

# **Results from the 2008 National Survey on Drug Use and Health: National Findings**

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Substance Abuse and Mental Health Services Administration  
Office of Applied Studies

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# Highlights

This report presents the first information from the 2008 National Survey on Drug Use and Health (NSDUH), an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The survey is the primary source of information on the use of illicit drugs, alcohol, and tobacco in the civilian, noninstitutionalized population of the United States aged 12 years old or older. The survey interviews approximately 67,500 persons each year. Unless otherwise noted, all comparisons in this report described using terms such as "increased," "decreased," or "more than" are statistically significant at the .05 level.

## Illicit Drug Use

- In 2008, an estimated 20.1 million Americans aged 12 or older were current (past month) illicit drug users, meaning they had used an illicit drug during the month prior to the survey interview. This estimate represents 8.0 percent of the population aged 12 years old or older. Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.
- The rate of current illicit drug use among persons aged 12 or older in 2008 (8.0 percent) was the same as the rate in 2007 (8.0 percent).
- Marijuana was the most commonly used illicit drug (15.2 million past month users). Among persons aged 12 or older, the rate of past month marijuana use in 2008 (6.1 percent) was similar to the rate in 2007 (5.8 percent).
- In 2008, there were 1.9 million current cocaine users aged 12 or older, comprising 0.7 percent of the population. These estimates were similar to the number and rate in 2007 (2.1 million or 0.8 percent), but lower than the estimates in 2006 (2.4 million or 1.0 percent).
- Hallucinogens were used in the past month by 1.1 million persons (0.4 percent) aged 12 or older in 2008, including 555,000 (0.2 percent) who had used Ecstasy. These estimates were similar to the corresponding estimates for 2007.
- There were 6.2 million (2.5 percent) persons aged 12 or older who used prescription-type psychotherapeutic drugs nonmedically in the past month. These estimates were lower than in 2007 (6.9 million or 2.8 percent).
- The number of past month methamphetamine users decreased by over half between 2006 and 2008. The numbers were 731,000 in 2006, 529,000 in 2007, and 314,000 in 2008.
- Among youths aged 12 to 17, the current illicit drug use rate remained stable from 2007 (9.5 percent) to 2008 (9.3 percent). Between 2002 and 2008, youth rates declined significantly for illicit drugs in general (from 11.6 to 9.3 percent) and for marijuana (8.2 to 6.7 percent), cocaine (0.6 to 0.4 percent), prescription-type drugs used nonmedically (4.0 to 2.9 percent), pain relievers (3.2 to 2.3 percent), stimulants (0.8 to 0.5 percent), and methamphetamine (0.3 to 0.1 percent).

- The rate of current marijuana use among youths aged 12 to 17 decreased from 8.2 percent in 2002 to 6.7 percent in 2006 and remained unchanged at 6.7 percent in 2007 and 2008.
- The rate of current hallucinogen use among youths aged 12 to 17 increased from 0.7 percent in 2007 to 1.0 percent in 2008.
- Rates of current use of illicit drugs in 2008 were higher among young adults aged 18 to 25 (19.6 percent) than for youths aged 12 to 17 (9.3 percent) and adults aged 26 or older (5.9 percent). Among young adults, there were no changes from 2007 to 2008 in the rate of current use of marijuana (16.5 percent in 2008), psychotherapeutics (5.9 percent), and hallucinogens (1.7 percent). The rate of cocaine use in this age group declined from 2.6 percent in 2005 to 1.5 percent in 2008.
- From 2002 to 2008, there was an increase among young adults aged 18 to 25 in the rate of current nonmedical use of prescription pain relievers (from 4.1 to 4.6 percent) and in LSD (from 0.1 to 0.3 percent). There were decreases in the use of inhalants (from 0.5 to 0.3 percent) and methamphetamine (from 0.6 to 0.2 percent).
- Among those aged 50 to 59, the rate of past month illicit drug use increased from 2.7 percent in 2002 to 4.6 percent in 2008. This trend may partially reflect the aging into this age group of the baby boom cohort, whose lifetime rate of illicit drug use is higher than those of older cohorts.
- Among persons aged 12 or older in 2007-2008 who used pain relievers nonmedically in the past 12 months, 55.9 percent got the drug they most recently used from a friend or relative for free. Another 18.0 percent reported they got the drug from one doctor. Only 4.3 percent got pain relievers from a drug dealer or other stranger, and 0.4 percent bought them on the Internet. Among those who reported getting the pain reliever from a friend or relative for free, 81.7 percent reported in a follow-up question that the friend or relative had obtained the drugs from just one doctor.
- Among unemployed adults aged 18 or older in 2008, 19.6 percent were current illicit drug users, which was higher than the 8.0 percent of those employed full time and 10.2 percent of those employed part time. However, most illicit drug users were employed. Of the 17.8 million current illicit drug users aged 18 or older in 2008, 12.9 million (72.7 percent) were employed either full or part time. The number of unemployed illicit drug users increased from 1.3 million in 2007 to 1.8 million in 2008, primarily because of an overall increase in the number of unemployed persons.
- In 2008, 10.0 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.0 percent of the population aged 12 or older, the same as the rate in 2007 (4.0 percent), but lower than the rate in 2002 (4.7 percent). In 2008, the rate was highest among young adults aged 18 to 25 (12.3 percent).

## Alcohol Use

- Slightly more than half of Americans aged 12 or older reported being current drinkers of alcohol in the 2008 survey (51.6 percent). This translates to an estimated 129.0 million people, which was similar to the 2007 estimate of 126.8 million people (51.1 percent).
- In 2008, more than one fifth (23.3 percent) of persons aged 12 or older participated in binge drinking. This translates to about 58.1 million people, similar to the estimate in 2007. Binge drinking is defined as having five or more drinks on the same occasion on at least 1 day in the 30 days prior to the survey.
- In 2008, heavy drinking was reported by 6.9 percent of the population aged 12 or older, or 17.3 million people. This rate was the same as the rate of heavy drinking in 2007. Heavy drinking is defined as binge drinking on at least 5 days in the past 30 days.
- Among young adults aged 18 to 25 in 2008, the rate of binge drinking was 41.0 percent, and the rate of heavy drinking was 14.5 percent. These rates were similar to the rates in 2007.
- The rate of current alcohol use among youths aged 12 to 17 was 14.6 percent in 2008, which is lower than the 2007 rate (15.9 percent). Youth binge and heavy drinking rates in 2008 were 8.8 percent (lower than the 9.7 percent rate in 2007) and 2.0 percent, respectively.
- Past month and binge drinking rates among underage persons (aged 12 to 20) declined between 2002 and 2008. The rate of past month underage drinking declined from 28.8 to 26.4 percent, and the rate of past month binge drinking declined from 19.3 to 17.4 percent.
- Past month alcohol use rates declined between 2002 and 2008 for those aged 12 or 13 (4.3 to 3.4 percent), 14 or 15 (16.6 to 13.1 percent), 16 or 17 (32.6 to 26.2 percent), and 18 to 20 (51.0 to 48.7 percent).
- Among persons aged 12 to 20, past month alcohol use rates in 2008 were 17.2 percent among Asians, 19.0 percent among blacks, 22.9 percent among those reporting two or more races, 23.1 percent among Hispanics, 26.4 percent among American Indians or Alaska Natives, and 30.1 percent among whites.
- In 2008, 56.2 percent of current drinkers aged 12 to 20 reported that their last use of alcohol in the past month occurred in someone else's home, and 29.6 percent reported that it had occurred in their own home. About one third (30.8 percent) paid for the alcohol the last time they drank, including 8.3 percent who purchased the alcohol themselves and 22.3 percent who gave money to someone else to purchase it. Among those who did not pay for the alcohol they last drank, 37.4 percent got it from an unrelated person aged 21 or older, 21.1 percent from another person under 21 years of age, and 21.0 percent from a parent, guardian, or other adult family member.
- In 2008, an estimated 12.4 percent of persons aged 12 or older drove under the influence of alcohol at least once in the past year. This percentage has dropped since 2002, when it was 14.2 percent. The rate of driving under the influence of alcohol was highest among persons aged 21 to 25 (26.1 percent).

## **Tobacco Use**

- In 2008, an estimated 70.9 million Americans aged 12 or older were current (past month) users of a tobacco product. This represents 28.4 percent of the population in that age range. In addition, 59.8 million persons (23.9 percent of the population) were current cigarette smokers; 13.1 million (5.3 percent) smoked cigars; 8.7 million (3.5 percent) used smokeless tobacco; and 1.9 million (0.8 percent) smoked tobacco in pipes.
- The rate of current use of any tobacco product among persons aged 12 or older remained steady from 2007 to 2008 (28.6 and 28.4 percent, respectively). Rates of current use of cigarettes, smokeless tobacco, cigars, and pipe tobacco also did not change significantly over that period. However, between 2002 and 2008, past month use of any tobacco product decreased from 30.4 to 28.4 percent, and past month cigarette use declined from 26.0 to 23.9 percent. Rates of past month use of cigars, smokeless tobacco, and pipe tobacco in 2008 were similar to corresponding rates in 2002.
- The rate of past month cigarette use among 12 to 17 year olds declined from 9.8 percent in 2007 to 9.1 percent in 2008, continuing a decline since 2002 when the rate was 13.0 percent. However, past month smokeless tobacco use did not decline over this period (2.0 percent in 2002 and 2.2 percent in 2008).
- Among pregnant women aged 15 to 44, combined data for 2007 and 2008 indicated that the rate of past month cigarette use was 16.4 percent. The rate was higher among women in that age group who were not pregnant (27.3 percent).

## **Initiation of Substance Use (Incidence, or First-Time Use) within the Past 12 Months**

- In 2008, an estimated 2.9 million persons aged 12 or older used an illicit drug for the first time within the past 12 months. This averages to almost 8,000 initiates per day and is similar to the estimate for 2007. A majority of these past year illicit drug initiates reported that their first drug was marijuana (56.6 percent). Nearly one third initiated with psychotherapeutics (29.6 percent, including 22.5 percent with pain relievers, 3.2 percent with tranquilizers, 3.0 percent with stimulants, and 0.8 percent with sedatives). A sizable proportion reported inhalants (9.7 percent) as their first illicit drug, and a small proportion used hallucinogens as their first drug (3.2 percent).
- In 2008, the illicit drug categories with the largest number of past year initiates among persons aged 12 or older were marijuana use (2.2 million) and nonmedical use of pain relievers (2.2 million). These estimates were not significantly different from the numbers in 2007.
- In 2008, there were 729,000 persons aged 12 or older who had used inhalants for the first time within the past 12 months; 70.4 percent were under age 18 when they first used. There was no significant change in the number of inhalant initiates from 2007 to 2008, but the number in 2008 was significantly lower than the estimate in 2005 (877,000).
- The number of past year initiates of methamphetamine among persons aged 12 or older was 95,000 in 2008. This estimate was significantly lower than the estimate in 2007 (157,000) and was less than one third of the number estimated in 2004 (318,000).

- Following substantial drops in initiation between 2002 and 2003, estimates of initiation of Ecstasy and LSD among persons aged 12 or older have increased significantly. Between 2003 and 2008, the number of Ecstasy initiates increased from 642,000 to 894,000, and the number of LSD initiates increased from 200,000 to 394,000.
- Most (84.6 percent) of the 4.5 million past year alcohol initiates were younger than age 21 at the time of initiation.
- The number of persons aged 12 or older who smoked cigarettes for the first time within the past 12 months was 2.4 million in 2008, similar to the estimate in 2007 (2.2 million) but significantly higher than the estimate for 2002 (1.9 million). Most new smokers in 2008 were under age 18 when they first smoked cigarettes (58.8 percent); however, the number of persons initiating smoking at age 18 or older increased from about 600,000 in 2002 to 1 million in 2008.

### **Youth Prevention-Related Measures**

- Perceived risk is measured by NSDUH as the percentage reporting that there is great risk in the substance use behavior. The percentage of youths aged 12 to 17 perceiving great risk in smoking marijuana once or twice a week increased from 51.5 percent in 2002 to 55.0 percent in 2005, but dropped to 53.1 percent in 2008. A decline from 2005 to 2008 also was observed for using LSD once or twice a week (76.2 percent in 2002, 76.1 percent in 2005, and 73.9 percent in 2008). Between 2002 and 2008, the percentages who reported great risk in using alcohol and cigarettes increased. In 2002, 63.1 percent of youths reported great risk in smoking one or more packs of cigarettes per day, and in 2008 the percentage increased to 69.7 percent. In 2002, 38.2 percent reported great risk in binge drinking once or twice a week, and in 2008 the percentage increased to 40.5 percent.
- Almost half (49.2 percent) of youths aged 12 to 17 reported in 2008 that it would be "fairly easy" or "very easy" for them to obtain marijuana if they wanted some. Around one quarter reported it would be easy to get cocaine (22.1 percent). About one in seven (13.8 percent) indicated that LSD would be "fairly" or "very" easily available, and 13.0 percent reported easy availability for heroin. Between 2002 and 2008, there were declines in the perceived availability for all four drugs.
- A majority of youths aged 12 to 17 (90.8 percent) in 2008 reported that their parents would strongly disapprove of their trying marijuana or hashish once or twice. Current marijuana use was much less prevalent among youths who perceived strong parental disapproval for trying marijuana or hashish once or twice than for those who did not (4.3 vs. 29.8 percent).
- In 2008, 11.1 percent of youths aged 12 to 17 reported that they had participated in substance use prevention programs outside of school within the past year. This was lower than the percentage reported in 2002 (12.7 percent). Almost four fifths (78.0 percent) reported having seen or heard drug or alcohol prevention messages from sources outside of school, lower than in 2002 when the percentage was 83.2 percent. The percentage of school-enrolled youths reporting that they had seen or heard prevention messages at school also declined during this period, from 78.8 to 75.9 percent.

## **Substance Dependence, Abuse, and Treatment**

- In 2008, an estimated 22.2 million persons (8.9 percent of the population aged 12 or older) were classified with substance dependence or abuse in the past year based on criteria specified in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV). Of these, 3.1 million were classified with dependence on or abuse of both alcohol and illicit drugs, 3.9 million were dependent on or abused illicit drugs but not alcohol, and 15.2 million were dependent on or abused alcohol but not illicit drugs.
- Between 2002 and 2008, there was no change in the number of persons with substance dependence or abuse (22.0 million in 2002 and 22.2 million in 2008).
- The specific illicit drugs that had the highest levels of past year dependence or abuse in 2008 were marijuana (4.2 million), followed by pain relievers (1.7 million) and cocaine (1.4 million).
- In 2008, adults aged 21 or older who had first used alcohol at age 14 or younger were more than 5 times as likely to be classified with alcohol dependence or abuse than adults who had their first drink at age 21 or older (15.1 vs. 2.6 percent).
- The rate of substance dependence or abuse for males aged 12 or older in 2008 was nearly twice as high as the rate for females (11.5 vs. 6.4 percent). Among youths aged 12 to 17, however, the rate of substance dependence or abuse was higher among females than males (8.2 vs. 7.0 percent).
- Between 2002 and 2008, the percentage of youths aged 12 to 17 with substance dependence or abuse declined from 8.9 to 7.6 percent.
- Treatment need is defined as having a substance use disorder or receiving treatment at a specialty facility (hospital inpatient, drug or alcohol rehabilitation, or mental health centers) within the past 12 months. In 2008, 23.1 million persons aged 12 or older needed treatment for an illicit drug or alcohol use problem (9.2 percent of persons aged 12 or older). Of these, 2.3 million (0.9 percent of persons aged 12 or older and 9.9 percent of those who needed treatment) received treatment at a specialty facility. Thus, 20.8 million persons (8.3 percent of the population aged 12 or older) needed treatment for an illicit drug or alcohol use problem but did not receive treatment at a specialty substance abuse facility in the past year.
- Of the 20.8 million people in 2008 who were classified as needing substance use treatment but did not receive treatment at a specialty facility in the past year, 1.0 million persons (4.8 percent) reported that they felt they needed treatment for their illicit drug or alcohol use problem. Of these 1.0 million persons who felt they needed treatment, 233,000 (23.3 percent) reported that they made an effort to get treatment, and 766,000 (76.7 percent) reported making no effort to get treatment.



## **Mental Health**

- Serious mental illness (SMI) among adults is defined in Public Law 102-321 as persons aged 18 or older who currently or at any time in the past year have had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified within DSM-IV that has resulted in functional impairment, which substantially interferes with or limits one or more major life activities. In 2008, there were an estimated 9.8 million adults with SMI, representing 4.4 percent of adults.
- Rates of SMI in 2008 were highest for adults aged 18 to 25 (7.4 percent) and lowest for adults aged 50 or older (2.3 percent).
- The prevalence of SMI among women aged 18 or older (5.6 percent) was higher than that among men in that age group (3.0 percent).
- The rate of SMI was higher among adults who were unemployed (8.0 percent) than among those who were employed full time (3.5 percent) or part time (4.8 percent).
- SMI in the past year was associated with past year substance dependence or abuse. Among adults aged 18 or older with SMI in 2008, 25.2 percent (2.5 million) were dependent on or abused illicit drugs or alcohol. The rate among adults without SMI was 8.3 percent (17.9 million).
- Among the 9.8 million adults with SMI in 2008, 5.7 million (58.7 percent) used mental health services in the past year. Among all adults with SMI, 52.6 percent received a prescription medication, 40.5 percent received outpatient services, and 7.5 percent received inpatient services for a mental health problem in the past year.
- Among the 2.5 million adults with both SMI and substance dependence or abuse (i.e., a substance use disorder) in 2008, more than half (60.5 percent) received mental health care or substance use treatment at a specialty facility; 11.4 percent received both mental health care and specialty substance use treatment, 45.2 percent received only mental health care, and 3.7 percent received only specialty substance use treatment.
- In 2008, an estimated 8.3 million adults (3.7 percent) had serious thoughts of suicide in the past year. The rate was 3.9 percent among women and 3.4 percent among men. The rate was highest among young adults aged 18 to 25 (6.7 percent) compared with adults 26 to 49 (3.9 percent) and adults aged 50 or older (2.3 percent).
- Among adults aged 18 or older in 2008, 2.3 million (1.0 percent) made suicide plans in the past year, and 1.1 million (0.5 percent) reported attempting suicide. A half million adults reported staying overnight in a hospital as a result of their suicide attempt in the past year.
- In 2008, 6.4 percent of persons aged 18 or older (14.3 million persons) had at least one major depressive episode (MDE) in the past year. Over 1 in 25 adults (4.2 percent or 9.5 million persons) had past year MDE with severe impairment.

- In 2008, adults with past year MDE were more likely than those without MDE to be dependent on or abuse illicit drugs or alcohol (20.3 vs. 7.8 percent).
- Among adults aged 18 or older who had MDE in the past year in 2008, 71.0 percent received treatment (i.e., saw or talked to a medical doctor or other professional or used prescription medication) for depression in the same time period.
- Among adults aged 18 or older with MDE in the past year in 2008, women were more likely than men to receive treatment for depression in the past year (74.2 vs. 65.0 percent).
- In 2008, there were 2.0 million youths (8.3 percent of the population aged 12 to 17) who had MDE during the past year. An estimated 1.5 million (6.0 percent) had MDE with severe impairment in one or more role domains (chores at home; school or work; close relationships with family; or social life).
- The rate of MDE in the past year was higher for adolescent females (12.4 percent) than for adolescent males (4.3 percent). The prevalence of MDE with severe impairment was 9.2 percent for females and 2.9 percent for males.
- Among 12 to 17 year olds who had past year MDE in 2008, 37.4 percent had used illicit drugs during the same period. This was higher than the rate of 17.2 percent among youths who did not have past year MDE. Similarly, the rates of past month daily cigarette use and heavy alcohol use were higher for youths with MDE (3.6 and 3.4 percent, respectively) than for youths who did not have MDE (1.8 and 1.8 percent, respectively).
- In 2008, 37.7 percent of youths aged 12 to 17 with past year MDE received treatment for depression (saw or talked to a medical doctor or other professional or used prescription medication). Among youths with past year MDE, 21.7 percent saw or talked to a medical doctor or other professional only, 2.9 percent used prescription medication only, and 13.1 percent received treatment from both sources for depression in the past year.
- In 2008, 3.1 million youths aged 12 to 17 (12.7 percent) received treatment or counseling for problems with behavior or emotions in the specialty mental health setting (inpatient or outpatient care). Additionally, 11.8 percent of youths received services in the education setting, and 2.9 percent received mental health services in the general medical setting in the past 12 months. Mental health services were received in both the specialty setting and either the education or general medical settings (i.e., care from multiple settings) by 5.3 percent of youths.

# 1. Introduction

This report presents a first look at results from the 2008 National Survey on Drug Use and Health (NSDUH), an annual survey of the civilian, noninstitutionalized population of the United States aged 12 years old or older. The report presents national estimates of rates of use, numbers of users, and other measures related to illicit drugs, alcohol, and tobacco products. Measures related to mental health problems also are presented, including data on serious mental illness, depression, and the co-occurrence of substance use and mental health problems. The report focuses on trends between 2007 and 2008 and from 2002 to 2008, as well as differences across population subgroups in 2008. Estimates from NSDUH for States and areas within States will be presented in separate reports.

## 1.1. Summary of NSDUH

NSDUH is the primary source of statistical information on the use of illegal drugs by the U.S. population. Conducted by the Federal Government since 1971, the survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at the respondent's place of residence. The survey is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services, and is planned and managed by SAMHSA's Office of Applied Studies (OAS). Data collection and analysis are conducted under contract with RTI International, Research Triangle Park, North Carolina.<sup>1</sup> This section briefly describes the survey methodology; a more complete description is provided in Appendix A.

NSDUH collects information from residents of households and noninstitutional group quarters (e.g., shelters, rooming houses, dormitories) and from civilians living on military bases. The survey excludes homeless persons who do not use shelters, military personnel on active duty, and residents of institutional group quarters, such as jails and hospitals. Appendix D describes surveys that cover populations outside the NSDUH target population.

From 1971 through 1998, the survey employed paper and pencil data collection. Since 1999, the NSDUH interview has been carried out using computer-assisted interviewing (CAI). Most of the questions are administered with audio computer-assisted self-interviewing (ACASI). ACASI is designed to provide the respondent with a highly private and confidential mode for responding to questions in order to increase the level of honest reporting of illicit drug use and other sensitive behaviors. Less sensitive items are administered by interviewers using computer-assisted personal interviewing (CAPI).

The 2008 NSDUH employed a State-based design with an independent, multistage area probability sample within each State and the District of Columbia. The eight States with the largest population (which together account for about half of the total U.S. population aged 12 or older) were designated as large sample States (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) and had a sample size of about 3,600 each. For the remaining 42

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<sup>1</sup> RTI International is a trade name of Research Triangle Institute.

States and the District of Columbia, the sample size was about 900 per State. The design oversampled youths and young adults, so that each State's sample was approximately equally distributed among three age groups: 12 to 17 years, 18 to 25 years, and 26 years or older.

Nationally, screening was completed at 142,938 addresses, and 68,736 completed interviews were obtained. The survey was conducted from January through December 2008. Weighted response rates for household screening and for interviewing were 89.0 and 74.4 percent, respectively. See Appendix B for more information on NSDUH response rates.

## **1.2. Limitations on Trend Measurement**

Because of the shift in interviewing method in 1999, the estimates from the pre-1999 surveys are not comparable with estimates from the current CAI-based surveys. Although the design of the 2002 through 2008 NSDUHs is similar to the design of the 1999 through 2001 surveys, there are also important methodological differences that affect the comparability of the 2002 to 2008 estimates with estimates from prior surveys. The most important change was the incentive payment started in 2002 and continuing in subsequent surveys. Each NSDUH respondent completing the interview is given \$30. Also, the name of the survey was changed in 2002, from the National Household Survey on Drug Abuse (NHSDA) to the current name. Improved data collection quality control procedures were introduced in the survey starting in 2001, and updated population data from the 2000 decennial census were incorporated into the sample weights starting with the 2002 estimates. Analyses of the effects of these factors on NSDUH estimates have shown that 2002 and later data should not be compared with 2001 and earlier data from the survey series to assess changes over time. Appendix C of the 2004 NSDUH report on national findings discusses this in more detail (see OAS, 2005).

