increase both the plans and actions of parents to talk with their children about underage drinking and other substance use. There is further evidence to suggest that TTHY increases parents' confidence not only in talking with their children about underage drinking and other substance use but also in the behavioral efficacy of that action.

In meeting the requirements of the STOP Act, SAMHSA, under the leadership of ICCPUD, will continue to garner support for program efficacy over the next year. For instance, SAMHSA's evaluation plans for the upcoming 2021–2022 campaign evaluation cycle, which includes the case study replication and "Parents' Night Out" field testing, will continue to establish links between TTHY exposure and the campaign's stated outcomes in quantifiable ways. Armed with data from this and future efforts, SAMHSA will persist in its work to estimate overall campaign impact as well as to ensure that the TTHY campaign evolves in ways that resonate with its primary target audiences and meet the needs of the U.S. population at large.

APPENDIX A: ICCPUD MEMBERS

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

Xavier Becerra
Secretary
U.S. Department of Health and Human Services

Merrick Garland
Attorney General
U.S. Department of Justice

Regina LaBelle
Acting Director
Office of National Drug Control Policy

Pete Buttigieg
Secretary
U.S. Department of Transportation

Miguel Cardona
Secretary
U.S. Department of Education

Lloyd J. Austin, III
Secretary
U.S. Department of Defense

Chyrl Jones
Acting Administrator
Office of Juvenile Justice and Delinquency Prevention
U.S. Department of Justice

JooYeun Chang
Principal Deputy Assistant Secretary
Administration for Children and Families
U.S. Department of Health and Human Services

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

Miriam Delphin-Rittmon
Assistant Secretary for Mental Health and Substance Use
Substance Abuse and Mental Health Services Administration
U.S. Department of Health and Human Services

Janet Yellen
Secretary
U.S. Department of the Treasury

Steven Cliff
Acting Administrator
National Highway Traffic Safety Administration

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

Lina Khan
Chair
Federal Trade Commission

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

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. 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. 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 (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 specific alcohol-related harms, including various injuries and violence, motor vehicle crashes, sexually transmitted infections, and fetal alcohol spectrum disorders. *Website:* https://www.cdc.gov/alcoholportal.
  - **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 Program (ASAP). The goals of ASAP are to improve the quality of and access to care for American Indian and Alaska Native 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.
  - **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." 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):** The Office of Population Affairs (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 (Heimberg et al.):** 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, 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 reduce the impact of substance misuse and

mental illness on America's communities. 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 EBPs, educating the public, and collaborating with other agencies and interested parties. *Website:* https://www.samhsa.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 nonprofit 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 *2021 RTC* summarizes major initiatives underway throughout the federal government to prevent and reduce underage alcohol use in the United States.

Interagency Coordinating Committee on the Prevention of Underage Drinking (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 2016 as part of the 21st Century Cures Act. SAMHSA was directed by the HHS Secretary to convene ICCPUD and serve as the lead agency. As specified in the STOP Act, ICCPUD is composed of 16 federal officials, some of whom have delegated participation to specific agencies and/or staff.

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

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.

Family Violence Prevention and Services: The Family Violence Prevention and Services Program administers the Family Violence Prevention and Services Act (FVPSA), the primary federal funding stream dedicated to the support of emergency shelter and related assistance for people experiencing domestic violence and their children. In 2019, the appropriation level was $164,500,000. See data points below reflecting services and resources from FVPSA grantee performance progress report data for 2019. *Website:* https://www.acf.hhs.gov/fysb/programs/family-violence-prevention-services.

- FVPSA formula grants are awarded to every state and territory and 252 tribes, reaching 1,192 domestic violence shelters, 301 nonresidential programs, and 181 tribal domestic violence programs that provide both a safe haven and an array of supportive services to intervene in and prevent abuse.
- FVPSA-funded programs do not just serve survivors but also reach their communities. In 2019, programs provided more than 251,809 presentations for adults and youth and public awareness events reaching 4.3 million people, which included 2.1 million youth.
- FVPSA operates the National Domestic Violence Hotline and its two special projects, loveisrespect (focused on youth and healthy relationships) and StrongHearts Native Helpline. Loveisrespect posted two blog resources on drugs and alcohol in 2019: "Substance abuse and dating abuse: What's the connection?" (URL: https://www.loveisrespect.org/resources/substance-abuse-dating-abuse-whats-the-connection/ received 237 page views) and "What to do when your partner pressures you to do drugs" (URL: https://www.loveisrespect.org/resources/what-to-do-when-your-partner-pressures-you-to-drink-alcohol-smoke-or-do-drugs/ received 3,173 page views).