Because of changes in the questionnaire, estimates for methamphetamine, stimulants, and psychotherapeutics in this report should not be compared with corresponding estimates in OAS reports for data years prior to 2007. Estimates for 2002 to 2006 for these drug categories in this report, as well as in the 2007 report, incorporate statistical adjustments to enable year-to-year comparisons to be made over the period from 2002 to 2008.

The next section describes questionnaire changes that affect trend measurement for serious psychological distress and major depressive episode.

## **1.3. New Data on Mental Health**

Several important changes were made to the adult mental health section in the 2008 NSDUH questionnaire. These changes provide valuable new data on mental health, but they also affect some of the measures that have been collected in NSDUH since 2004. A brief summary of the changes and their impact is provided below.

From 2004 to 2007, NSDUH collected data for adults aged 18 or older on lifetime and past year major depressive episode (MDE). The survey also included the K6 distress scale with a past 12 month time frame. SAMHSA used the K6 data to generate estimates of serious psychological distress (SPD) in the past 12 months. To address SAMHSA's need for estimates of serious mental illness (SMI), as well as data on suicidal ideation and behavior, OAS modified the

NSDUH adult mental health module in 2008 to obtain these data. Scales were added that assessed impairment caused by mental problems. OAS also expanded the K6 questions to ask about the past 30 days (the time frame for which the K6 was originally designed). A Mental Health Surveillance Study (MHSS) was initiated in which a subsample of adults (about 1,500 in 2008) who had completed the NSDUH interview was administered a standard clinical interview by mental health clinicians via paper and pencil over the telephone to determine their SMI status. Using both clinical interview and computer-assisted interview data for the respondents who completed the clinical interview, statistical models were developed that then were applied to the full NSDUH adult sample to produce SMI estimates. See Section B.4.6 in Appendix B for a more complete discussion.

The first estimates from the expanded mental health module, including those for SMI, 30-day SPD, and suicidal thoughts and behavior, are included in Chapter 8 of this report. However, the questionnaire changes caused discontinuities in trends for MDE and 12-month SPD. Analyses of these data have determined that the 2008 data for MDE and 12-month SPD are not comparable with 2007 and earlier data (see Section B.4.4 in Appendix B). Thus, no 12-month SPD data are discussed in the report, and MDE data are presented only for 2008.

No questionnaire changes were made in 2008 that affected MDE items for youths aged 12 to 17 or for the youth and adult mental health service utilization questions. The discussion of estimates for these measures in this report includes comparisons with prior years' data.

#### **1.4. Format of Report and Explanation of Tables**

This report has separate chapters that discuss the national findings on seven topics: use of illicit drugs; use of alcohol; use of tobacco products; initiation of substance use; prevention-related issues; substance dependence, abuse, and treatment; and mental health problems and treatment. A final chapter summarizes the results and discusses key findings in relation to other research and survey results. Technical appendices describe the survey (Appendix A), provide technical details on the statistical methods and measurement (Appendix B), offer key NSDUH definitions (Appendix C), discuss other sources of related data (Appendix D), list the references cited in the report (Appendix E), and present selected tabulations of estimates (Appendices F and G). A list of contributors to the production of this report also is provided (Appendix H).

Tables, text, and figures present prevalence measures for the population in terms of both the number of persons and the percentage of the population. Substance use tables show prevalence estimates by lifetime (i.e., ever used), past year, and past month use. Analyses focus primarily on past month use, which also is referred to as "current use." Tables and figures in which estimates are presented by year have footnotes indicating whether the 2008 estimates are significantly different from 2007 or earlier estimates. In some tables and figures, estimates are presented based on data combined from two or more survey years to increase precision of the estimates; those estimates are annual averages based on multiple years of data.

Statistical tests have been conducted for all statements appearing in the text of the report that compare estimates between years or subgroups of the population. Unless explicitly stated that a difference is not statistically significant, all statements that describe differences are significant at the .05 level. Statistically significant differences are described using terms such as

"higher," "lower," "increased," and "decreased." Statements that use terms such as "similar," "no difference," "same," or "remained steady" to describe the relationship between estimates denote that a difference is not statistically significant. In addition, a set of estimates for survey years or population subgroups may be presented without a statement of comparison, in which case a statistically significant difference between these estimates is not implied and testing was not conducted.

All estimates presented in the report have met the criteria for statistical reliability (see Section B.2.2 in Appendix B). Estimates that do not meet these criteria are suppressed and do not appear in tables, figures, or text. Subgroups with suppressed estimates are not included in statistical tests of comparisons. For example, a statement that "whites had the highest prevalence" means that the rate among whites was higher than the rate among all nonsuppressed racial/ethnic subgroups, but not necessarily higher than the rate among a subgroup for which the estimate was suppressed.

Data are presented for racial/ethnic groups based on current guidelines for collecting and reporting race and ethnicity data (Office of Management and Budget [OMB], 1997). Because respondents were allowed to choose more than one racial group, a "two or more races" category is presented that includes persons who reported more than one category among the basic groups listed in the survey question (white, black or African American, American Indian or Alaska Native, Native Hawaiian, Other Pacific Islander, Asian, Other). Respondents choosing both Native Hawaiian and Other Pacific Islander but no other categories mentioned above are classified in the combined "Native Hawaiian or Other Pacific Islander" category instead of the "two or more race" category. It should be noted that, except for the "Hispanic or Latino" group, the racial/ethnic groups discussed in this report include only non-Hispanics. The category "Hispanic or Latino" includes Hispanics of any race.

Data also are presented for four U.S. geographic regions and nine geographic divisions within these regions. These regions and divisions, defined by the U.S. Census Bureau, consist of the following groups of States:

***Northeast Region*** - *New England Division*: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; *Middle Atlantic Division*: New Jersey, New York, Pennsylvania.

***Midwest Region*** - *East North Central Division*: Illinois, Indiana, Michigan, Ohio, Wisconsin; *West North Central Division*: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.

***South Region*** - *South Atlantic Division*: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; *East South Central Division*: Alabama, Kentucky, Mississippi, Tennessee; *West South Central Division*: Arkansas, Louisiana, Oklahoma, Texas.

***West Region*** - *Mountain Division*: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming; *Pacific Division*: Alaska, California, Hawaii, Oregon, Washington.

Geographic comparisons also are made based on county type, a variable that reflects different levels of urbanicity and metropolitan area inclusion of counties, based on metropolitan area definitions issued by the OMB in June 2003 (OMB, 2003). For this purpose, counties are grouped based on the 2003 rural-urban continuum codes. These codes were originally developed by the U.S. Department of Agriculture (Butler & Beale, 1994). Each county is either inside or outside a metropolitan statistical area (MSA), as defined by the OMB.

Large metropolitan areas have a population of 1 million or more. Small metropolitan areas have a population of fewer than 1 million. Small metropolitan areas are further classified based on whether they have a population of 250,000 or more. Nonmetropolitan areas are outside of MSAs. Counties in nonmetropolitan areas are further classified based on the number of people in the county who live in an urbanized area, as defined by the Census Bureau at the subcounty level. "Urbanized" counties have a population of 20,000 or more in urbanized areas, "less urbanized" counties have at least 2,500 but fewer than 20,000 population in urbanized areas, and "completely rural" counties have populations of fewer than 2,500 in urbanized areas.

## **1.5. Other NSDUH Reports and Data**

Other reports focusing on specific topics of interest will be produced using the 2008 NSDUH data and made available on SAMHSA's website. A report on State-level estimates for 2007-2008 will be available in early 2010.

A comprehensive set of tables, referred to as "detailed tables," is available through the Internet at <http://oas.samhsa.gov>. The tables are organized into sections based primarily on the topic. Most tables are provided in several parts, showing population estimates (e.g., numbers of drug users), rates (e.g., percentages of population using drugs), and standard errors of all nonsuppressed estimates. A small subset of these detailed tables has been selected for inclusion in Appendices F and G of this report. The appendix tables can be mapped back to the detailed tables by using the table number in parentheses in the upper left corner of each table (e.g., Table G.1 in Appendix G is Table 8.1A in the detailed tables). Additional methodological information on NSDUH, including the questionnaire, is available electronically at the same web address.

Brief descriptive reports and in-depth analytic reports focusing on specific issues or population groups also are produced by OAS. A complete listing of previously published reports from NSDUH and other data sources is available from OAS. Most of these reports also are available through the Internet (<http://oas.samhsa.gov>). In addition, OAS makes public use data files available to researchers through the Substance Abuse and Mental Health Data Archive (SAMHDA, 2009) at <http://www.datafiles.samhsa.gov>. Currently, files are available from the 1979 to 2007 surveys.<sup>2</sup> The 2008 NSDUH public use file will be available by the end of 2009.

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<sup>2</sup> See <http://webapp.icpsr.umich.edu/cocoon/SAMHDA/DAS3/00064.xml>.





## 2. Illicit Drug Use

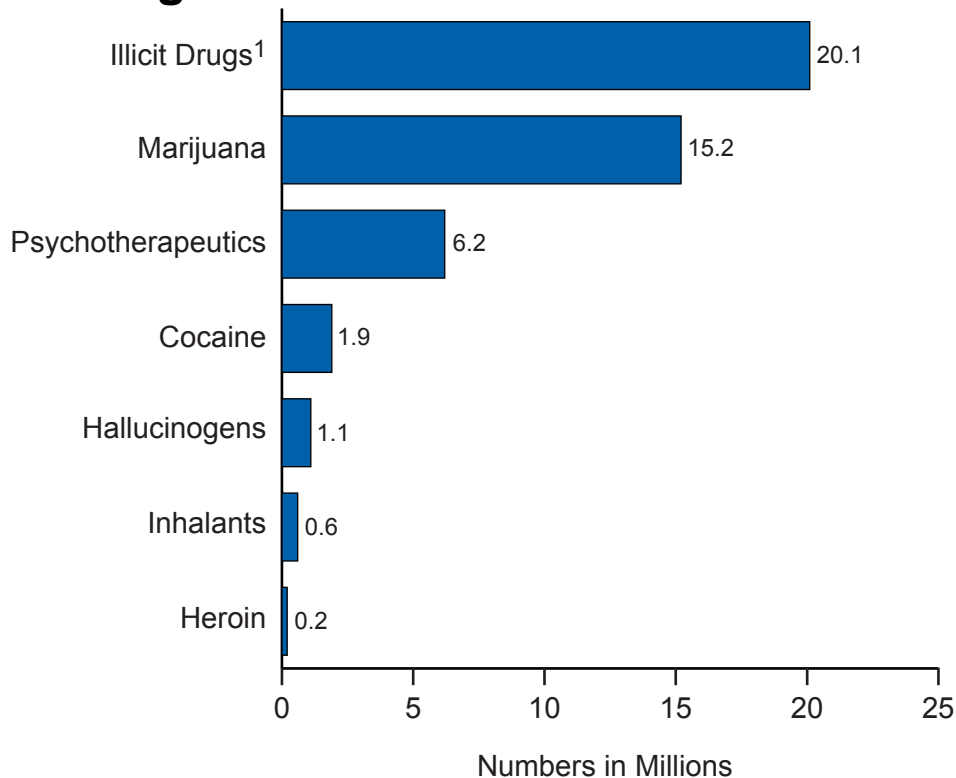
The National Survey on Drug Use and Health (NSDUH) obtains information on nine categories of illicit drug use: use of marijuana, cocaine, heroin, hallucinogens, and inhalants; and the nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives. In these categories, hashish is included with marijuana, and crack is considered a form of cocaine. Several drugs are grouped under the hallucinogens category, including LSD, PCP, peyote, mescaline, psilocybin mushrooms, and "Ecstasy" (MDMA). Inhalants include a variety of substances, such as nitrous oxide, amyl nitrite, cleaning fluids, gasoline, spray paint, other aerosol sprays, and glue. The four categories of prescription-type drugs (pain relievers, tranquilizers, stimulants, and sedatives) cover numerous medications available by prescription. They also include drugs within these groupings that originally were prescription medications but currently may be manufactured and distributed illegally, such as methamphetamine, which is included under stimulants. Respondents are asked to report only "nonmedical" use of these drugs, defined as use without a prescription of the individual's own or simply for the experience or feeling the drugs caused. Use of over-the-counter drugs and legitimate use of prescription drugs are not included. NSDUH reports combine the four prescription-type drug groups into a category referred to as "psychotherapeutics."

Estimates of "illicit drug use" reported from NSDUH reflect the use of any of the nine drug categories listed above. Use of alcohol and tobacco products, while illegal for youths, is not included in these estimates, but is discussed in Chapters 3 and 4.

This chapter includes estimates of the nonmedical use of prescription psychotherapeutic drugs and prescription stimulants that take into account data on methamphetamine use based on information obtained from survey items added to NSDUH beginning in 2005. Estimates for these drugs for earlier years when these items were not collected have been adjusted to be comparable with the current estimates. For further information, see Section B.4.6 of the 2007 NSDUH national findings report (Office of Applied Studies [OAS], 2008). The estimates for the nonmedical use of stimulants and psychotherapeutic drugs in this report are not comparable with corresponding estimates in NSDUH reports prior to the 2007 data year, and the methamphetamine use estimates in this report also are not comparable with those in NSDUH reports for survey years prior to 2006.

- In 2008, an estimated 20.1 million Americans aged 12 or older were current (past month) illicit drug users, meaning they had used an illicit drug during the month prior to the survey interview (Figure 2.1). This estimate represents 8.0 percent of the population aged 12 or older.
- The overall rate of current illicit drug use among persons aged 12 or older in 2008 (8.0 percent) was the same as the rate in 2007 and has remained stable since 2002 (8.3 percent) (Figure 2.2).

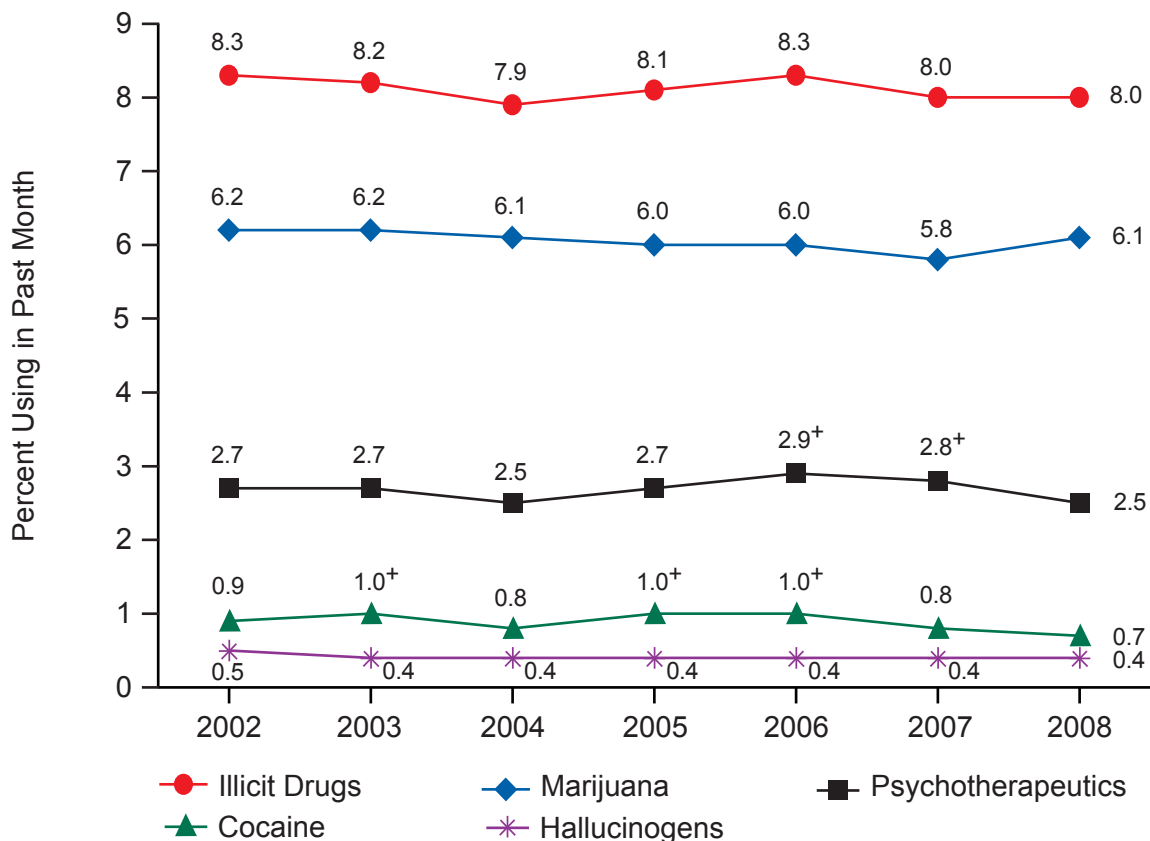
**Figure 2.1 Past Month Illicit Drug Use among Persons Aged 12 or Older: 2008**



<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

- Marijuana was the most commonly used illicit drug (15.2 million past month users). In 2008, marijuana was used by 75.7 percent of current illicit drug users and was the only drug used by 57.3 percent of them. Illicit drugs other than marijuana were used by 8.6 million persons or 42.7 percent of illicit drug users aged 12 or older. Current use of other drugs but not marijuana was reported by 24.3 percent of illicit drug users, and 18.4 percent used both marijuana and other drugs.
- Among persons aged 12 or older, the overall rate of past month marijuana use in 2008 (6.1 percent) was similar to the rate in 2007 and the rates in earlier years going back to 2002 (Figure 2.2).
- An estimated 8.6 million people aged 12 or older (3.4 percent) were current users of illicit drugs other than marijuana in 2008. The majority of these (6.2 million persons or 2.5 percent of the population) used psychotherapeutic drugs nonmedically. An estimated 4.7 million persons used pain relievers nonmedically in the past month in 2008, 1.8 million used tranquilizers, 904,000 used stimulants, and 234,000 used sedatives.

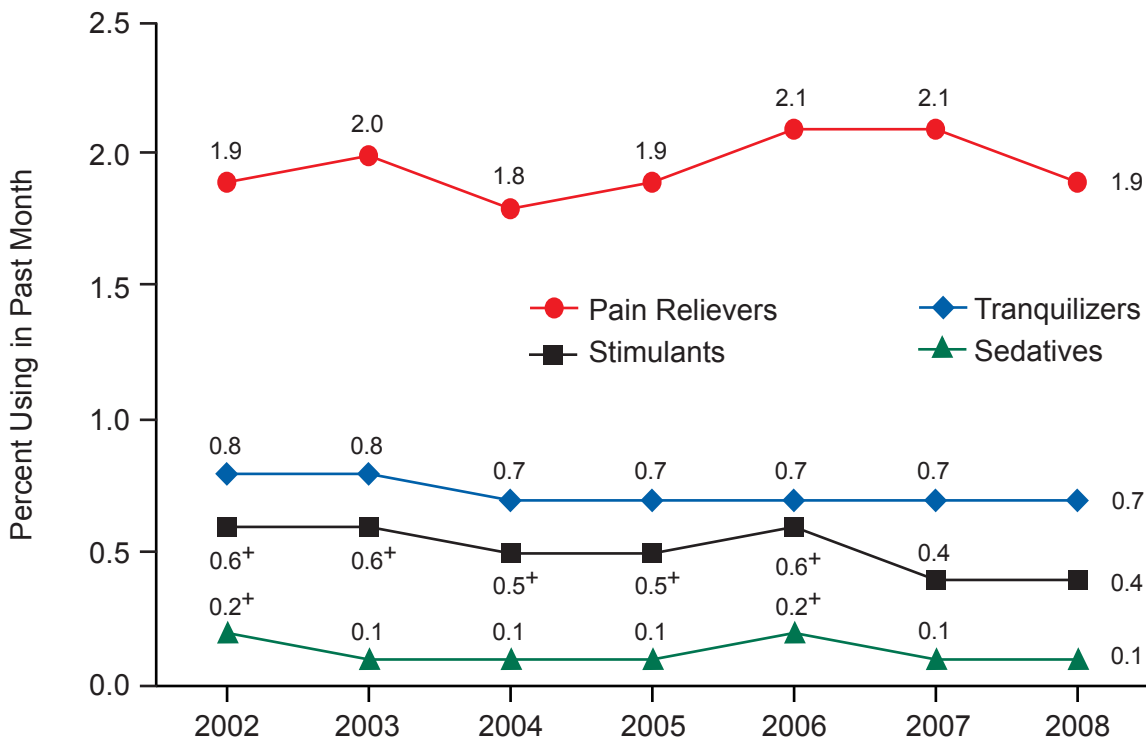
**Figure 2.2 Past Month Use of Selected Illicit Drugs among Persons Aged 12 or Older: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- The number and percentage of current nonmedical users of psychotherapeutic drugs in 2008 (6.2 million or 2.5 percent) were lower than in 2007 (6.9 million or 2.8 percent) (Figure 2.2). A small decline in the percentage of pain reliever users between 2007 (2.1 percent) and 2008 (1.9 percent), although not statistically significant, partly contributed to the lower rate for current use of psychotherapeutic drugs (Figure 2.3).
- The number of past month methamphetamine users decreased by over half between 2006 and 2008. The numbers were 731,000 in 2006, 529,000 in 2007, and 314,000 in 2008.
- The estimated number and percentage of persons aged 12 or older who used cocaine in the past month in 2008 (1.9 million users or 0.7 percent of the population) were similar to those in 2007 (2.1 million or 0.8 percent) and 2002 (2.0 million or 0.9 percent). However, the number and percentage of past month crack users in 2008 (359,000 or 0.1 percent of the population) were lower than in 2007 (610,000 or 0.2 percent) and all other years going back to 2002 except for 2004.

**Figure 2.3 Past Month Nonmedical Use of Types of Psychotherapeutic Drugs among Persons Aged 12 or Older: 2002-2008**



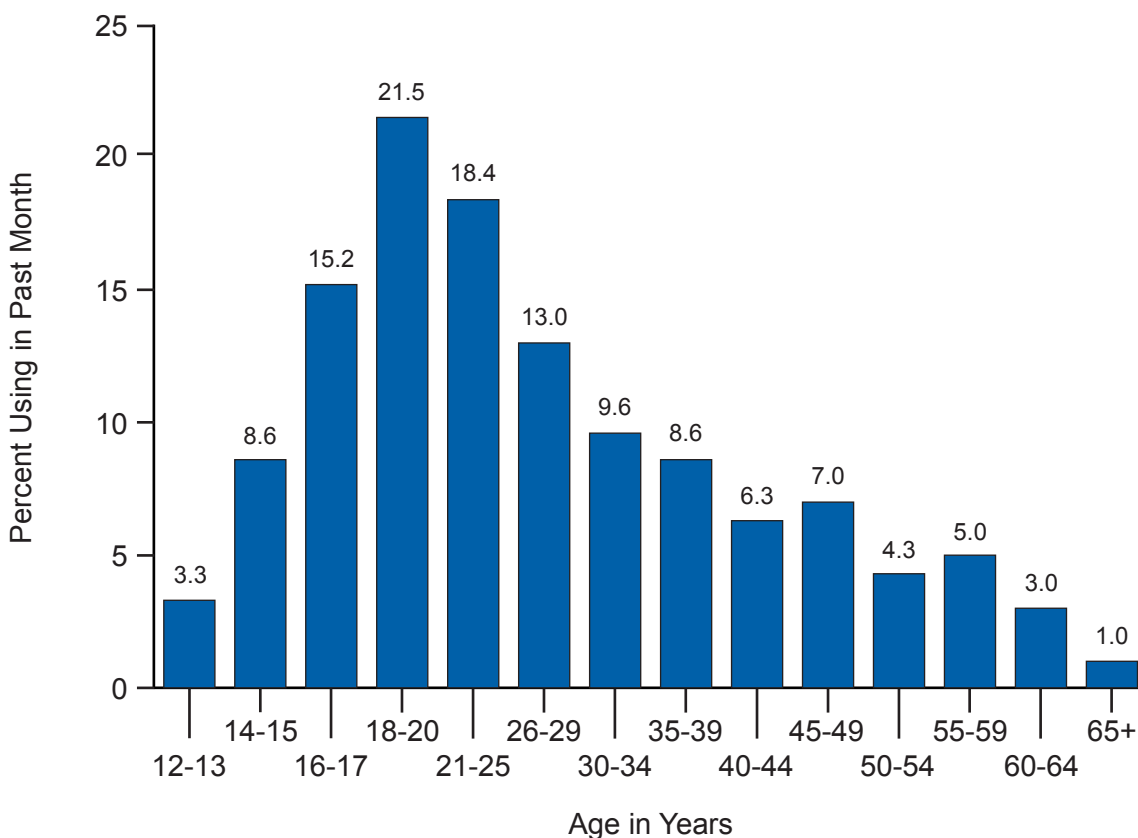
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- Hallucinogens were used in the past month by 1.1 million persons aged 12 or older (0.4 percent) in 2008, including 555,000 (0.2 percent) who had used Ecstasy. These estimates are similar to the corresponding estimates for 2007. Current use of LSD remained stable from 2007 to 2008, but past year use of LSD increased from 620,000 to 802,000, a higher number than in 2003, 2004, 2005, and 2007, but lower than the 999,000 past year users in 2002.