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 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 was collected at 28 college campuses, collected 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 charts, and environmental scans spanning several service areas (such as alcohol, disability, and LGBTQ).
- 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) & Research (R).

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

- SRAE programs provide education to youth ages 10 to 19 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.
- 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.
- Both SRAE and PREP provide research and evaluation resources to support program evaluation efforts of APP grantees.

HHS/CDC

Activities Specific to Underage Drinking

Understanding Parent and Youth Alcohol-Related Behaviors, Attitudes and Exposures to Alcohol Marketing: In FY 2020, CDC licensed data from a proprietary survey, which are representative of the non-institutionalized U.S. adult population and youth ages 12–17 years.

- CDC assessed alcohol use, source of alcohol, binge drinking behavior and attitudes, and exposure to alcohol marketing via the parent-child dyads survey, which has a health and wellness focus.
- Main focus: Prevention (P)

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)

Behavioral Risk Factor Surveillance System (BRFSS): BRFSS is a state-based, random-digit-dial landline and cellular telephone survey of noninstitutionalized, 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 drinking and 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 (≥ four drinks per occasion for women; ≥ five per occasion for men), the largest number of drinks consumed on a drinking occasion, and the number of alcohol-impaired driving episodes in the past 30 days.
- 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 (≥ four drinks per occasion for female students; ≥ 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 publication using YRBSS data 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 males.

- Main focus: Prevention (P)

Pregnancy Risk Assessment Monitoring System (PRAMS): PRAMS is 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 state-specific data on maternal attitudes and experiences before, during, and shortly after pregnancy.
- 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.
- 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. 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. 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)

Etiologic and Effectiveness Research to Address Polysubstance Impaired Driving (RFA-CE-19-004): The purpose of this funding is to support etiologic and effectiveness research on driving while polysubstance impaired. Polysubstance impaired driving includes driving while impaired by alcohol plus at least one other drug, such as marijuana or opioids.

- Research was solicited to identify risk and protective factors associated with polysubstance impaired driving and its associated deaths and injuries or to identify effective interventions to prevent polysubstance impaired driving and its associated deaths and injuries.
- The funded project is titled "Predicting Polysubstance Impaired Driving in Young Adults: Longitudinal and Event-level Assessment of the Role of Norms and Motives." The study will examine statewide norms in Washington State young adults and assess over time 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. Participants will be between the ages of 18 and 25.
- Main focus: Research (R)

National Governors Association (NGA) Learning Collaborative on State Strategies to Strengthen and Leverage Data to Address Impaired Driving (CDC Funded): The NGA Center for Best Practices offers Learning Collaboratives to assist states in improving motor vehicle safety. In 2020, with CDC funding, NGA organized a learning collaborative with the goal of assisting states in the development of action plans for the improvement of data related to impaired driving.

- Ten states were selected: Colorado, Connecticut, Hawai'i, Maryland, Minnesota, North Carolina, North Dakota, Vermont, Virginia, and Wyoming.
- The learning collaborative included discussions on data collection, data standardization, and toxicology during webinars and state team time sessions.
- Participating states gained an understanding of innovative and evidence-based policies, programs, and practices from other states and national experts.
- States had the opportunity to learn from experts on various topics and in several instances consulted with experts following the sponsored events in the development of new strategies to address impaired driving.
- In multiple instances, state teams requested meetings with a peer state team to learn about effective approaches to impaired driving.
- Several states improved and advanced the state's governance and data sharing initiatives on the reporting and analysis of impaired driving data, including identifying additional strategies to improve the state's data collection practices and opportunities for data linkage between existing data sets
- States informed their state's driving under the influence (DUI) and cannabis-related legislation and identified ongoing opportunities to incorporate equity considerations and to better assess the impact of future cannabis policies.
- States developed educational programs and new offices and opportunities across agencies, including judiciary personnel, state prosecutors, transportation officials, and local and state law enforcement agencies.
- Main focus: Prevention (P)

Alcohol Screening and Brief Intervention Activities:

- CDC funds four cooperative agreements to implement alcohol screening and brief intervention (SBI) 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 alcohol SBI within electronic health records.

- CDC also supports five projects to promote prevention of fetal alcohol spectrum disorders (FASDs) through national medical societies and professional organizations, building champions networks to support awareness activities and resource dissemination, and promoting clinical guidelines and policies that support implementation of alcohol SBI.
- CDC developed clinical decision support (CDS) tools on alcohol SBI that can be integrated into electronic health records. These tools can help healthcare providers deliver alcohol SBI 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, https://www.cdc.gov/ncbddd/fasd/training.html, and https://www.cdc.gov/ncbddd/fasd/clinical-decision-support.html.
- Main focus: Prevention (P)

HHS/IHS

Activities Related to Underage Drinking

Alcohol and Substance Abuse Program (ASAP)*:* The objective of ASAP is to reduce the incidence and prevalence of alcohol and substance misuse 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 misuse 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 (BH) services through telebehavioral health methods and by providing a comprehensive array of preventative, 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, Referral to Treatment (SBIRT): IHS administers the 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, the 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 Screening administered through the SBIRT and is reported as a Government Performance and Results Act (GPRA) Modernization Act of 2010 measure. For FY 2019, 40.7 percent of patients ages 9 to 75 years were screened for alcohol use. In addition, 14.9 percent of patients who screened positive for risky/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 12 YRTCs to address the

ongoing issues of substance misuse and co-occurring disorders among American Indian and Alaska Native youth. *Website:* https://www.ihs.gov/yrtc.

- Centers 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 2021, the IHS California Area Office plans to develop and open 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 174 SASP-related grants and federal program awards, totaling $27,772,247. *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 misuse 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 misuse.
- 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 (ICP) 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 alcohol screening and brief intervention 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 youth, ages 12–21, that is 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. In FY 2017, NIAAA renewed the consortium for a second period of funding. NCANDA researchers are also examining potential changes in alcohol use, well-being, and other behaviors of adolescents during the COVID-19 pandemic. *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. An NIAAA-supported study demonstrated that adolescent patients who received alcohol screening, brief intervention, and referral to treatment in pediatric primary care settings had improved mental health and substance use outcomes over a 3-year follow up period.

- *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 a landmark study on brain development and child health. 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 seven 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: Posttest 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 to 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 to 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 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 preadolescents) 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 NIMH 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 Public 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 disorders and their 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: The purpose of this grant program is to address underage drinking among persons ages 9 to 20 and may also be used to target up to two additional, data-driven substance misuse prevention priorities.

- Awards grants to states and American Indian or Alaska Native tribes or tribal organizations.
- Is designed to ensure that prevention strategies and messages reach the populations most impacted by substance misuse.
- Forty-six million dollars in funding was available for FY 2018.

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 Abuse Prevention and Treatment Block Grant (SABG): Mandated by Congress, the SABG program is a major funding source for substance use prevention and treatment in the United States, including prevention and treatment of alcohol use disorders among adolescents.

- SABG 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 SABG 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-hours-a-day, 365-days-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 Prevention 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.

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.

- More than $14 million was available for 27 grants in FY 2018.
- Eligible entities are states, tribes, universities, nonprofit healthcare systems, and community and faith-based organizations.
- Recipients are expected to provide a coordinated, multi-system, 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 CSAT.
- In FY 2018, SAMHSA funded new grants of up to $950,000 per year for 5 years to non-profit health maintenance organizations and preferred provider organizations as well as federally qualified healthcare systems and hospital systems.
- 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.

- Up to $10 million was available in 2020 under these grant programs.
- 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.
- During 2018 and 2019, ATTC implemented more than 2,300 events serving over 50,800 healthcare professionals.

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 2019, the PTTC network implemented 365 events serving 9,000 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, noninstitutionalized population of the United States ages 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.

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 Behavioral Health Services (I-BHS)*: a list of all known public and private substance use and mental health treatment facilities in the United States and its territories.
- *National Survey of Substance Abuse Treatment Services:* an annual survey of all SUD treatment facilities in the I-BHS.
- *National Mental Health Services Survey:* an annual survey of all mental health treatment facilities.
- *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): SAMHSA is re-establishing DAWN, a nationwide public health surveillance system that will improve emergency department monitoring of substance use crises, including those related to opioids. *Website:* https://www.samhsa.gov/data/data-we-collect/dawn-drug-abuse-warning-network.

- Will function as a smaller-scale sentinel surveillance system, or an "early warning" system, in comparison to legacy DAWN, which produced nationwide estimates through 2011.
- Now includes improved timeliness of data, data available at more frequent intervals, and data for a wider range of geographic area types, including urban, suburban, and rural areas.
- Hospital participation will continue to be voluntary.