### Age

- Rates of past month illicit drug use varied with age. Through the adolescent years from 12 to 17, the rates of current illicit drug use in 2008 increased from 3.3 percent at ages 12 or 13 to 8.6 percent at ages 14 or 15 to 15.2 percent at ages 16 or 17 (Figure 2.4). The highest rate was among persons aged 18 to 20 (21.5 percent). The rate was 18.4 percent among those aged 21 to 25, and it was 13.0 percent among those aged 26 to 29. Among persons aged 65 or older, the rate was 1.0 percent.

**Figure 2.4 Past Month Illicit Drug Use among Persons Aged 12 or Older, by Age: 2008**

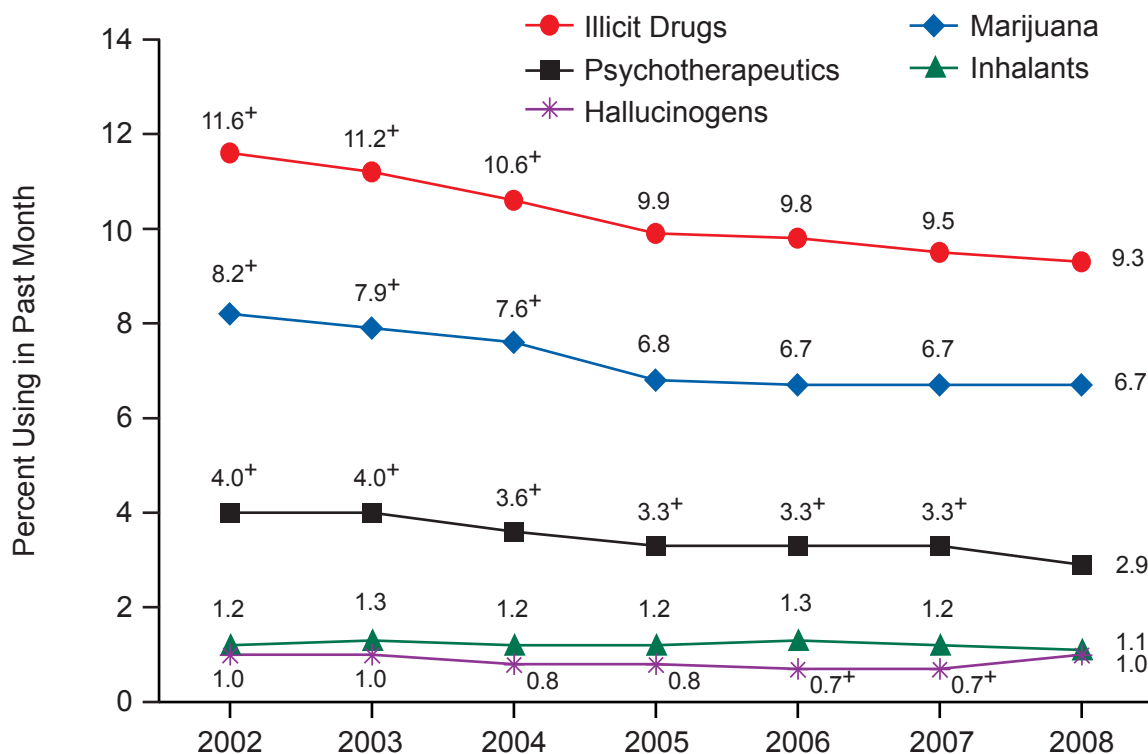


- In 2008, adults aged 26 or older were less likely to be current drug users than youths aged 12 to 17 or young adults aged 18 to 25 (5.9 vs. 9.3 and 19.6 percent, respectively). However, there were more drug users aged 26 or older (11.3 million) than users in the 12-to-17-year age group (2.3 million) and 18-to-25-year age group (6.5 million) combined.
- Current illicit drug use remained stable from 2007 to 2008 among youths aged 12 to 17, young adults aged 18 to 25, and adults aged 26 or older. From 2002 to 2008, however, the rate of current illicit drug use among 12 to 17 year olds decreased from 11.6 to 9.3 percent (Figure 2.5).

**Youths Aged 12 to 17**

- In 2008, 9.3 percent of youths aged 12 to 17 were current illicit drug users: 6.7 percent used marijuana, 2.9 percent engaged in nonmedical use of prescription-type psychotherapeutics, 1.1 percent used inhalants, 1.0 percent used hallucinogens, and 0.4 percent used cocaine.

**Figure 2.5 Past Month Use of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- Among youths aged 12 to 17, the types of drugs used in the past month varied by age group. Among 12 or 13 year olds, 1.5 percent used prescription-type drugs nonmedically, 1.2 percent used inhalants, and 1.0 percent used marijuana. Among 14 or 15 year olds, marijuana was the most commonly used drug (5.7 percent), followed by prescription-type drugs used nonmedically (3.0 percent), inhalants (1.3 percent), and hallucinogens (1.0 percent). Marijuana also was the most commonly used drug among 16 or 17 year olds (12.7 percent); it was followed by prescription-type drugs used nonmedically (4.0 percent), hallucinogens (1.6 percent), cocaine (0.7 percent), and inhalants (0.7 percent).
- The overall rate of current illicit drug use remained stable from 2007 to 2008 among youths aged 12 to 17, as did the rates for most specific drugs, except for hallucinogens and the nonmedical use of psychotherapeutics. An increase was seen in the rate of past month hallucinogen use, which went from 0.7 percent in 2007 to 1.0 percent in 2008, driven in part by an increase in Ecstasy use from 0.3 to 0.4 percent. However, the rate of nonmedical use of prescription psychotherapeutic drugs among youths declined from 3.3 percent in 2007 to 2.9 percent in 2008, driven largely by a decrease in the misuse of pain relievers from 2.7 to 2.3 percent (Figure 2.5).

- From 2002 to 2008, rates of current use among youths aged 12 to 17 declined significantly for illicit drugs overall and for several specific drugs, including marijuana (from 8.2 to 6.7 percent), cocaine (from 0.6 to 0.4 percent), prescription-type drugs used nonmedically (from 4.0 to 2.9 percent), pain relievers (from 3.2 to 2.3 percent), stimulants (from 0.8 to 0.5 percent), and methamphetamine (from 0.3 to 0.1 percent) (Figure 2.5). For illicit drug use overall, the rates were 11.6 percent in 2002, 11.2 percent in 2003, 10.6 percent in 2004, 9.9 percent in 2005, 9.8 percent in 2006, 9.5 percent in 2007, and 9.3 percent in 2008.
- The rate of current marijuana use among youths aged 12 to 17 decreased from 8.2 percent in 2002 to 6.7 percent in 2006 and remained at that level in 2007 and 2008. Significant declines also occurred between 2002 and 2008 for past year marijuana use (from 15.8 to 13.0 percent) and lifetime marijuana use (from 20.6 to 16.5 percent).

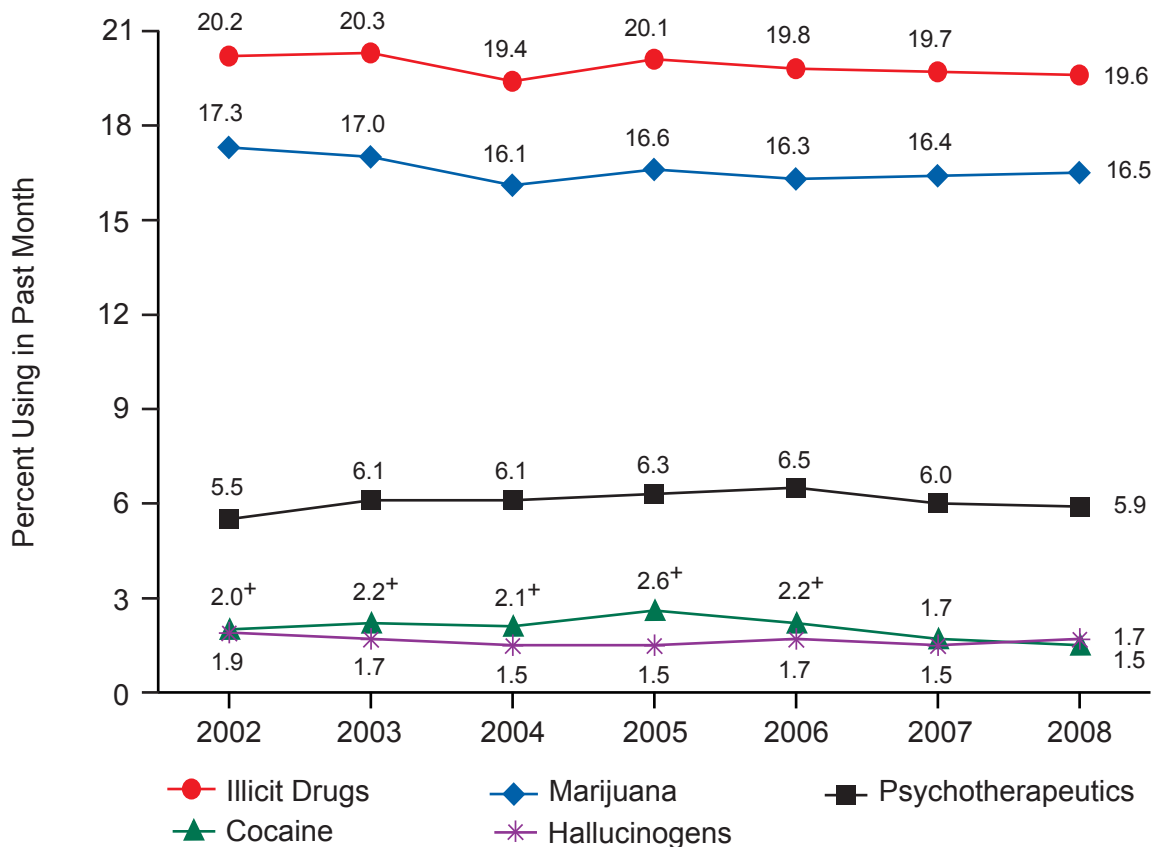
### **Young Adults Aged 18 to 25**

- Rates of current use of illicit drugs in 2008 were higher for young adults aged 18 to 25 (19.6 percent) than for youths aged 12 to 17 (9.3 percent) and adults aged 26 or older (5.9 percent). Among young adults, 16.5 percent used marijuana in the past month, 5.9 percent used prescription-type drugs nonmedically, 1.7 percent used hallucinogens, and 1.5 percent used cocaine (Figure 2.6).
- From 2007 to 2008, rates of current use among young adults aged 18 to 25 remained stable for illicit drugs overall and each specific drug.
- From 2002 to 2008, there were declines in young adults' past month cocaine use (from 2.0 to 1.5 percent), inhalant use (from 0.5 to 0.3 percent), nonmedical use of stimulants (from 1.3 to 1.1 percent), and methamphetamine use (from 0.6 to 0.2 percent). Over the 7-year period, there were increases in the current use of pain relievers (from 4.1 to 4.6 percent) and LSD (from 0.1 to 0.3 percent).

### **Adults Aged 26 or Older**

- Among adults aged 26 or older, 5.9 percent were current illicit drug users in 2008. In this age group, 4.2 percent used marijuana, and 1.9 percent used prescription-type drugs nonmedically. Less than 1 percent used cocaine (0.7 percent), hallucinogens (0.1 percent), heroin (0.1 percent), and inhalants (0.1 percent). The only significant change between 2007 and 2008 in the rates of past month use among adults in this age group involved crack, which decreased from 0.3 to 0.2 percent. In addition, the rates of past year nonmedical use declined for psychotherapeutic drugs overall (from 4.9 percent in 2007 to 4.4 percent in 2008), sedatives (from 0.3 to 0.2 percent), and methamphetamine (from 0.4 to 0.3 percent). However, increases occurred in lifetime use of hallucinogens (from 14.2 percent in 2007 to 15.2 percent in 2008) and lifetime nonmedical use of pain relievers (from 11.8 to 12.7 percent).

**Figure 2.6 Past Month Use of Selected Illicit Drugs among Young Adults Aged 18 to 25: 2002-2008**

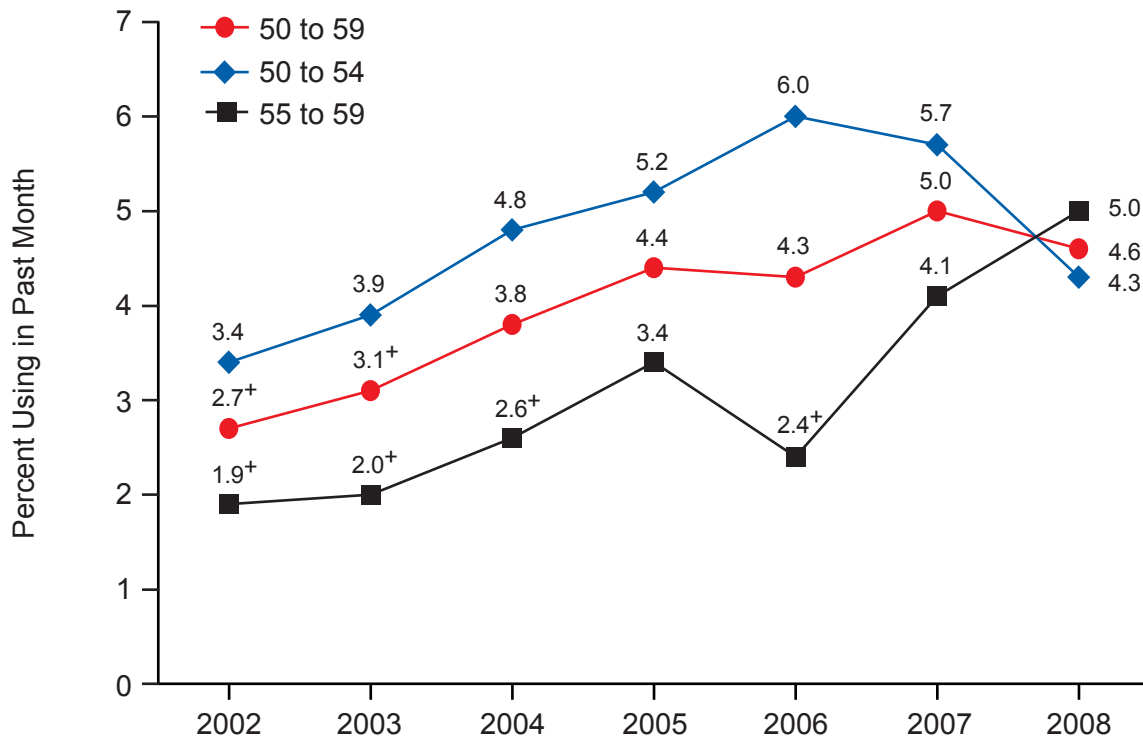


<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- Among adults aged 50 to 59, the rate of current illicit drug use increased from 2.7 to 4.6 percent between 2002 and 2008 (Figure 2.7). For those aged 50 to 54, the rate increased from 3.4 percent in 2002 to 6.0 percent in 2006, then dropped to 4.3 percent in 2008, not significantly different from the rate in either 2002 or 2006. Among those aged 55 to 59, current illicit drug use showed an increase from 1.9 percent in 2002 to 5.0 percent in 2008. These patterns and trends may partially reflect the aging into these age groups of members of the baby boom cohort, whose rates of illicit drug use have been higher than those of older cohorts.



**Figure 2.7 Past Month Illicit Drug Use among Adults Aged 50 to 59: 2002-2008**



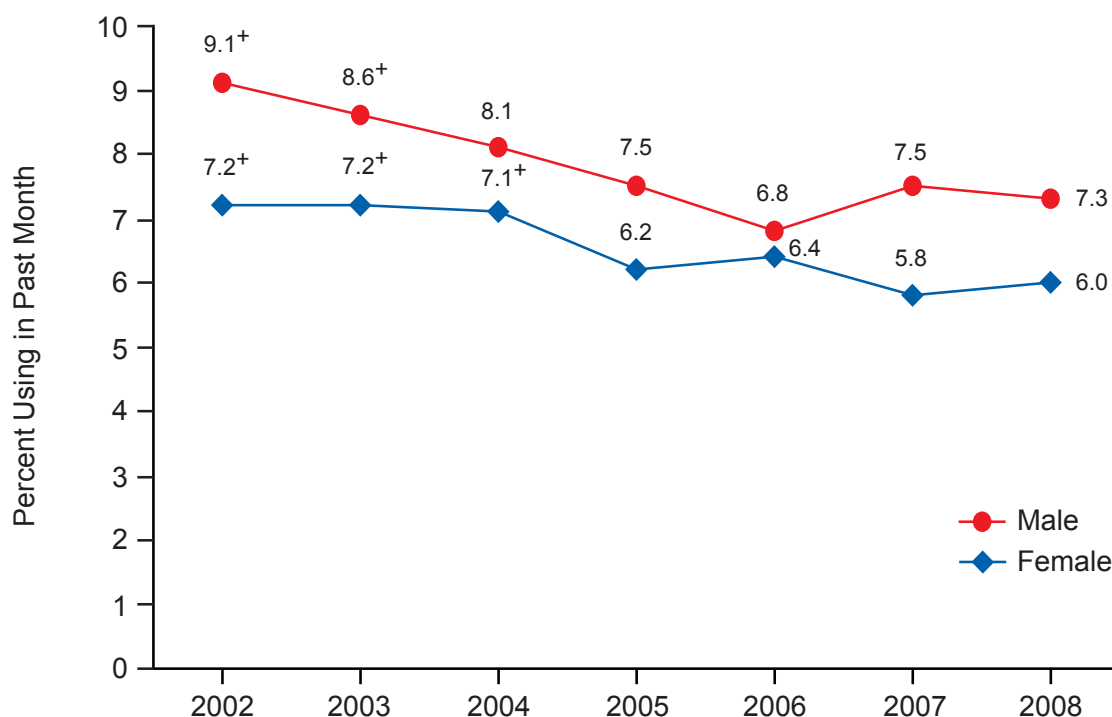
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

### Gender

- In 2008, as in prior years, the rate of current illicit drug use among persons aged 12 or older was higher for males than for females (9.9 vs. 6.3 percent, respectively). Males were more likely than females to be past month users of marijuana (7.9 vs. 4.4 percent). However, males and females had similar rates of past month nonmedical use of psychotherapeutic drugs (2.6 and 2.4 percent, respectively), pain relievers (2.0 and 1.8 percent), tranquilizers (0.7 and 0.8 percent), stimulants (0.4 percent for both), methamphetamine (0.1 percent for both), and sedatives (0.1 percent for both).
- Although males were more likely than females to be current illicit drug users in 2008, the rate of current illicit drug use among females aged 12 or older increased from 5.8 percent in 2007 to 6.3 percent in 2008. However, the rate did not change significantly for males (10.4 and 9.9 percent for 2007 and 2008, respectively). Current marijuana use also increased from 3.8 to 4.4 percent among females, but for males there was no significant change (8.0 and 7.9 percent, respectively).

- For males, current nonmedical use of psychotherapeutics declined from 3.2 percent in 2007 to 2.6 percent in 2008, driven in part by a decline in pain reliever misuse from 2.6 to 2.0 percent. Current use of crack by males also decreased in this time period from 0.4 to 0.2 percent. There were no significant changes in the use of these drugs among females.
- Among youths aged 12 to 17 in 2008, males and females had similar rates of current use of illicit drugs (9.5 percent for males and 9.1 percent for females), cocaine (0.5 and 0.3 percent, respectively), hallucinogens (1.1 and 0.8 percent), and inhalants (1.1 percent for both). However, current marijuana use was more prevalent among male youths (7.3 percent) than female youths (6.0 percent) (Figure 2.8). Nonmedical use of psychotherapeutic drugs among 12 to 17 year olds, on the other hand, was more prevalent among females (3.3 percent) than males (2.5 percent), as was nonmedical use of pain relievers (2.6 and 2.0 percent, respectively).

**Figure 2.8 Past Month Marijuana Use among Youths Aged 12 to 17, by Gender: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- Past month marijuana use among males aged 12 to 17 declined from 9.1 percent in 2002 to 6.8 percent in 2006 (Figure 2.8). In 2008, the rate was 7.3 percent, which was not significantly different from the rate in 2006 and was lower than the rate in 2002. Among female youths, little change in current marijuana use occurred from 2002 to 2004, but rates subsequently declined and the percentage in 2008 (6.0 percent) was lower than that in 2002 (7.2 percent).

## **Pregnant Women**

- Among pregnant women aged 15 to 44 years, 5.1 percent used illicit drugs in the past month based on data averaged for 2007 and 2008. This rate was significantly lower than the rate among women in this age group who were not pregnant (9.8 percent). Among pregnant women, the average rate of current illicit drug use in 2007-2008 (5.1 percent) did not change significantly from 2005-2006 (4.0 percent) and was similar to the rate observed in 2003-2004 (4.6 percent).
- The rate of current illicit drug use in the combined 2007-2008 data was lower for pregnant women than for nonpregnant women among those aged 18 to 25 (7.1 vs. 16.2 percent, respectively) and among those aged 26 to 44 (3.0 vs. 6.7 percent). Among women aged 15 to 17, however, those who were pregnant had a higher rate of use than those who were not pregnant (21.6 vs. 12.9 percent).

## **Race/Ethnicity**

- Current illicit drug use among persons aged 12 or older varied by race/ethnicity in 2008, with the lowest rate among Asians (3.6 percent) (Figure 2.9). Rates were 14.7 percent for persons reporting two or more races, 10.1 percent for blacks, 9.5 percent for American Indians or Alaska Natives, 8.2 percent for whites, 7.3 percent of Native Hawaiians or Other Pacific Islanders, and 6.2 percent for Hispanics.
- There were no statistically significant changes between 2007 and 2008 in the rate of current illicit drug use for any racial/ethnic group among persons aged 12 or older.

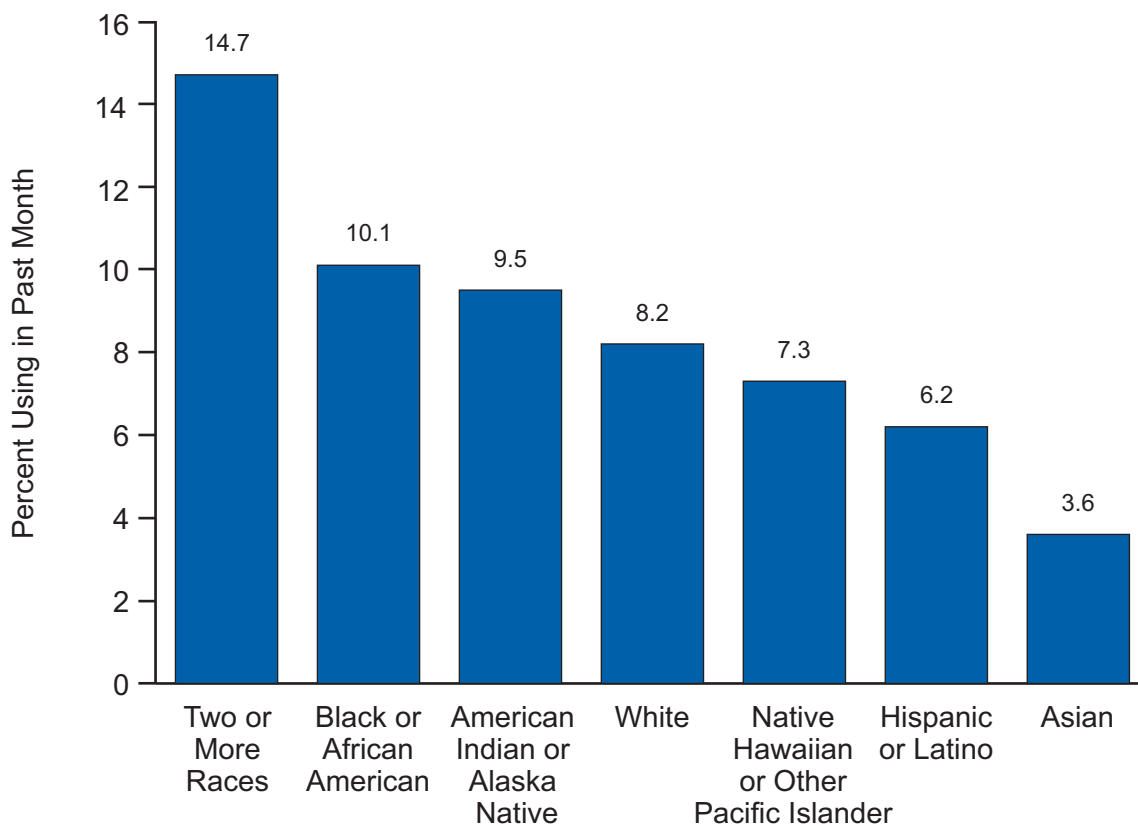
## **Education**

- Illicit drug use in 2008 varied by educational status. Among adults aged 18 or older, the rate of current illicit drug use was lower for college graduates (5.7 percent) than for those who did not graduate from high school (8.1 percent), high school graduates (8.6 percent), and those with some college (9.4 percent). However, adults who had graduated from college were more likely to have tried illicit drugs in their lifetime when compared with adults who had not completed high school (51.8 vs. 37.7 percent). The rate of current illicit drug use declined from 9.3 percent in 2007 to 8.1 percent in 2008 among adults who had not completed high school.

## **College Students**

- Among persons aged 18 to 22 years old, the rate of current use of illicit drugs in 2008 among full-time college students (20.2 percent) was similar to the rate among other persons in that age group (21.9 percent), which includes part-time college students, students in other grades or types of institutions, and nonstudents. The rate of current use of illicit drugs overall among 18 to 22 year olds did not change significantly from 2007 to 2008 among either full-time college students or others in this age group.

**Figure 2.9 Past Month Illicit Drug Use among Persons Aged 12 or Older, by Race/Ethnicity: 2008**

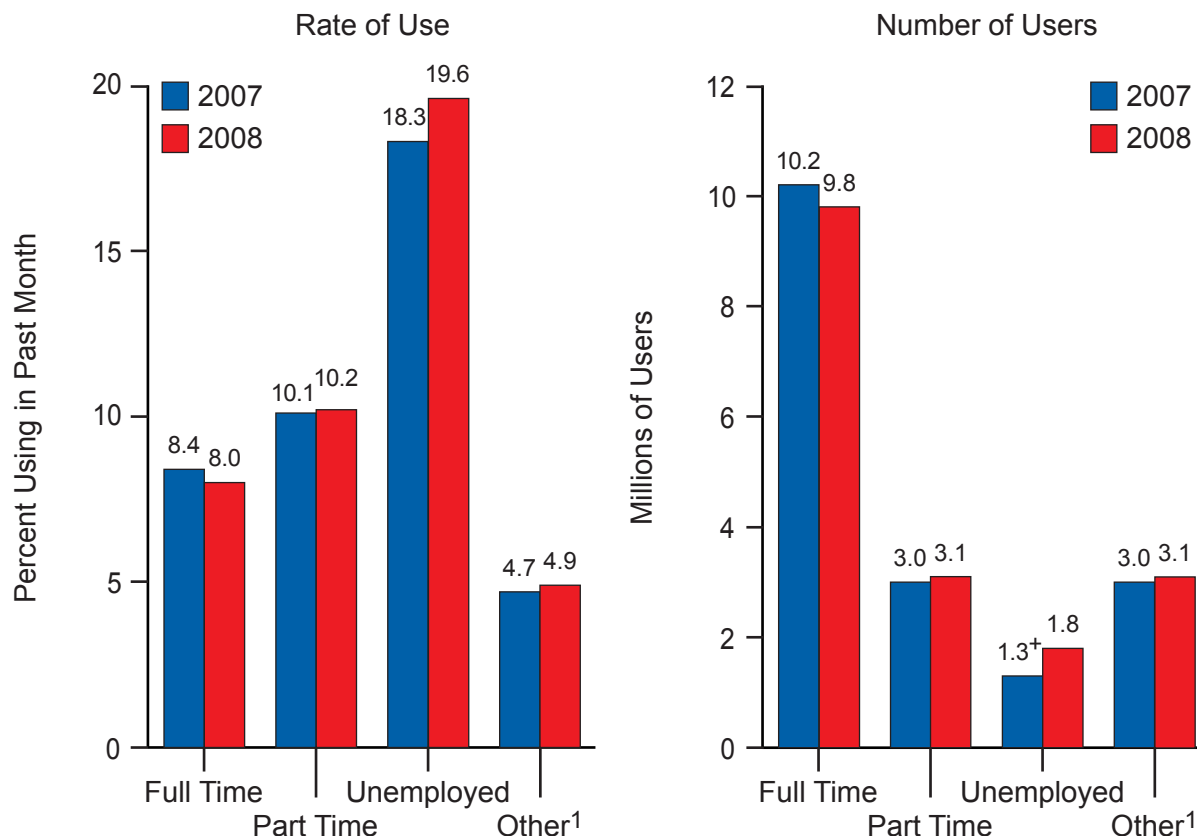


- Among full-time college students aged 18 to 22, there were increases from 2007 to 2008 in the current rate of use of hallucinogens (from 1.0 to 2.1 percent). Increases were seen for the specific hallucinogens Ecstasy (from 0.5 to 1.2 percent) and LSD (from 0.3 to 0.6 percent). There were no significant changes in the rates of current use for any drugs among persons aged 18 to 22 who were not full-time college students.

**Employment**

- Current illicit drug use differed by employment status in 2008. Among adults aged 18 or older, the rate of illicit drug use was higher for unemployed persons (19.6 percent) than for those who were employed full time (8.0 percent) or part time (10.2 percent) (Figure 2.10). These rates were all similar to the corresponding rates in 2007.

**Figure 2.10 Past Month Illicit Drug Use among Persons Aged 18 or Older, by Employment Status: 2007 and 2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

<sup>1</sup>The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

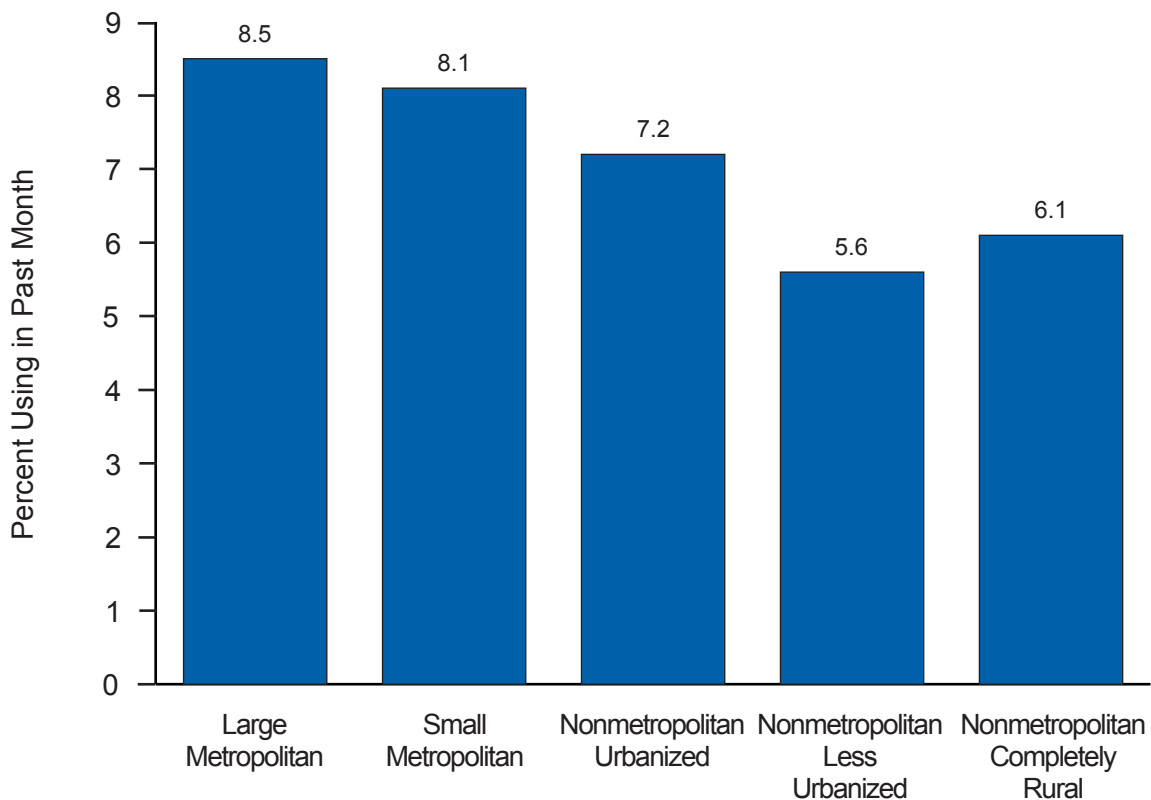
- Although the rate of past month illicit drug use was higher among unemployed persons compared with those from other employment groups, most drug users in 2008 were employed. Of the estimated 17.8 million current illicit drug users aged 18 or older in 2008, 12.9 million (72.7 percent) were employed either full or part time. The number of unemployed illicit drug users increased from 1.3 million in 2007 to 1.8 million in 2008, primarily because of an overall increase in the number of unemployed persons between 2007 and 2008 (Figure 2.10).

### Geographic Area

- Among persons aged 12 or older, the rate of current illicit drug use in 2008 was 9.8 percent in the West, 7.6 percent in the Midwest, 8.2 percent in the Northeast, and 7.1 percent in the South.

- In the South, current illicit drug use declined from 9.3 percent in 2007 to 8.0 percent in 2008 among youths aged 12 to 17, and use of crack decreased from 0.3 to 0.2 percent among persons aged 12 or older. Also in the South, current nonmedical use of prescription psychotherapeutics declined from 3.0 to 2.4 percent among persons aged 12 or older, from 3.8 to 2.8 percent among youths aged 12 to 17, and from 2.3 to 1.7 percent among adults aged 26 or older. These decreases were driven in part by decreases in the rates of nonmedical use of pain relievers for youths aged 12 to 17 and adults aged 26 or older, although the decrease among adults aged 26 or older was not significant. There were no significant changes in the rates of current use in any of the nine illicit drug categories for the Northeast, Midwest, and West between 2007 and 2008.
- In 2008, the rate of current illicit drug use among persons aged 12 or older was higher in metropolitan areas than in nonmetropolitan areas. The rates were 8.5 percent in large metropolitan counties, 8.1 percent in small metropolitan counties, and 6.3 percent in nonmetropolitan counties as a group (Figure 2.11). Within nonmetropolitan areas, the rate was 7.2 percent in urbanized counties, 5.6 percent in less urbanized counties, and 6.1 percent in completely rural counties.

**Figure 2.11 Past Month Illicit Drug Use among Persons Aged 12 or Older, by County Type: 2008**



## **Criminal Justice Populations**

- In 2008, an estimated 1.6 million adults aged 18 or older were on parole or other supervised release from prison at some time during the past year. Almost one fifth of these (18.3 percent) were current illicit drug users, which was higher than the rate of 7.8 percent among adults not on parole or supervised release.
- Among the 5.2 million adults on probation at some time in the past year, 23.9 percent reported current illicit drug use in 2008. This was higher than the rate of 7.5 percent among adults not on probation in 2008.

## **Frequency of Use**

- In 2008, an estimated 15.0 percent of past year marijuana users aged 12 or older used marijuana on 300 or more days within the past 12 months. This translates into 3.9 million persons using marijuana on a daily or almost daily basis over a 12-month period. An estimated 35.7 percent (5.4 million) of past month marijuana users aged 12 or older used the drug on 20 or more days in the past month.

## **Association with Cigarette and Alcohol Use**

- In 2008, the rate of current illicit drug use was more than 9 times higher among youths aged 12 to 17 who smoked cigarettes in the past month (49.0 percent) than it was among youths who did not smoke cigarettes in the past month (5.3 percent).
- Past month illicit drug use also was associated with the level of past month alcohol use. Among youths aged 12 to 17 in 2008 who were heavy drinkers (i.e., consumed five or more drinks on the same occasion on each of 5 or more days in the past 30 days), 68.5 percent also were current illicit drug users, which was higher than the rate among nondrinkers (4.3 percent). The rate of current illicit drug use among youths reporting heavy drinking in the past month increased from 60.1 percent in 2007 to 68.5 percent in 2008, and a similar increase in illicit drug use (from 37.9 to 42.6 percent) was seen among youths who engaged in binge drinking (i.e., consumption of five or more drinks on the same occasion on at least 1 day in the past month).

## **Driving Under the Influence of Illicit Drugs**

- In 2008, 10.0 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.0 percent of the population aged 12 or older, the same as the rate in 2007, but lower than the rate in 2002 (4.7 percent). Across age groups, the rate of driving under the influence of illicit drugs in 2008 was highest among young adults aged 18 to 25 (12.3 percent).

## Source of Prescription Drugs

- Past year nonmedical users of prescription-type psychotherapeutic drugs are asked how they obtained the drugs they recently used nonmedically. Rates averaged for 2007 and 2008 show that over half of the nonmedical users of prescription-type pain relievers, tranquilizers, stimulants, and sedatives aged 12 or older said they got the drugs they used most recently "from a friend or relative for free." In a follow-up question, the majority of these respondents indicated that their friend or relative had obtained the drugs from one doctor.
- Among persons aged 12 or older in 2007-2008 who used pain relievers nonmedically in the past 12 months, 55.9 percent got the pain relievers they most recently used from a friend or relative for free. Another 8.9 percent bought them from a friend or relative, and 5.4 percent took them from a friend or relative without asking. Nearly one fifth (18.0 percent) indicated that they got the drugs they most recently used through a prescription from one doctor. About 1 in 20 users (4.3 percent) got pain relievers from a drug dealer or other stranger, and 0.4 percent bought them on the Internet. These percentages are similar to those reported in 2006-2007.
- In 81.7 percent of the instances in 2007-2008 where nonmedical users of prescription pain relievers aged 12 or older obtained the drugs from a friend or relative for free, the individuals indicated that their friend or relative had obtained the drugs from just one doctor. Only 1.6 percent reported that the friend or relative had bought the drugs from a drug dealer or other stranger.
- In 2007-2008, 42.8 percent of past year methamphetamine users aged 12 or older reported that they obtained the methamphetamine they used most recently from a friend or relative for free, lower than the 49.7 percent reported in 2006-2007. In contrast, the percentage of past year methamphetamine users who bought it from a friend or relative increased from 25.1 percent in 2006-2007 to 30.1 percent in 2007-2008. About one in five users (21.7 percent) in 2007-2008 bought the methamphetamine they used most recently from a drug dealer or other stranger, which was comparable with the rate for 2006-2007 (20.5 percent).



## 3. Alcohol Use

The National Survey on Drug Use and Health (NSDUH) includes questions about the recency and frequency of consumption of alcoholic beverages, such as beer, wine, whiskey, brandy, and mixed drinks. An extensive list of examples of the kinds of beverages covered is given to respondents prior to the question administration. A "drink" is defined as a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. Times when the respondent only had a sip or two from a drink are not considered to be consumption. For this report, estimates for the prevalence of alcohol use are reported primarily at three levels defined for both males and females and for all ages as follows:

Current (past month) use - At least one drink in the past 30 days.

Binge use - 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.

Heavy use - Five or more drinks on the same occasion on each of 5 or more days in the past 30 days.

These levels are not mutually exclusive categories of use; heavy use is included in estimates of binge and current use, and binge use is included in estimates of current use.

This chapter is divided into two main sections. Section 3.1 describes trends and patterns of alcohol use among the population aged 12 or older. Section 3.2 is particularly concerned with the use of alcohol by persons aged 12 to 20. These persons are under the legal drinking age in all 50 States and the District of Columbia.

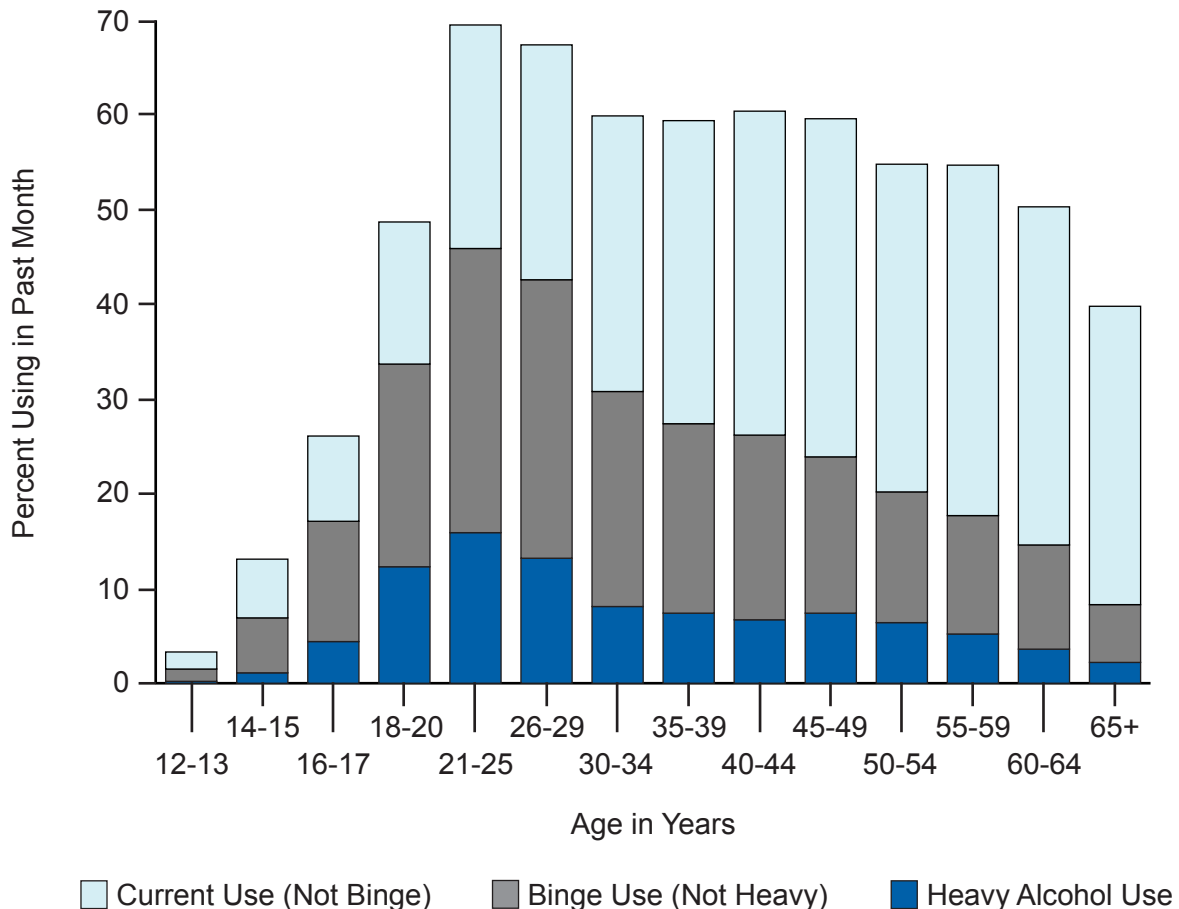
### 3.1. Alcohol Use among Persons Aged 12 or Older

- Slightly more than half of Americans aged 12 or older reported being current drinkers of alcohol in the 2008 survey (51.6 percent). This translates to an estimated 129.0 million people, which is similar to the 2007 estimate of 126.8 million people (51.1 percent).
- More than one fifth (23.3 percent) of persons aged 12 or older participated in binge drinking at least once in the 30 days prior to the survey in 2008. This translates to about 58.1 million people. The rate in 2008 is the same as the rate in 2007 (23.3 percent).
- In 2008, heavy drinking was reported by 6.9 percent of the population aged 12 or older, or 17.3 million people. This percentage is the same as the rate of heavy drinking in 2007 (6.9 percent).

## Age

- In 2008, rates of current alcohol use were 3.4 percent among persons aged 12 or 13, 13.1 percent of persons aged 14 or 15, 26.2 percent of 16 or 17 year olds, 48.7 percent of those aged 18 to 20, and 69.5 percent of 21 to 25 year olds (Figure 3.1). These estimates showed significant declines from 2007 for the 14 or 15 year olds (from 14.7 to 13.1 percent) and for the 16 or 17 year olds (from 29.0 to 26.2 percent).
- Among older age groups, the prevalence of current alcohol use decreased with increasing age, from 67.4 percent among 26 to 29 year olds to 50.3 percent among 60 to 64 year olds and 39.7 percent among people aged 65 or older.

**Figure 3.1 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 or Older, by Age: 2008**



- Rates of binge alcohol use in 2008 were 1.5 percent among 12 or 13 year olds, 6.9 percent among 14 or 15 year olds, 17.2 percent among 16 or 17 year olds, 33.7 percent among persons aged 18 to 20, and peaked among those aged 21 to 25 at 46.0 percent. The 2008 binge drinking rate for 16 or 17 year olds showed a decrease from 2007, when it was 19.4 percent.
- The binge drinking rate decreased beyond young adulthood from 36.4 percent of 26 to 34 year olds to 18.8 percent of persons aged 35 or older.
- The rate of binge drinking was 41.0 percent for young adults aged 18 to 25. Heavy alcohol use was reported by 14.5 percent of persons aged 18 to 25. These rates are similar to the rates in 2007 (41.8 and 14.7 percent, respectively).
- Persons aged 65 or older had lower rates of binge drinking (8.2 percent) than adults in other age groups. The rate of heavy drinking among persons aged 65 or older was 2.2 percent.
- The rate of current alcohol use among youths aged 12 to 17 was 14.6 percent in 2008, which is lower than it was in 2007, when it was 15.9 percent. Youth binge and heavy drinking rates were 8.8 and 2.0 percent, respectively. The 2008 rate for youth binge drinking is also lower than the 2007 rate, which was 9.7 percent.

### **Gender**

- In 2008, 57.7 percent of males aged 12 or older were current drinkers, higher than the rate for females (45.9 percent). However, among youths aged 12 to 17, the percentage of males who were current drinkers (14.2 percent) was similar to the rate for females (15.0 percent).
- Among adults aged 18 to 25, an estimated 58.0 percent of females and 64.3 percent of males reported current drinking in 2008. These rates are similar to those reported in 2007 (57.1 and 65.3 percent, respectively).