DFC: The DFC Program, created by the Drug-Free Communities Act of 1997, is a program of ONDCP administered by SAMHSA under an interagency agreement.[51] (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.
- Grants are for $125,000 for up to 5 years.

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.

[51] As of October 1, 2020, SAMHSA no longer administers the DFC program; it is now administered by CDC.

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 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 to 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 is 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 (Buck Louis et al.):* 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. NAAAPP 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 web, smartphone application, and telephonic recovery support program for Sailors and Marines with alcohol misuse, featuring worldwide access 24 hours a day, 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 Department of Defense 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, multi-tiered 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 in April 2017 that was last revised in 2012 was released. *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 kids 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 2020, FTC continued its alcohol consumer education program, "We Don't Serve Teens." This FTC consumer education program, targeted to adults, promotes compliance with the legal drinking age of 21. It provides information about the rates and risks of underage drinking, urges adults to stop easy teen access to alcohol, and includes free downloadable artwork for posters, billboards, and transit ads. *Website:* *https://DontServeTeens.gov*.

- Main focus: Prevention (P)

ONDCP

DFC Support Program: 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. Directed by the White House ONDCP, in partnership with SAMHSA, the DFC 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.whitehouse.gov/ondcp/the-dfc-program/overview/.

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 substance.

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 noninstitutionalized individuals age 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, noninstitutionalized 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 to 17 and adults ages 18 or older.

Initiated in 1971 and conducted annually since 1990, questionnaires are administered to individuals who constitute a representative sample of the population through face-to-face, home-based interviews. 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 (CBHSQ). NSDUH collects information from residents of households and

non-institutional group quarters (e.g., shelters, rooming houses, dormitories) and civilians living on military bases.

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 to 2013 design, the 2014 through 2022 sample design allocates more interviews to the largest 12 states, enabling greater precision for national NSDUH estimates. For the 2019 survey, 67,625 interviews were completed for a weighted response rate of 64.9 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 [NHSDA]). 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 for NSDUH 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 being past-month alcohol users. Due to programmed logic, such respondents in 2017 were not asked subsequent questions in the consumption of alcohol section that applied to past-month alcohol users 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 directed at adult respondents only.

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 to 55 from previous high school graduating classes. In 2019, completed questionnaires were obtained from 89 percent of all sampled students in 8th grade (n=14,223), 86 percent in 10th grade (n=14,595), and 80 percent in 12th grade (n=13,713).

University of Michigan staff members administer the questionnaires to students, usually in their classrooms during a regular class period. Questionnaires are self-completed and formatted for optical scanning. 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 allows 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.

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 through 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.

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 2019, 13,677 students provided usable questionnaires for the national YRBS for an overall student response rate of 60.3 percent (Underwood, 2020).

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 (NIAAA). 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 age 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 the Centers for Disease Control and Prevention (CDC) in 1984. It is a state-based cross-sectional telephone survey of noninstitutionalized, 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.

Survey of Health-Related Behaviors

Begun in the early 1980s and fielded every 2 to 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, since 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, so 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 to 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 but not 12th graders. Lower grades also have lower absentee rates, so 12th-grade drinkers 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/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/transportationsafety/impaired_driving/index.html and https://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm
- Information from the YRBS: https://www.cdc.gov/HealthyYouth/data/yrbs.
- Information from NHTSA on underage drinking and on drinking and driving: https://www.nhtsa.gov/risky-driving.
- Information from NIAAA on underage drinking: https://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/underage-drinking; https://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/college-drinking.
- Information from NIDA on underage drinking: http://www.monitoringthefuture.org.

APPENDIX D: 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
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 Abuse Prevention and Treatment Block Grant	SABG
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	YRTCs
Youth Risk Behavior Surveillance System	YRBSS
Youth Risk Behavior Survey	YRBS

Other Acronyms

Alcohol and drug abuse managers/supervisors	ADAMS
Alcohol use disorder	AUD
Blood alcohol concentration	BAC
Caffeinated alcoholic beverages	CABs
Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition	DSM-IV-TR
Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition	DSM-V
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
Screening and brief intervention	SBI
Substance abuse counseling center	SACC
Substance abuse program	SAP
Training and technical assistance	TTA
Years of potential life lost	YPLL

APPENDIX E: REFERENCES

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