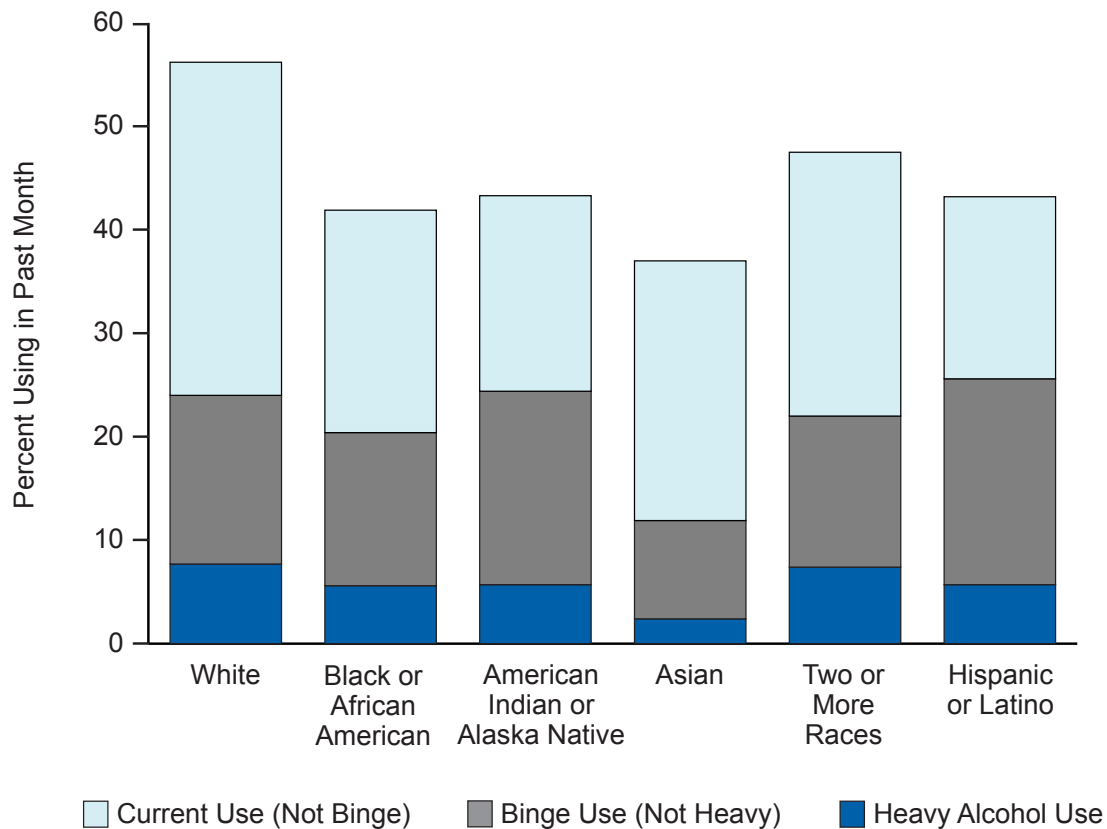
### **Pregnant Women**

- Among pregnant women aged 15 to 44, an estimated 10.6 percent reported current alcohol use, 4.5 percent reported binge drinking, and 0.8 percent reported heavy drinking. These rates were significantly lower than the rates for nonpregnant women in the same age group (54.0, 24.2, and 5.5 percent, respectively). Binge drinking during the first trimester of pregnancy was reported by 10.3 percent of pregnant women aged 15 to 44. All of these estimates by pregnancy status are based on data averaged over 2007 and 2008. The 2007-2008 estimate for first-trimester binge drinking is higher than in 2005-2006, when it was 4.6 percent.

## Race/Ethnicity

- Among persons aged 12 or older, whites in 2008 were more likely than other racial/ethnic groups to report current use of alcohol (56.2 percent) (Figure 3.2). The rates were 47.5 percent for persons reporting two or more races, 43.3 percent for American Indians or Alaska Natives, 43.2 percent for Hispanics, 41.9 percent for blacks, and 37.0 percent for Asians.
- The rate of binge alcohol use was lowest among Asians (11.9 percent). Rates for other racial/ethnic groups were 20.4 percent for blacks, 22.0 percent for persons reporting two or more races, 24.0 percent for whites, 24.4 percent for American Indians or Alaska Natives, and 25.6 percent for Hispanics.
- Among youths aged 12 to 17 in 2008, Asians had lower rates of current alcohol use than any other racial/ethnic group (5.7 percent), while 10.1 percent of black youths, 13.6 percent of those reporting two or more races, 14.8 percent of Hispanic youths, and 16.3 percent of white youths were current drinkers.

**Figure 3.2 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 or Older, by Race/Ethnicity: 2008**



Note: Due to low precision, estimates for Native Hawaiians or Other Pacific Islanders are not shown.

## Education

- Among adults aged 18 or older, the rate of past month alcohol use increased with increasing levels of education. Among adults with less than a high school education, 36.8 percent were current drinkers in 2008, significantly lower than the 67.9 percent of college graduates who were current drinkers. However, among adults aged 26 or older, binge and heavy alcohol use rates were lower among college graduates (19.5 and 4.6 percent, respectively) than among those who had not completed college (23.2 vs. 7.0 percent, respectively).

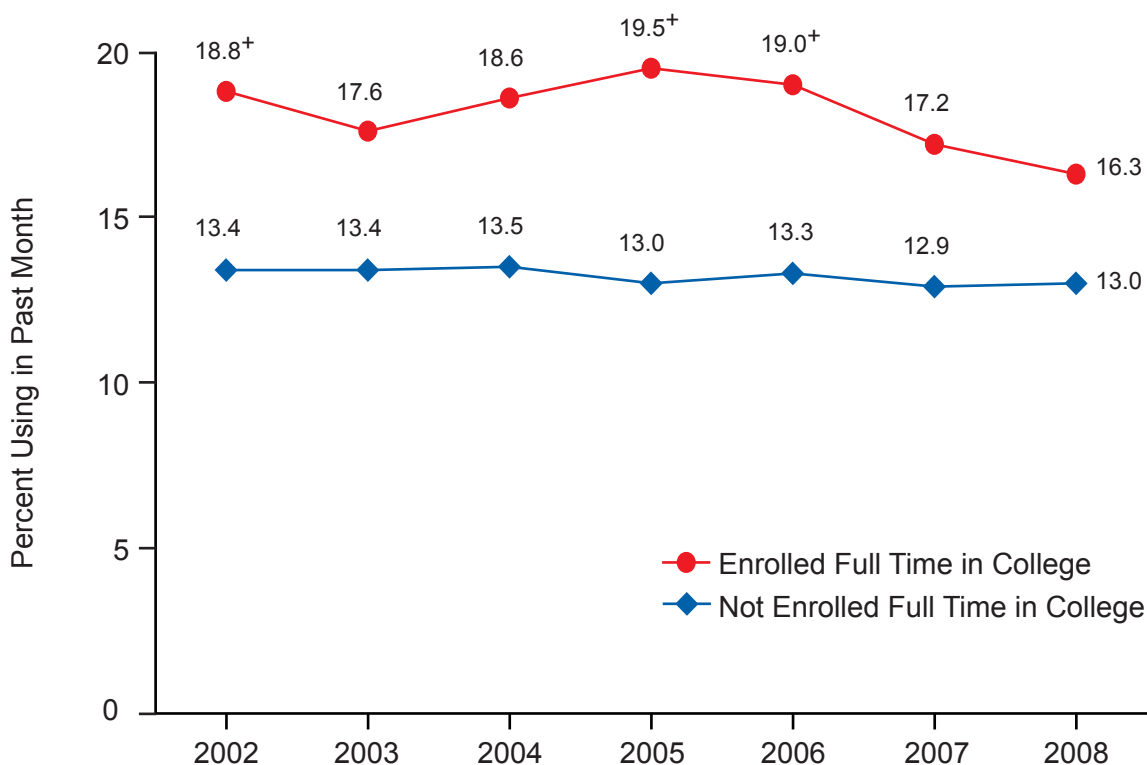
## College Students

- Young adults aged 18 to 22 enrolled full time in college were more likely than their peers not enrolled full time (i.e., part-time college students and persons not currently enrolled in college) to use alcohol in the past month, binge drink, and drink heavily. Among full-time college students in 2008, 61.0 percent were current drinkers, 40.5 percent binge drank, and 16.3 percent were heavy drinkers. Among those not enrolled full time in college, these rates were 54.2, 38.1, and 13.0 percent, respectively. Rates of current alcohol use and binge use for full-time college students decreased from 2007, when they were 63.7 and 43.6 percent, respectively.
- The pattern of higher rates of current alcohol use, binge alcohol use, and heavy alcohol use among full-time college students compared with rates for others aged 18 to 22 has remained consistent since 2002 (Figure 3.3).

## Employment

- The rate of current alcohol use was 63.0 percent for full-time employed adults aged 18 or older in 2008, higher than the rate for unemployed adults (55.5 percent). However, the rate of heavy use for unemployed persons was 12.8 percent, which was higher than the rate of 8.8 percent for full-time employed persons. There was no significant difference in binge alcohol use rates between full-time employed adults (30.3 percent) and unemployed adults (33.4 percent).
- Most binge and heavy alcohol users were employed in 2008. Among 55.9 million adult binge drinkers, 44.6 million (79.7 percent) were employed either full or part time. Among 16.8 million heavy drinkers, 13.1 million (78.0 percent) were employed.
- Rates of binge and heavy alcohol use did not change significantly between 2007 and 2008 for full-time employed or unemployed adults. However, the number of unemployed binge and heavy drinkers did increase (from 2.3 million to 3.0 million for binge use and from 851,000 to 1.2 million for heavy use).

**Figure 3.3 Heavy Alcohol Use among Adults Aged 18 to 22, by College Enrollment: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

### Geographic Area

- The rate of past month alcohol use for people aged 12 or older in 2008 was lower in the South (47.3 percent) than in the Northeast (56.8 percent), Midwest (54.2 percent), or West (51.8 percent).
- Among people aged 12 or older, the rate of past month alcohol use in large metropolitan areas (53.6 percent) was higher than the 51.3 percent in small metropolitan areas and 45.8 percent in nonmetropolitan areas. Binge drinking was equally prevalent in small metropolitan areas (22.5 percent), large metropolitan areas (23.9 percent), and nonmetropolitan areas (22.8 percent).
- The rates of binge alcohol use among youths aged 12 to 17 were 9.8 percent in nonmetropolitan areas, 9.0 percent in small metropolitan areas, and 8.4 percent in large metropolitan areas.

## **Association with Illicit Drug and Tobacco Use**

- The level of alcohol use was associated with illicit drug use in 2008. Among the 17.3 million heavy drinkers aged 12 or older, 29.4 percent were current illicit drug users. Persons who were not current alcohol users were less likely to have used illicit drugs in the past month (3.3 percent) than those who reported (a) current use of alcohol but did not meet the criteria for binge or heavy use (6.1 percent), (b) binge use but did not meet the criteria for heavy use (16.4 percent), or (c) heavy use of alcohol (29.4 percent).
- Alcohol consumption levels also were associated with tobacco use. Among heavy alcohol users aged 12 or older, 58.0 percent smoked cigarettes in the past month, while only 19.2 percent of non-binge current drinkers and 16.1 percent of persons who did not drink alcohol in the past month were current smokers. Smokeless tobacco use and cigar use also were more prevalent among heavy drinkers (12.5 and 17.8 percent, respectively) than among non-binge drinkers (2.2 and 4.6 percent) and nondrinkers (2.1 and 2.0 percent).

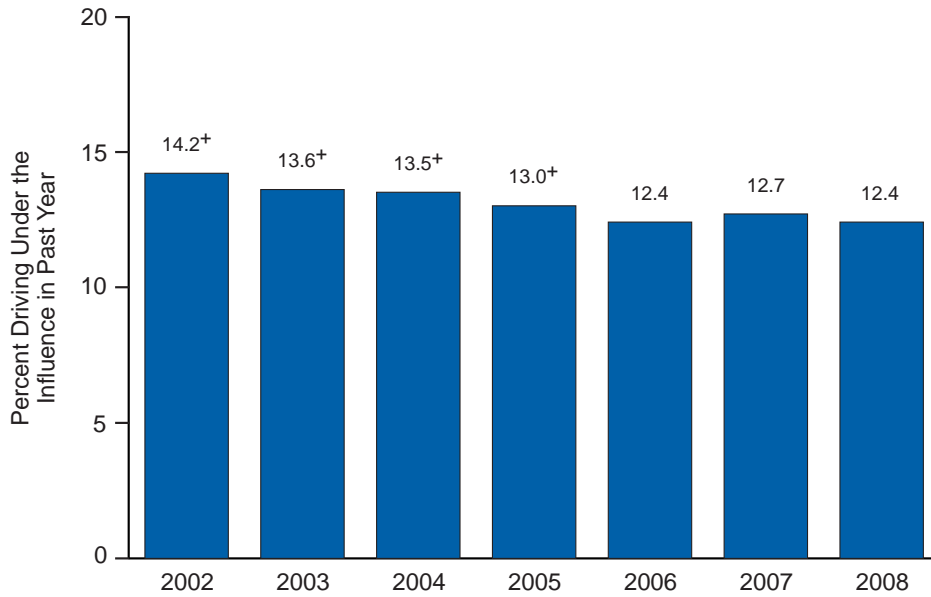
## **Driving Under the Influence of Alcohol**

- In 2008, an estimated 12.4 percent of persons aged 12 or older drove under the influence of alcohol at least once in the past year (Figure 3.4). This percentage has dropped since 2002, when it was 14.2 percent. The 2008 estimate corresponds to 30.9 million persons.
- Driving under the influence of alcohol was associated with age in 2008. An estimated 7.2 percent of 16 or 17 year olds, 16.7 percent of 18 to 20 year olds, and 26.1 percent of 21 to 25 year olds reported driving under the influence of alcohol in the past year (Figure 3.5). Beyond age 25, these rates showed a general decline with increasing age.
- Among persons aged 12 or older, males were more likely than females (16.0 vs. 9.0 percent) to drive under the influence of alcohol in the past year.

## **3.2. Underage Alcohol Use**

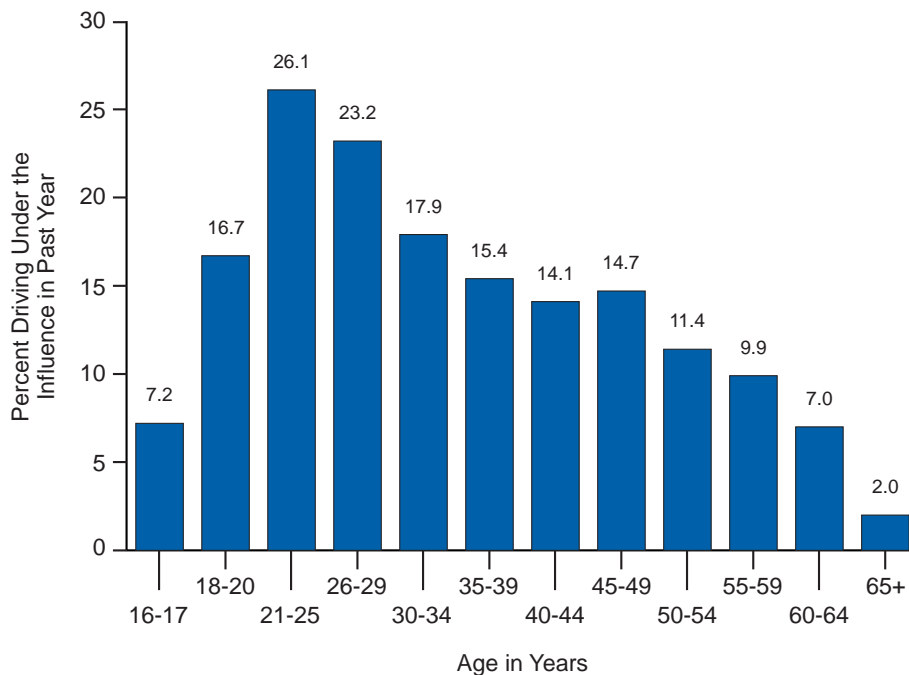
- In 2008, about 10.1 million persons aged 12 to 20 (26.4 percent of this age group) reported drinking alcohol in the past month. Approximately 6.6 million (17.4 percent) were binge drinkers, and 2.1 million (5.5 percent) were heavy drinkers. The rates for current and binge alcohol use are lower than they were in 2007, when they were 27.9 and 18.6 percent, respectively.
- Rates of current, binge, and heavy alcohol use among underage persons declined between 2002 and 2008. Current use dropped from 28.8 to 26.4 percent; binge use declined from 19.3 to 17.4 percent; and heavy use declined from 6.2 to 5.5 percent.
- Past month underage alcohol use rates declined between 2002 and 2008 for specific age categories (12 or 13, 14 or 15, 16 or 17, and 18 to 20) (Figure 3.6).

**Figure 3.4 Driving Under the Influence of Alcohol in the Past Year among Persons Aged 12 or Older: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

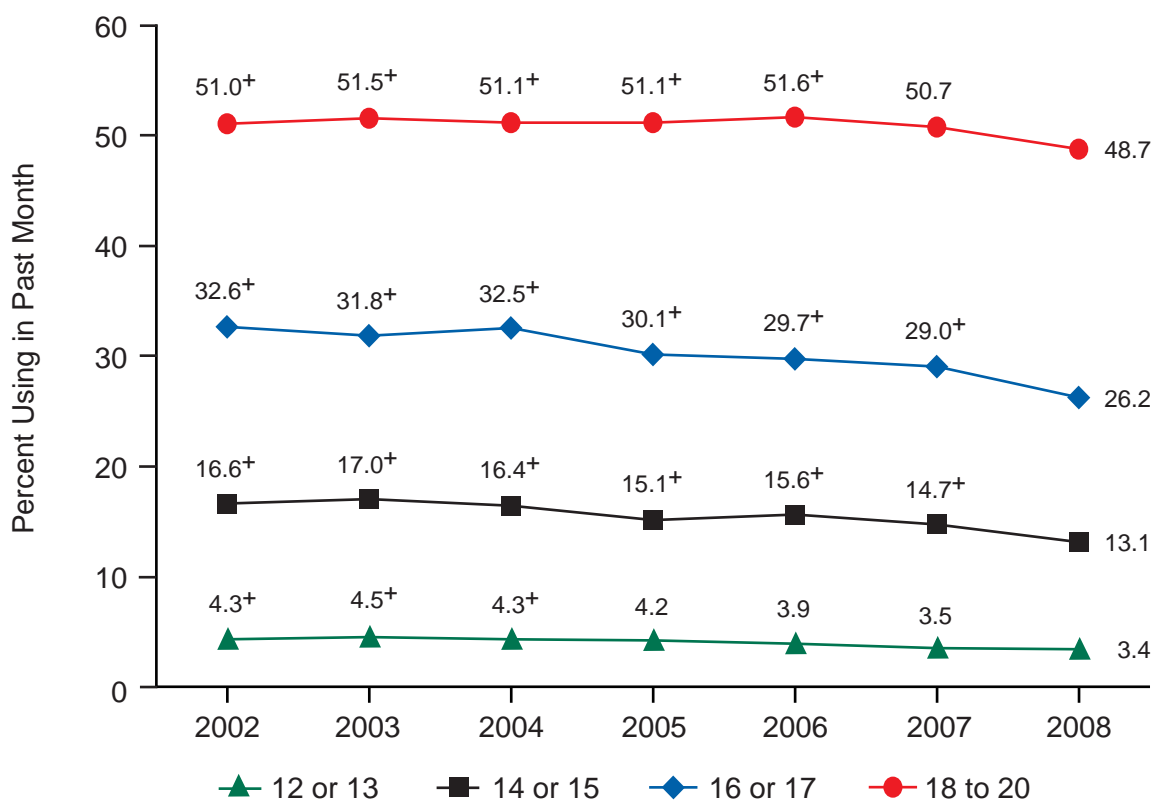
**Figure 3.5 Driving Under the Influence of Alcohol in the Past Year among Persons Aged 16 or Older, by Age: 2008**





- Rates of current alcohol use increased with increasing age among underage persons. In 2008, 3.4 percent of persons aged 12 or 13, 13.1 percent of persons aged 14 or 15, 26.2 percent of 16 or 17 year olds, and 48.7 percent of 18 to 20 year olds drank alcohol during the 30 days before they were surveyed. This pattern has remained stable since 2002 (Figure 3.6).

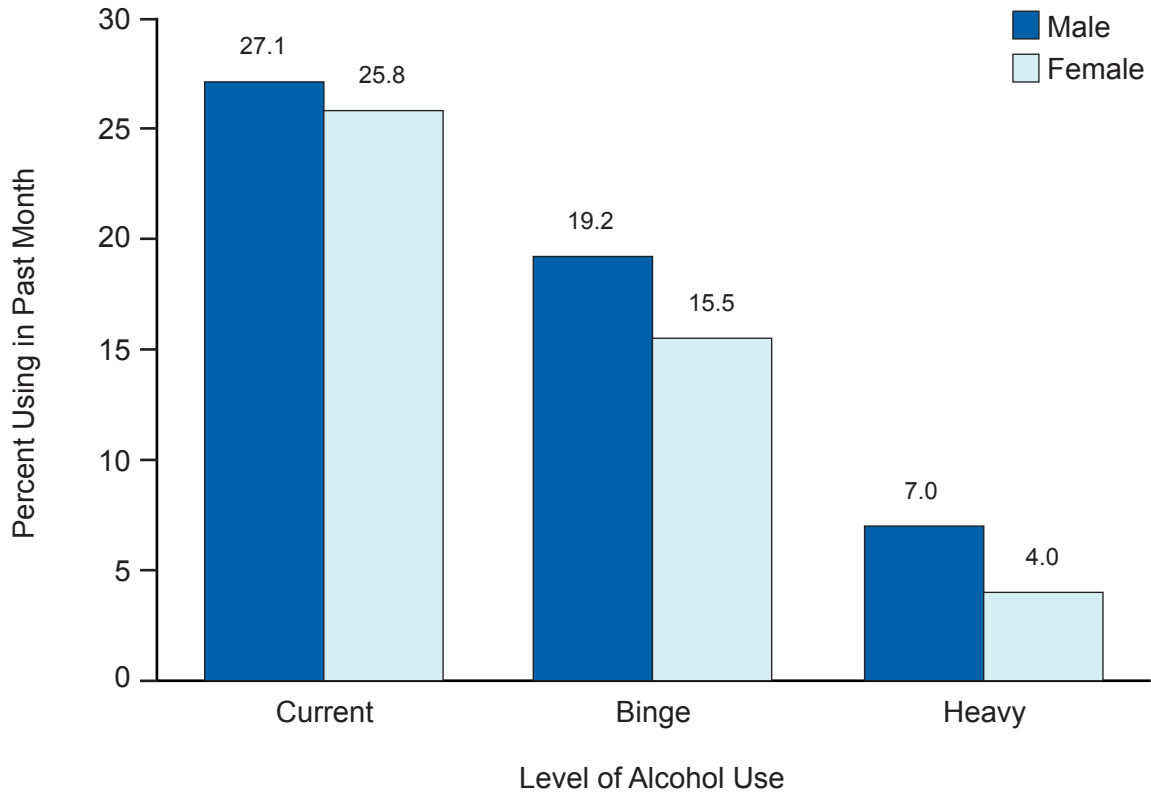
**Figure 3.6 Current Alcohol Use among Persons Aged 12 to 20, by Age: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- More males than females aged 12 to 20 reported binge drinking (19.2 vs. 15.5 percent) and heavy drinking (7.0 vs. 4.0 percent) in 2008 (Figure 3.7). However, rates of current alcohol use were similar by gender (27.1 percent for males and 25.8 percent for females).
- Among persons aged 12 to 20, past month alcohol use rates in 2008 were 17.2 percent among Asians, 19.0 percent among blacks, 22.9 percent among those reporting two or more races, 23.1 percent among Hispanics, 26.4 percent among American Indians or Alaska Natives, and 30.1 percent among whites.
- In 2008, among persons aged 12 to 20, binge drinking was reported by 20.8 percent of whites, followed by 15.1 percent of Hispanics and 15.0 percent of persons reporting two or more races, but only by 9.4 percent of Asians and 9.3 percent of blacks.

**Figure 3.7 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Gender: 2008**



- Across geographic regions in 2008, underage current alcohol use rates were higher in the Northeast (30.0 percent) than in the Midwest (27.1 percent), and both rates were higher than in the South (24.7 percent). The rate in the West (25.8 percent) was similar to rates in the South and Midwest regions, but was significantly lower than the rate in the Northeast.
- In 2008, underage current alcohol use rates were higher in small metropolitan areas (27.9 percent) compared with large metropolitan areas (25.9 percent) and similar in large metropolitan areas and nonmetropolitan areas (25.3 percent). The rate in nonmetropolitan areas decreased from 2007, when it was 28.8 percent.
- In 2008, 81.7 percent of current drinkers aged 12 to 20 were with two or more other people the last time they drank alcohol, 13.6 percent were with one other person the last time they drank, and 4.7 percent were alone.

- A majority of underage current drinkers in 2008 reported that their last use of alcohol in the past month occurred either in someone else's home (56.2 percent) or their own home (29.6 percent). Underage males were more likely than females to have been at a concert or sports game on their last drinking occasion (2.5 vs. 1.1 percent), whereas females were more likely than males to have been in a restaurant, bar, or club on their last drinking occasion (10.3 vs. 7.0 percent).
- Among underage current drinkers in 2008, 30.8 percent paid for the alcohol the last time they drank, including 8.3 percent who purchased the alcohol themselves and 22.3 percent who gave money to someone else to purchase it.
- Among underage drinkers who did not pay for the alcohol the last time they drank, the most common source was an unrelated person aged 21 or older (37.4 percent). Other underage persons provided the alcohol on the last occasion 21.1 percent of the time. Parents, guardians, or other adult family members provided the alcohol 21.0 percent of the time. Other sources of alcohol for underage drinkers included (a) took the alcohol from home (5.8 percent), (b) took it from someone else's home (3.2 percent), and (c) got it some other way (6.9 percent).
- Underage drinkers were more likely than persons aged 21 or older to use illicit drugs within 2 hours of alcohol use on their last reported drinking occasion (17.4 vs. 4.6 percent, respectively). The most commonly reported illicit drug used by underage drinkers in combination with alcohol was marijuana, which was used within 2 hours of alcohol use by 16.5 percent of current underage drinkers (1.6 million persons) on their last drinking occasion.

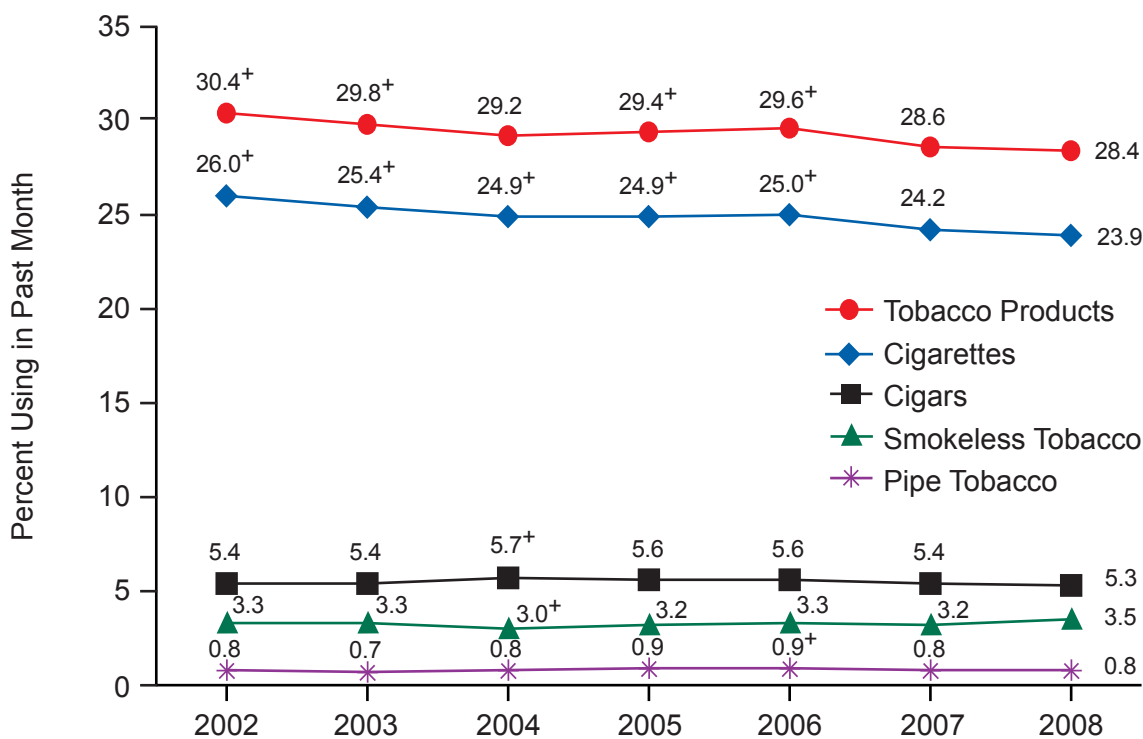


## 4. Tobacco Use

The National Survey on Drug Use and Health (NSDUH) includes a series of questions about the use of tobacco products, including cigarettes, chewing tobacco, snuff, cigars, and pipe tobacco. Cigarette use is defined as smoking "part or all of a cigarette." For analytic purposes, data for chewing tobacco and snuff are combined as "smokeless tobacco."

- In 2008, an estimated 70.9 million Americans aged 12 or older were current (past month) users of a tobacco product. This represents 28.4 percent of the population in that age range. In addition, 59.8 million persons (23.9 percent of the population) were current cigarette smokers; 13.1 million (5.3 percent) smoked cigars; 8.7 million (3.5 percent) used smokeless tobacco; and 1.9 million (0.8 percent) smoked tobacco in pipes (Figure 4.1).

**Figure 4.1 Past Month Tobacco Use among Persons Aged 12 or Older: 2002-2008**



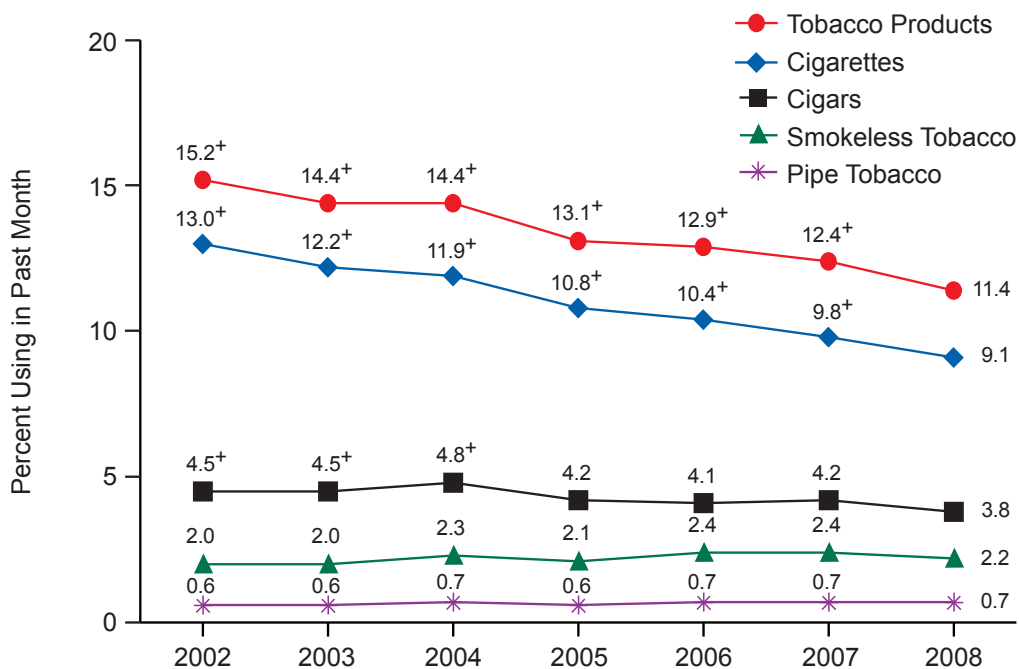
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- The rate of current use of any tobacco product among persons aged 12 or older remained steady from 2007 to 2008 (28.6 and 28.4 percent, respectively). The rates of current use of cigarettes, smokeless tobacco, cigars, and pipe tobacco also did not change significantly over that period. Between 2002 and 2008, past month use of any tobacco product decreased from 30.4 to 28.4 percent, and past month cigarette use declined from 26.0 to 23.9 percent. Rates of past month use of cigars, smokeless tobacco, and pipe tobacco were similar in 2002 and 2008.

## Age

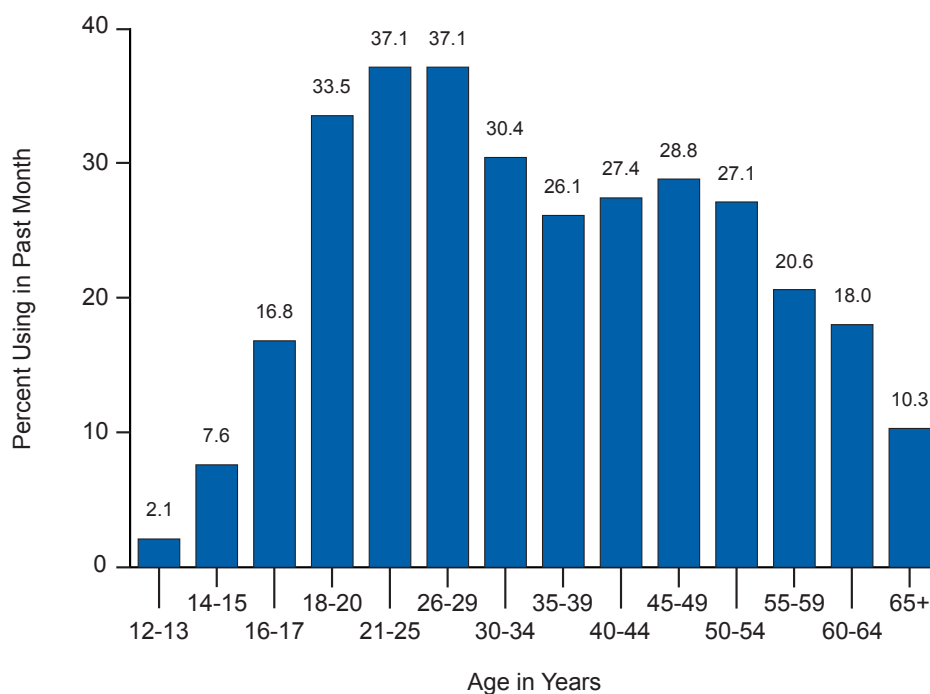
- In 2008, young adults aged 18 to 25 had the highest rate of current use of a tobacco product (41.4 percent) compared with youths aged 12 to 17 and adults aged 26 or older (11.4 and 28.3 percent, respectively). Young adults had the highest usage rates of each of the specific tobacco products as well. In 2008, the rates of past month use among young adults were 35.7 percent for cigarettes, 11.3 percent for cigars, 5.4 percent for smokeless tobacco, and 1.4 percent for pipe tobacco. The rate of current use of a tobacco product by young adults was similar in 2007 and 2008 (41.8 and 41.4 percent, respectively), as was the rate of cigarette use between 2007 and 2008 (36.2 and 35.7 percent, respectively). Between 2002 and 2008, there was a significant decrease in the rates for current use of tobacco products and cigarettes among young adults; in 2002, the rates were 45.3 and 40.8 percent, respectively.
- The rate of past month tobacco use among youths aged 12 to 17 decreased from 12.4 percent in 2007 to 11.4 percent in 2008 (Figure 4.2). This decrease was driven by a decline in the rate of past month cigarette use that was statistically significant (9.8 to 9.1 percent) and a decline in past month cigar use that was not statistically significant (4.2 to 3.8 percent). The rate of past month cigarette use among 12 to 17 year olds declined from 13.0 percent in 2002 to 9.1 percent in 2008. One-half million or 2.2 percent of youths aged 12 to 17 used smokeless tobacco in 2008 compared with 2.0 percent in 2002; this slight increase was not statistically significant.
- In 2008, 2.1 percent of 12 or 13 year olds and 7.6 percent of 14 or 15 year olds were current cigarette smokers (Figure 4.3). The percentage of current cigarette smokers among 16 or 17 year olds dropped from 18.9 percent in 2007 to 16.8 percent in 2008. Across age groups, current cigarette use peaked at 37.1 percent among persons aged 21 to 25 and those aged 26 to 29. About one third of 18 to 20 year olds and one third of 26 to 34 year olds (33.5 and 33.6 percent, respectively) smoked cigarettes in the past month. Less than a quarter (21.6 percent) of persons aged 35 or older in 2008 smoked cigarettes in the past month.

**Figure 4.2 Past Month Tobacco Use among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

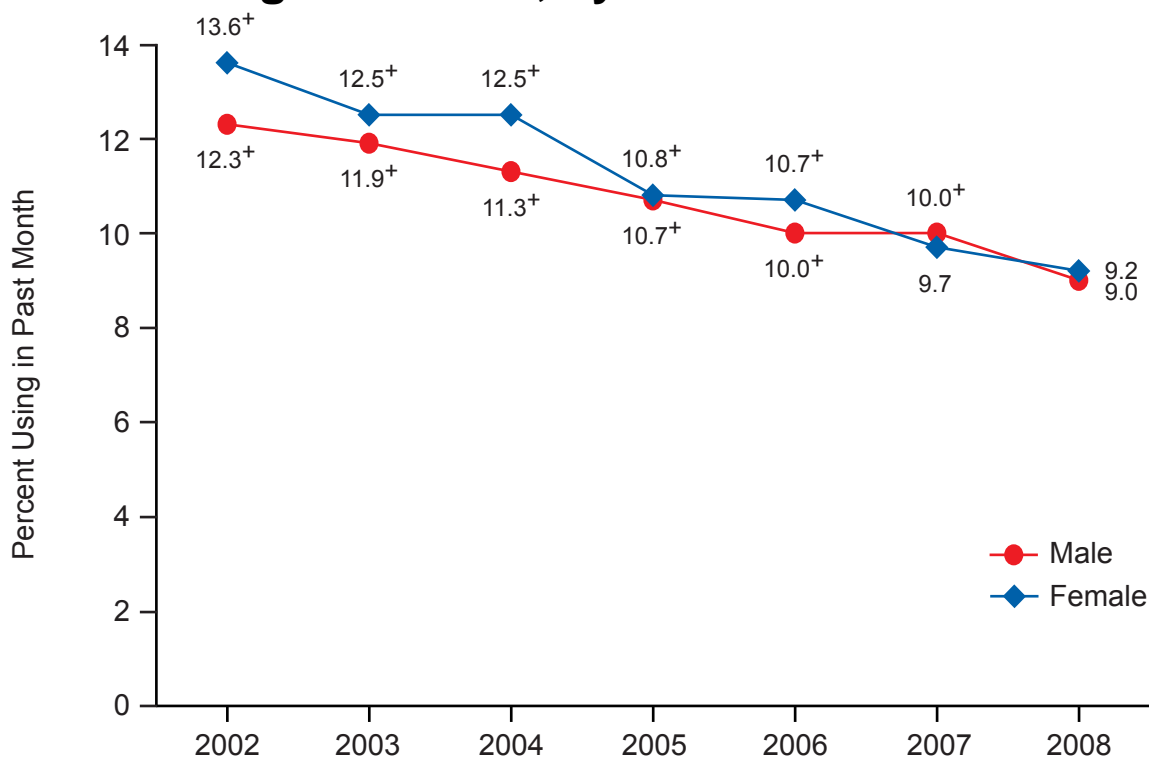
**Figure 4.3 Past Month Cigarette Use among Persons Aged 12 or Older, by Age: 2008**



## Gender

- In 2008, current use of a tobacco product among persons aged 12 or older was reported by a higher percentage of males (34.5 percent) than females (22.5 percent). Males also had higher rates of past month use than females of each specific tobacco product: cigarettes (26.3 percent of males vs. 21.7 percent of females), cigars (9.0 vs. 1.7 percent), smokeless tobacco (6.8 vs. 0.4 percent), and pipe tobacco (1.2 vs. 0.3 percent).
- Among youths aged 12 to 17, the rate of current cigarette smoking in 2008 did not differ significantly by gender (9.0 percent for males vs. 9.2 percent for females). The rate declined for both males and females between 2007 and 2008 (10.0 vs. 9.0 percent for males and 9.7 vs. 9.2 percent for females), although the decline for females was not statistically significant. From 2002 to 2008, the rate of current cigarette smoking among youths decreased for both males (from 12.3 to 9.0 percent) and females (from 13.6 to 9.2 percent) (Figure 4.4).

**Figure 4.4 Past Month Cigarette Use among Youths Aged 12 to 17, by Gender: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

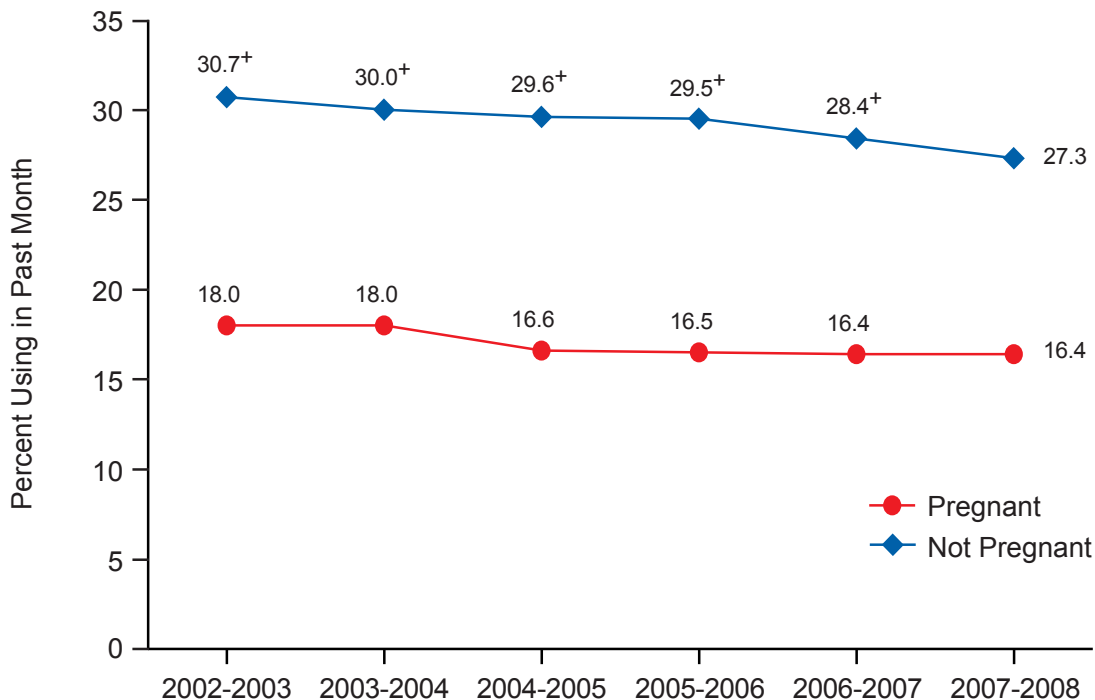
- After dropping from 34.9 percent in 2006 to 31.8 percent in 2007, the rate of current cigarette smoking among female young adults aged 18 to 25 held steady at 31.8 percent in 2008. Between 2002 and 2008, the rate of cigarette use among young adults declined for both males (from 44.4 to 39.5 percent) and females (from 37.1 to 31.8 percent).



## Pregnant Women

- Among women aged 15 to 44, combined data for 2007 and 2008 indicated that the rate of past month cigarette use was lower among those who were pregnant (16.4 percent) than it was among those who were not pregnant (27.3 percent). This pattern was also evident among women aged 18 to 25 (22.1 vs. 32.3 percent for pregnant and nonpregnant women, respectively) and among women aged 26 to 44 (12.6 vs. 27.4 percent, respectively). However, among those aged 15 to 17, the rate of cigarette smoking was higher for pregnant women than nonpregnant women (20.6 vs. 14.7 percent), although the difference was not statistically significant.
- Two-year moving average rates from 2002-2003 to 2007-2008 indicate that current cigarette use among women aged 15 to 44 decreased from 30.7 to 27.3 percent for those who were not pregnant and from 18.0 to 16.4 percent for those who were pregnant, although the latter difference was not statistically significant (Figure 4.5).

**Figure 4.5 Past Month Cigarette Use among Women Aged 15 to 44, by Pregnancy Status: Combined Years 2002-2003 to 2007-2008**



<sup>+</sup> Difference between this estimate and the 2007-2008 estimate is statistically significant at the .05 level.

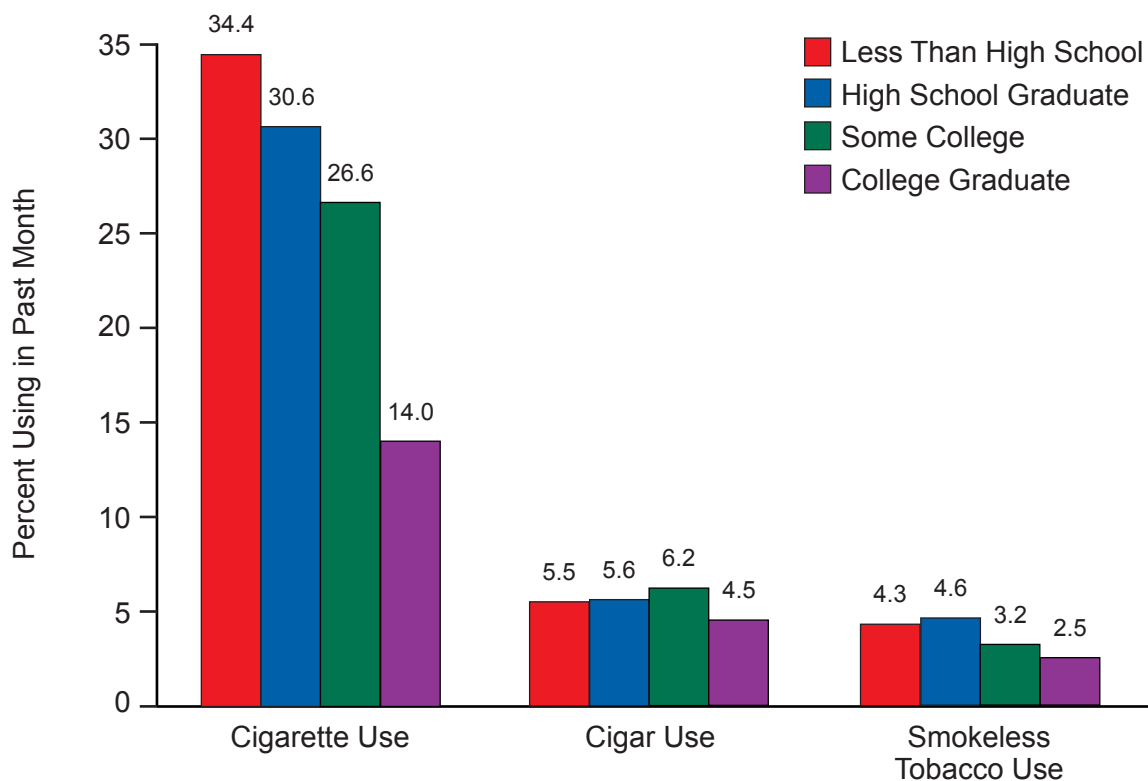
## **Race/Ethnicity**

- In 2008, the prevalence of current use of a tobacco product among persons aged 12 or older was 13.9 percent for Asians, 21.3 percent for Hispanics, 28.6 percent for blacks, 30.4 percent for whites, 37.3 percent for persons who reported two or more races, and 48.7 percent for American Indians or Alaska Natives. There were no statistically significant changes in past month use of a tobacco product between 2007 and 2008 for any of these racial/ethnic groups. Among the specific tobacco products, smokeless tobacco use in the past month among blacks increased from 0.7 percent in 2007 to 1.4 percent in 2008.
- In 2008, current cigarette smoking among youths aged 12 to 17 and young adults aged 18 to 25 was more prevalent among whites than blacks (10.6 vs. 5.0 percent for youths and 40.6 vs. 26.3 percent for young adults).
- The current smoking rates for Hispanics were 7.9 percent among youths aged 12 to 17, 30.0 percent among young adults aged 18 to 25, and 19.1 percent among those aged 26 or older.
- The smoking rate for Asian young adults aged 18 to 25 fell from 25.7 percent in 2007 to 18.0 percent in 2008. The rates for Asian youths aged 12 to 17 and adults aged 26 or older held steady between 2007 and 2008 (3.4 to 3.8 percent for youths and 13.5 to 11.8 percent for adults, respectively).
- The smoking prevalence rate declined for white youths aged 12 to 17 from 12.2 percent in 2007 to 10.6 percent in 2008. This decrease occurred for both male and female youths: 11.7 to 10.1 percent for white males, and 12.7 to 11.2 percent for white females.

## **Education**

- As observed from 2002 onward, cigarette smoking in the past month was less prevalent among adults who were college graduates compared with those with less education. Among adults aged 18 or older, current cigarette use in 2008 was reported by 34.4 percent of those who had not completed high school, 30.6 percent of high school graduates who did not attend college, 26.6 percent of persons with some college, and 14.0 percent of college graduates (Figure 4.6).
- In 2008, the use of smokeless tobacco in the past month was reported by 4.3 percent of persons aged 18 or older who had not completed high school, 4.6 percent of those who completed high school but did not attend college, and 3.2 percent of those who attended some college. The prevalence among college graduates, 2.5 percent, was lower than among those who had not completed high school and those who had completed high school but had not attended college. Among college graduates aged 18 to 25, the use of smokeless tobacco increased from 2.9 percent in 2007 to 4.3 percent in 2008.

**Figure 4.6 Past Month Tobacco Use among Adults Aged 18 or Older, by Education: 2008**



### College Students

- Among young adults 18 to 22 years old, full-time college students were less likely to be current cigarette smokers than their peers who were not enrolled full time in college. Cigarette use in the past month in 2008 was reported by 27.2 percent of full-time college students, less than the rate of 40.6 percent for those not enrolled full time.
- Among males aged 18 to 22 in 2008, full-time college students and those not enrolled full time in college did not differ significantly in their rates of past month cigar smoking (18.0 and 18.5 percent, respectively). However, cigar use by males in this age range who were not enrolled full time in college declined from 2007 (21.7 percent) to 2008 (18.5 percent).

### Employment

- In 2008, current cigarette smoking was more common among unemployed adults aged 18 or older than among adults who were working full time or part time (43.0 vs. 27.2 and 23.8 percent, respectively). Cigar smoking followed a similar pattern, with 9.8 percent of unemployed adults reporting past month use compared with 6.4 percent of full-time workers and 5.5 percent of part-time workers.

- Current use of smokeless tobacco in 2008 was higher among adults aged 18 or older who were employed full time (4.8 percent) and those who were unemployed (4.9 percent) than among adults who were employed part time (1.8 percent) and those in the "other" employment category, which includes persons not in the labor force (2.0 percent).

### **Geographic Area**

- In 2008, current cigarette smoking among persons aged 12 or older was lower in the West (21.0 percent) and Northeast (22.2 percent) than in the South (25.5 percent) and Midwest (25.9 percent). Use of smokeless tobacco was also higher in the Midwest and South (3.9 and 4.4 percent, respectively) than in the West (2.8 percent), which in turn was higher than in the Northeast (2.1 percent).
- Among persons aged 12 or older, the rate of current cigarette use was associated with county type in 2008. The rates of cigarette smoking were 22.6 percent in large metropolitan areas, 23.6 percent in small metropolitan areas, and 28.7 percent in nonmetropolitan areas.
- Use of smokeless tobacco in the past month in 2008 among persons aged 12 or older was lowest in large metropolitan areas (2.1 percent). In small metropolitan areas, the rate was 4.0 percent; in nonmetropolitan areas, it was 6.9 percent.

### **Association with Illicit Drug and Alcohol Use**

- Use of illicit drugs and alcohol was more common among current cigarette smokers than among nonsmokers in 2008, as in prior years since 2002. Among persons aged 12 or older, 20.4 percent of past month cigarette smokers reported current use of an illicit drug compared with 4.2 percent of persons who were not current cigarette smokers. Past month alcohol use was reported by 67.4 percent of current cigarette smokers compared with 46.7 percent of those who did not use cigarettes in the past month. The association also was found with binge drinking (44.6 percent of current cigarette smokers vs. 16.5 percent of current nonsmokers) and heavy drinking (16.8 vs. 3.8 percent, respectively).

### **Frequency of Cigarette Use**

- Among the 59.8 million current cigarette smokers aged 12 or older in 2008, 36.9 million (61.7 percent) used cigarettes daily. The percentage of daily cigarette smokers increased with age, with 22.3 percent among past month cigarette users aged 12 to 17, 48.1 percent among those aged 18 to 25, and 67.1 percent among those aged 26 or older. Daily cigarette use among current smokers in the 12 to 17 year age group dropped from 26.3 percent in 2007 to 22.3 percent in 2008.
- About half (49.1 percent) of daily smokers aged 12 or older reported smoking 16 or more cigarettes per day; this is approximately one pack or more. The percentage of daily smokers who smoked at least one pack of cigarettes per day increased with age from 18.4 percent among those aged 12 to 17 to 32.1 percent among those aged 18 to 25 to 52.8 percent among those aged 26 or older.

## 5. Initiation of Substance Use

Information on substance use initiation, also known as incidence or first-time use, is important for policymakers and researchers. Measures of initiation are often leading indicators of emerging patterns of substance use. They provide valuable information that can be used to assess the effectiveness of current prevention programs and to focus prevention efforts.

With its large sample size and oversampling of youths aged 12 to 17 and young adults aged 18 to 25, the National Survey on Drug Use and Health (NSDUH) provides a variety of estimates related to substance use (illicit drugs, cigarettes, and alcohol) initiation based on reported age and on year and month at first use. This chapter presents estimates of initiation occurring in the 12 months prior to the interview date. Individuals who initiated use within the past 12 months are referred to as recent or past year initiates. One caveat of this approach is that because the survey interviews persons aged 12 or older and asks about the past 12 months, the initiation estimates will represent some, but not all, of the initiation at age 11 and no initiation occurring at age 10 or younger. This underestimation problem primarily affects estimates of initiation for cigarettes, alcohol, and inhalants because they tend to be initiated at a younger age than other substances. See Section B.4.1 in Appendix B for further discussion of the methods and bias in initiation estimates.

This chapter includes estimates of the number and rate of past year initiation of illicit drug, cigarette, and alcohol use among the total population aged 12 or older and by age and gender categories from the 2002 to 2008 NSDUHs. Also included are initiation estimates that pertain to persons at risk for initiation (i.e., those who had never used as of 12 months prior to the interview date). Some analyses are based on the ages at the time of interview, and others focus on the age at the time of first substance use. Readers need to be aware of these alternative estimation approaches when interpreting NSDUH incidence estimates and pay close attention to the approach used in each situation. Titles and notes on figures and associated detailed tables document which method applies.

For trend measurement, initiation estimates for each year (2002 to 2008) are produced independently based on the data from the survey conducted that year. It should be mentioned that trend estimates of incidence based on long recall periods have not been considered because of concerns about their validity (Gfroerer, Hughes, Chromy, Heller, & Packer, 2004).

Regarding the age at first use estimates, means, as measures of central tendency, are heavily influenced by the presence of extreme values in the data. Thus, for the purposes of this report and unless specified otherwise, the mean age at initiation pertains to persons aged 12 to 49. This constraint was implemented so that the mean age estimates reported would not be influenced by those few respondents who were past year initiates at age 50 or older. Note that this constraint only affects estimates of mean age at initiation; other estimates in this chapter, including the number and prevalence of past year initiates, are among all persons aged 12 or older.

Another important consideration in examining incidence estimates across different drug categories is that substance users typically initiate use of different substances at different times in

their lives. Thus, the estimates for past year initiation of specific illicit drugs cannot be added to obtain the overall number of illicit drug initiates because some of the initiates previously had used other drugs. The overall illicit drug initiation estimate only includes the past year initiation of specific drug use that was not preceded by use of other drugs. For example, a respondent who reported initiating marijuana use in the past 12 months is counted as a marijuana initiate. The same respondent also can be counted as an overall illicit drug initiate only if his or her marijuana use initiation was not preceded by use of any other drug (cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, or sedatives). To say it differently, the overall illicit drug initiation estimate only takes into account the first drug initiated. To help clarify this aspect of the incidence data, additional analyses have been generated to identify which specific illicit drug was used at the time of first use of any illicit drug. Furthermore, the overall illicit drug use initiation estimates in this chapter are based on data only from the core section of the questionnaire and do not take account of data from new items on the initiation of methamphetamine use that were added to the noncore section beginning in 2007. See Section B.4.8 in Appendix B of this report for details.

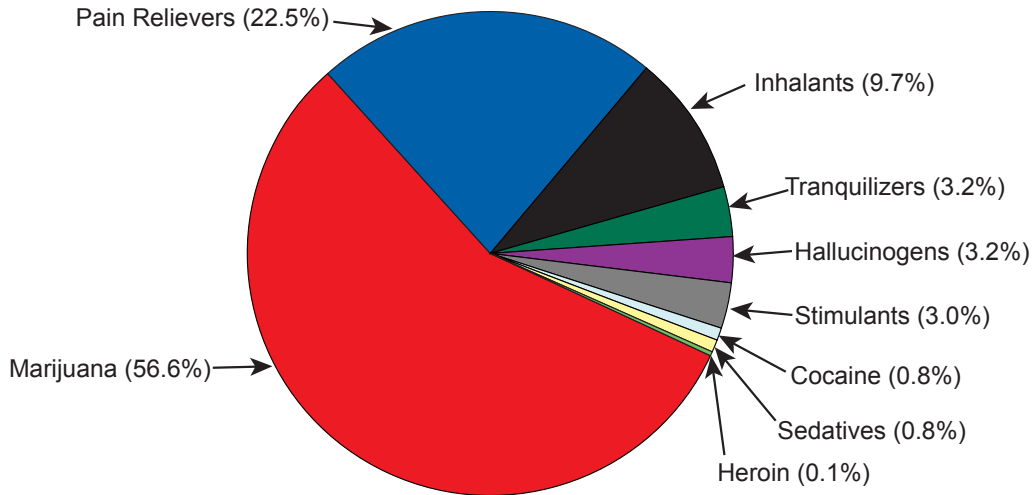
### **Initiation of Illicit Drug Use**

- In 2008, an estimated 2.9 million persons aged 12 or older used an illicit drug for the first time within the past 12 months; this averages to almost 8,000 initiates per day. This estimate was not significantly different from the number in 2007 (2.7 million). About three fifths of initiates (56.7 percent) were younger than age 18 when they first used, and 54.9 percent of new users were female. The average age at initiation among persons aged 12 to 49 was 18.8 years.
- In 2008, of the 2.9 million persons aged 12 or older who used illicit drugs for the first time within the past 12 months, a majority reported that their first drug was marijuana (56.6 percent) (Figure 5.1). Nearly one third initiated with psychotherapeutics (29.6 percent, including 22.5 percent with pain relievers, 3.2 percent with tranquilizers, 3.0 percent with stimulants, and 0.8 percent with sedatives). A sizable proportion reported inhalants (9.7 percent) as their first drug, and a small proportion used hallucinogens as their first illicit drug (3.2 percent). Between 2007 and 2008, the percentage of past year illicit drug initiates whose first drug was tranquilizers decreased from 6.5 to 3.2 percent, while the percentage whose first drug was inhalants decreased between 2003 and 2008 from 12.9 to 9.7 percent.

### **Comparison, by Drug**

- In 2008, the specific drug categories with the largest number of recent initiates among persons aged 12 or older were marijuana use (2.2 million) and nonmedical use of pain relievers (2.2 million), followed by nonmedical use of tranquilizers (1.1 million), Ecstasy (0.9 million), inhalants (0.7 million), cocaine (0.7 million), and stimulants (0.6 million) (Figure 5.2).

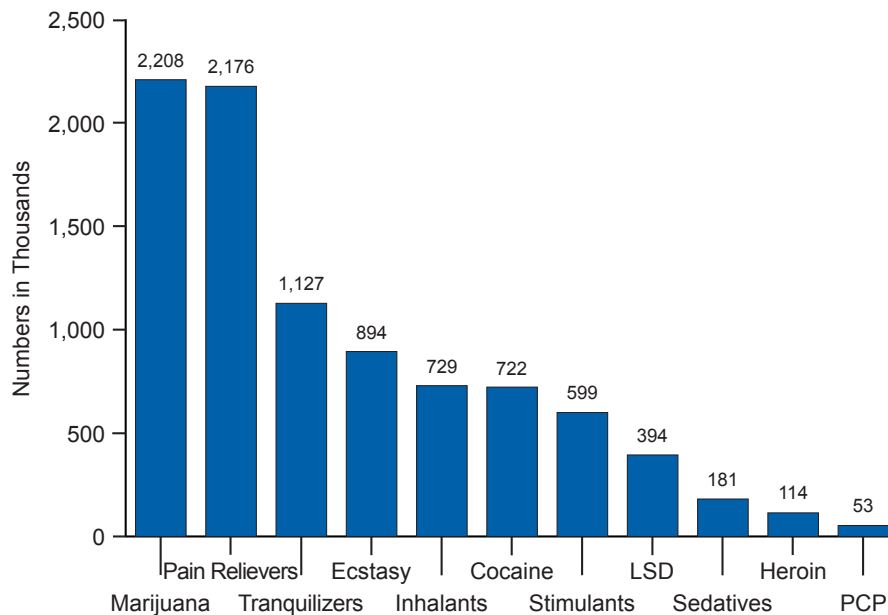
**Figure 5.1 Specific Drug Used When Initiating Illicit Drug Use among Past Year Initiates of Illicit Drugs Aged 12 or Older: 2008**



2.9 Million Initiates of Illicit Drugs

Note: The percentages do not add to 100 percent due to rounding or because a small number of respondents initiated multiple drugs on the same day.

**Figure 5.2 Past Year Initiates for Specific Illicit Drugs among Persons Aged 12 or Older: 2008**

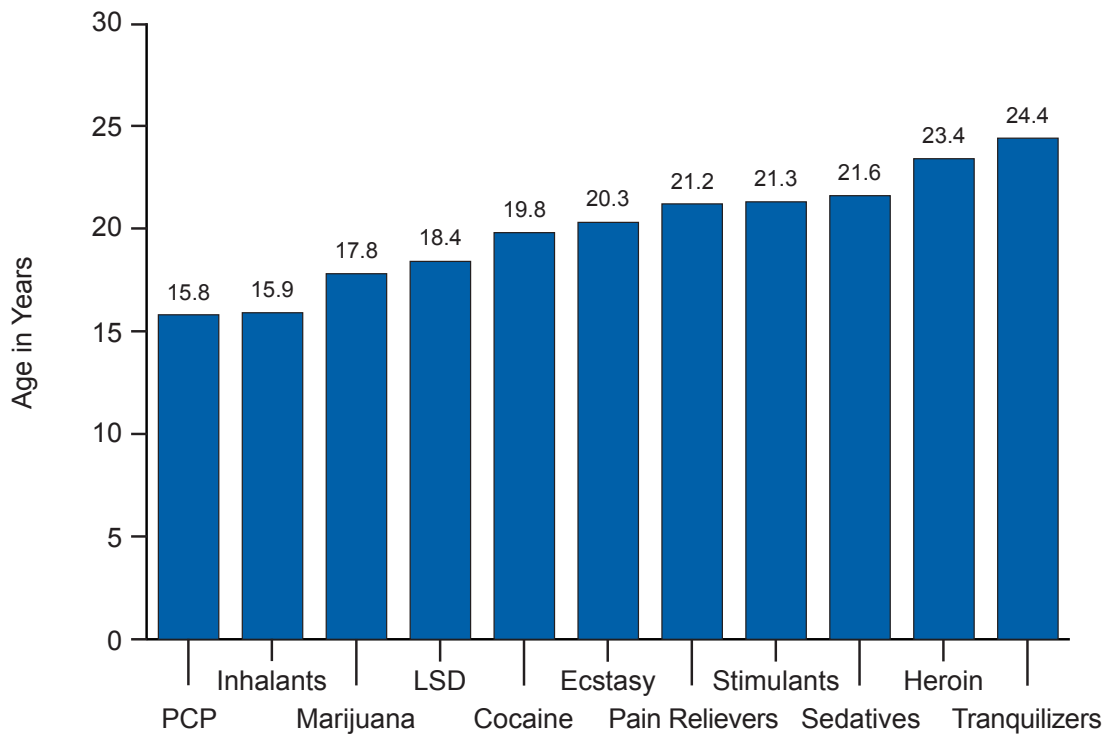


- Among persons aged 12 to 49, the average age at first use of inhalants in 2008 was 15.9 years; it was 17.8 years for marijuana, 19.8 years for cocaine, 20.3 years for Ecstasy, 21.2 years for pain relievers, and 24.4 years for tranquilizers (Figure 5.3).

### Marijuana

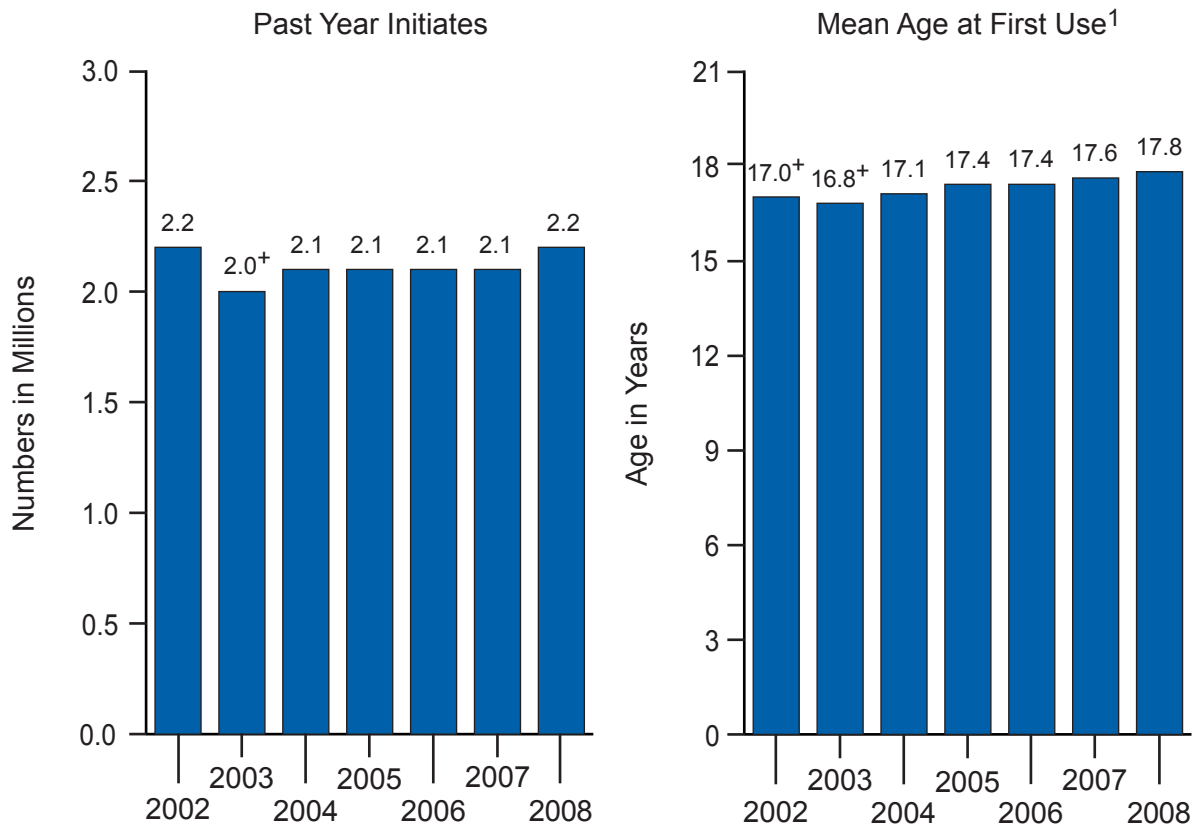
- In 2008, there were 2.2 million persons aged 12 or older who had used marijuana for the first time within the past 12 months; this averages to about 6,000 initiates per day. This estimate was about the same as the estimate in 2007 (2.1 million) and 2002 (2.2 million) (Figure 5.4).
- Most (61.8 percent) of the 2.2 million recent marijuana initiates were younger than age 18 when they first used. Among youths aged 12 to 17, an estimated 5.0 percent had used marijuana for the first time within the past year, similar to the rate in 2007 (4.6 percent).
- As a percentage of those aged 12 to 17 who had not used marijuana prior to the past year, the youth marijuana initiation rate in 2008 (5.6 percent) was similar to the rate in 2007 (5.2 percent).

**Figure 5.3 Mean Age at First Use for Specific Illicit Drugs among Past Year Initiates Aged 12 to 49: 2008**





**Figure 5.4 Past Year Marijuana Initiates among Persons Aged 12 or Older and Mean Age at First Use of Marijuana among Past Year Marijuana Initiates Aged 12 to 49: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

<sup>1</sup> Mean-age-at-first-use estimates are for recent initiates aged 12 to 49.

- In 2008, the average age at first marijuana use among recent initiates aged 12 to 49 was 17.8 years, which was similar to the average in 2007 (17.6 years) (Figure 5.4). However, the average age at first marijuana use has increased since 2003, when it was 16.8 years. Among recent initiates aged 12 or older who initiated use prior to the age of 21, the mean age at first use was 16.1 years in 2008, which was not significantly different from the estimate (16.2 years) in 2007.

## Cocaine

- In 2008, there were 722,000 persons aged 12 or older who had used cocaine for the first time within the past 12 months; this averages to approximately 2,000 initiates per day. This estimate was significantly lower than the number in 2007 (906,000). The annual number of cocaine initiates declined from 1.0 million in 2002 to 722,000 in 2008.
- Most (66.9 percent) of the 0.7 million recent cocaine initiates were 18 or older when they first used. The average age at first use among recent initiates aged 12 to 49 was 19.8 years, which was similar to the average age in 2007 (20.2 years).

## Heroin

- In 2008, there were 114,000 persons aged 12 or older who had used heroin for the first time within the past 12 months. The average age at first use among recent initiates aged 12 to 49 was 23.4 years in 2008. There were no significant changes in the number of initiates or in the average age at first use from 2007 to 2008. The number of heroin initiates was not significantly different from the number in 2002 (117,000).

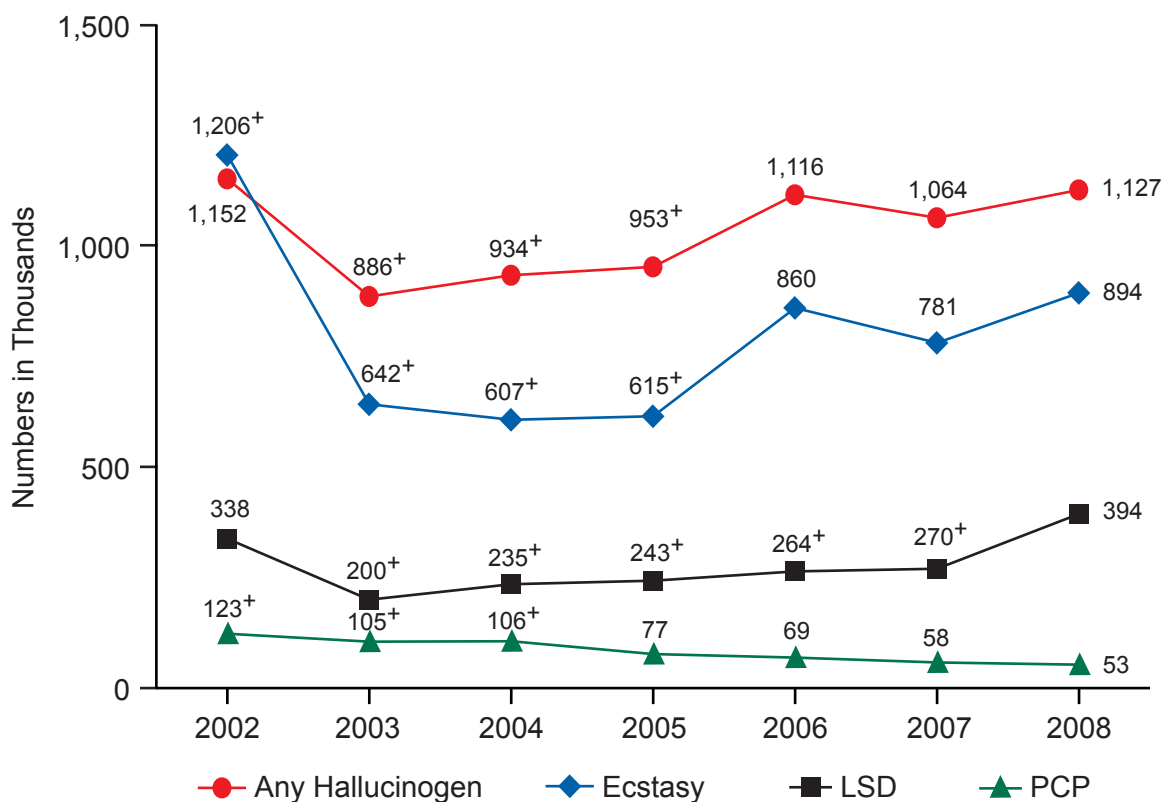
## Hallucinogens

- In 2008, there were 1.1 million persons aged 12 or older who had used hallucinogens for the first time within the past 12 months (Figure 5.5). This estimate was not significantly different from the estimate in 2007, but was higher than the estimate for 2003 (886,000).
- Past year initiates of LSD aged 12 or older increased from 270,000 in 2007 to 394,000 in 2008, approximately doubling since 2003, when the estimate was 200,000. Past year initiates of PCP decreased from 123,000 in 2002 to 53,000 in 2008 (Figure 5.5).
- There was no significant change in the number of past year initiates of Ecstasy between 2007 (781,000) and 2008 (894,000) (Figure 5.5). The number of past year Ecstasy initiates in 2008, however, was significantly higher than the estimates in 2003 (642,000), 2004 (607,000), and 2005 (615,000). The estimate had been 1.2 million in 2002, significantly higher than in 2008. Most (68.5 percent) of the recent Ecstasy initiates in 2008 were aged 18 or older at the time they first used Ecstasy. Among past year initiates aged 12 to 49, the average age at initiation of Ecstasy in 2008 was 20.3 years, similar to the average age in 2007 (20.2 years).

## Inhalants

- In 2008, there were 729,000 persons aged 12 or older who had used inhalants for the first time within the past 12 months; 70.4 percent were under age 18 when they first used. There was no significant difference in the number of inhalant initiates between 2007 and 2008, but the 2008 estimate was significantly below the number in 2003 (871,000), 2004 (857,000), and 2005 (877,000). However, there was a significant decrease in the average age at first use among recent initiates aged 12 to 49 from 2007 (17.1 years) to 2008 (15.9 years).

**Figure 5.5 Past Year Hallucinogen Initiates among Persons Aged 12 or Older: 2002-2008**



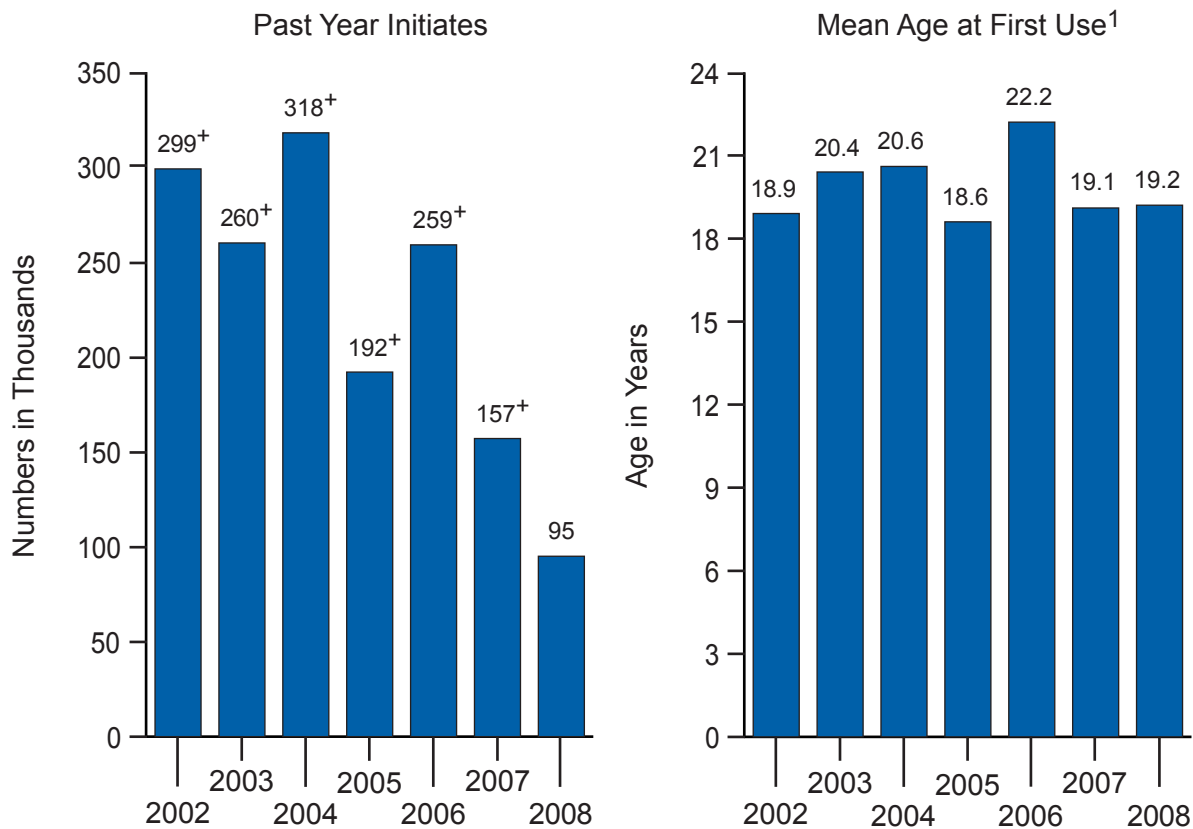
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

### Psychotherapeutics

- Psychotherapeutics include the nonmedical use of any prescription-type pain relievers, tranquilizers, stimulants, or sedatives. Over-the-counter substances are not included. In 2008, there were 2.5 million persons aged 12 or older who used psychotherapeutics nonmedically for the first time within the past year, which averages out to around 7,000 initiates per day. This annual estimate of the initiates of psychotherapeutics was significantly lower than the 2004 estimate (2.8 million). In 2008, the numbers of new users of specific classes of psychotherapeutics were 2.2 million for pain relievers, 1.1 million for tranquilizers, 599,000 for stimulants, and 181,000 for sedatives. There was a significant decrease in the number of past year initiates of stimulants from 2006 (845,000) to 2008 (599,000), but there were no significant changes in the estimates for the remaining psychotherapeutics between these years.
- In 2008, the average age at first nonmedical use of any psychotherapeutics among recent initiates aged 12 to 49 was 22.0 years. More specifically, it was 21.2 years for pain relievers, 24.4 years for tranquilizers, 21.3 years for stimulants, and 21.6 years for sedatives.

- In 2008, the number of new nonmedical users of OxyContin<sup>®</sup> aged 12 or older was 478,000, with an average age at first use of 21.8 years among those aged 12 to 49. These estimates are similar to those for 2007 (554,000 and 24.0 years, respectively). OxyContin<sup>®</sup> initiation declined between 2004 (615,000) and 2008.
- The number of recent new users of methamphetamine among persons aged 12 or older was 95,000 in 2008 (Figure 5.6). This estimate was significantly lower than the estimate in 2002 (299,000), 2003 (260,000), 2004 (318,000), 2005 (192,000), 2006 (259,000), and 2007 (157,000). The average age of new methamphetamine users aged 12 to 49 in 2008 was 19.2 years, which was not significantly different from the average ages between 2002 and 2007.

**Figure 5.6 Past Year Methamphetamine Initiates among Persons Aged 12 or Older and Mean Age at First Use of Methamphetamine among Past Year Methamphetamine Initiates Aged 12 to 49: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

<sup>1</sup> Mean-age-at-first-use estimates are for recent initiates aged 12 to 49.

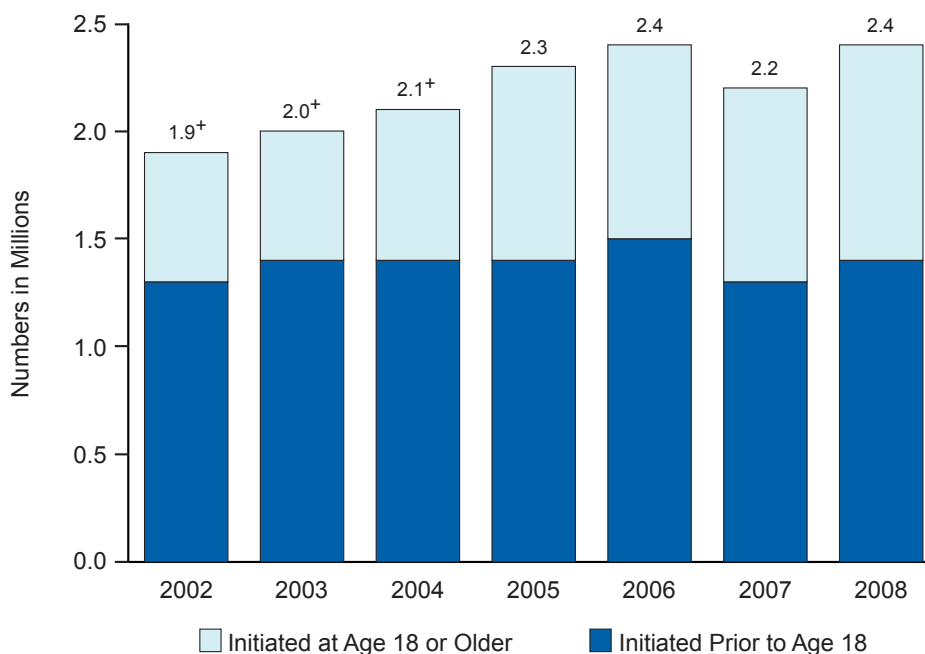
## Alcohol

- In 2008, there were 4.5 million persons aged 12 or older who had used alcohol for the first time within the past 12 months; this averages to approximately 12,000 initiates per day.
- Most (84.6 percent) of the 4.5 million recent alcohol initiates were younger than age 21 at the time of initiation.
- In 2008, the average age at first alcohol use among recent initiates aged 12 to 49 was 17.0 years, similar to the corresponding 2007 estimate (16.8 years). The mean age at first use among recent initiates aged 12 or older who initiated use prior to the age of 21 was 15.9 years, which was similar to the 2007 estimate (15.8 years).

## Tobacco

- The number of persons aged 12 or older who smoked cigarettes for the first time within the past 12 months was 2.4 million in 2008, which was similar to the estimate in 2007 (2.2 million) but significantly higher than the estimate for 2002 (1.9 million), 2003 (2.0 million), and 2004 (2.1 million) (Figure 5.7). The 2008 estimate averages out to approximately 6,600 new cigarette smokers every day. Most new cigarette smokers in 2008 were under age 18 when they first smoked cigarettes (58.8 percent).

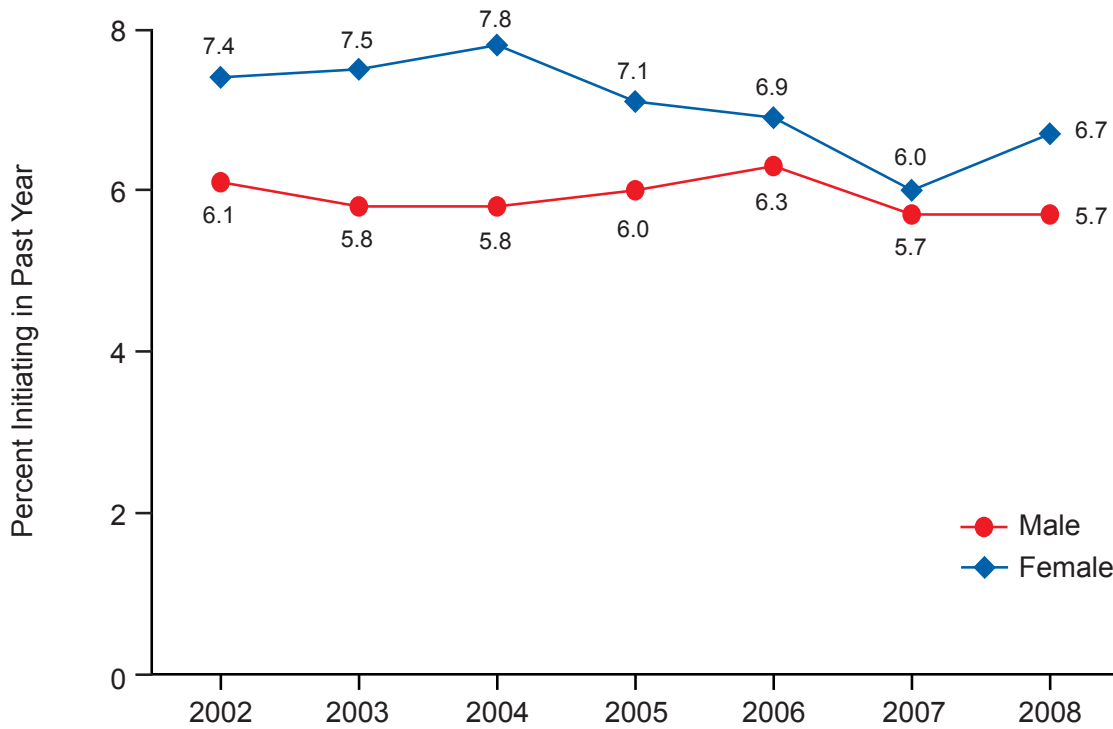
**Figure 5.7 Past Year Cigarette Initiates among Persons Aged 12 or Older, by Age at First Use: 2002-2008**



+ Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- The increase in cigarette initiation was due primarily to an increase among persons initiating at age 18 or older. Between 2002 and 2008, the number of initiates under age 18 remained stable (1.3 million in 2002 and 1.4 million in 2008), but the number of initiates aged 18 or older increased from about 600,000 to 1 million.
- In 2008, among recent initiates aged 12 to 49, the average age of first cigarette use was 17.4 years, similar to the average in 2007 (16.9 years).
- Of those aged 12 or older who had not smoked cigarettes prior to the past year, the past year initiation rate for cigarettes was 2.7 percent in 2008, similar to the rate in 2007 (2.5 percent). Among youths aged 12 to 17 years who had not smoked cigarettes prior to the past year, the incidence rate showed no significant difference between 2007 (5.9 percent) and 2008 (6.2 percent). Among males aged 12 to 17 who had never smoked prior to the past year, the decrease in the past year initiation rate from 6.1 percent in 2002 to 5.7 percent in 2008 was not statistically significant (Figure 5.8). Similarly for females, the decrease from 7.4 percent in 2002 to 6.7 percent in 2008 was not statistically significant.
- In 2008, the number of persons aged 12 or older who had started smoking cigarettes daily within the past 12 months was 0.9 million. This estimate was similar to the estimates for 2002 (1.0 million) and 2007 (1.0 million). Of the new daily smokers in 2008, 37.2 percent, or 350,000 persons, were younger than age 18 when they started smoking daily. This figure averages to approximately 1,000 initiates of daily smoking under age 18 every day.
- The average age of first daily smoking among new daily smokers aged 12 to 49 in 2008 was 20.1 years. This was not significantly different from the average in 2007 (19.2 years).
- In 2008, there were 2.9 million persons aged 12 or older who had used cigars for the first time in the past 12 months, which was similar to the 2007 estimate (3.1 million). However, the 2008 estimate reflects a significant decrease when compared with the 2005 estimate (3.3 million). Among past year cigar initiates aged 12 to 49, the average age at first use was 20.0 years in 2008, which was not significantly different from the estimate in 2007 (20.5 years).
- The number of persons aged 12 or older initiating use of smokeless tobacco in the past year was 1.4 million in 2008, which was not significantly different from the estimate in 2006 (1.3 million) and 2007 (1.3 million). However, the estimated number of past year initiates of smokeless tobacco use in 2008 was 47 percent higher than the estimate in 2002 (951,000). About three quarters (72.5 percent) of new initiates in 2008 were male, and a little less than half (47.4 percent) were under age 18 when they first used.
- The average age at first smokeless tobacco use among recent initiates aged 12 to 49 in 2008 was 18.9 years, which was not significantly different from the 2007 estimate (18.0 years). For males, the 2008 estimate of this average age (18.8 years) was significantly higher than the 2007 estimate (17.4 years). However, for females, the 2007 and 2008 age at first use estimates (19.7 and 19.0 years, respectively) did not significantly differ.

**Figure 5.8 Past Year Cigarette Initiation among Youths Aged 12 to 17 Who Had Never Smoked Prior to the Past Year, by Gender: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.





## 6. Youth Prevention-Related Measures

The National Survey on Drug Use and Health (NSDUH) includes questions for youths aged 12 to 17 about a number of risk and protective factors that may affect the likelihood that they will engage in substance use. Risk factors are individual characteristics and environmental influences associated with an increased vulnerability to the initiation, continuation, or escalation of substance use. Protective factors include individual resilience and other circumstances that are associated with a reduction in the likelihood of substance use. Risk and protective factors include variables that operate at different stages of development and reflect different domains of influence, including the individual, family, peer, school, community, and societal levels (Hawkins, Catalano, & Miller, 1992; Robertson, David, & Rao, 2003). Interventions to prevent substance use generally are designed to ameliorate the influence of risk factors and enhance the effectiveness of protective factors.

This chapter presents findings for youth prevention-related measures collected in the 2008 NSDUH and compares these with findings from previous years. Included are measures of perceived risk from substance use (cigarettes, alcohol, and illicit drugs), perceived availability of substances, being approached by someone selling drugs, perceived parental disapproval of youth substance use, feelings about peer substance use, involvement in fighting and delinquent behavior, participation in religious and other activities, exposure to substance use prevention messages and programs, and parental involvement.

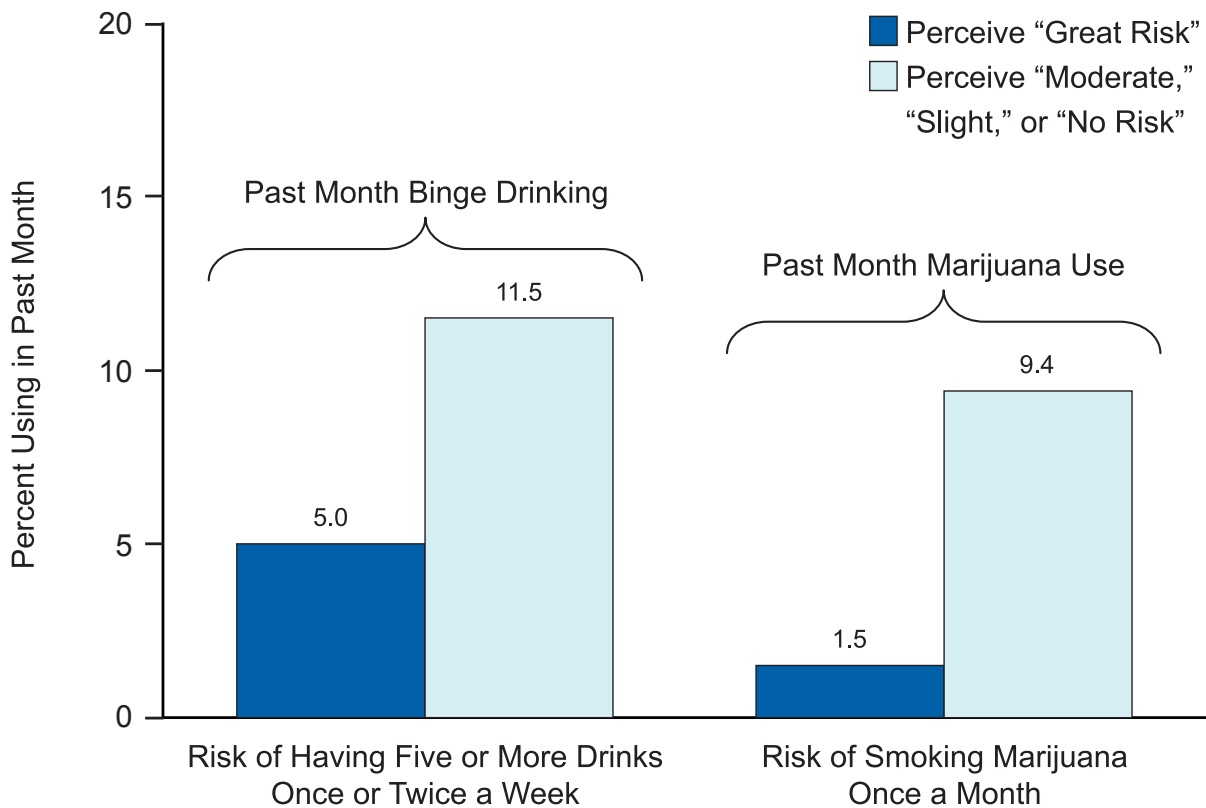
In this chapter, rates of substance use are compared for persons responding differently to questions reflecting risk or protective factors, such as the perceived risk of harm from using a substance. Because the NSDUH data for an individual are collected at only one point in time, it is not possible to determine causal connections from these data. However, a number of research studies of youths have shown that reducing risk factors and increasing protective factors can reduce rates of substance use (Botvin, Botvin, & Ruchlin, 1998). This report shows that marijuana, cigarette, and alcohol use among youths aged 12 to 17 decreased between 2002 and 2008, yet corresponding changes in individual risk and protective factors for the same period may or may not have occurred. There can be many reasons for this, such as the lack of or a weak causal connection, a lagged relationship between the occurrence of a risk factor and the change in drug use behavior, or that individual use is typically the result of multiple simultaneous risk factors rather than a single factor (Newcomb, Maddahian, & Bentler, 1986).

### Perceptions of Risk

One factor that can influence whether youths will use tobacco, alcohol, or illicit drugs is the extent to which youths believe these substances might cause them harm. NSDUH respondents were asked how much they thought people risk harming themselves physically and in other ways when they use various substances in certain amounts or frequencies. Response choices for these items were "great risk," "moderate risk," "slight risk," or "no risk."

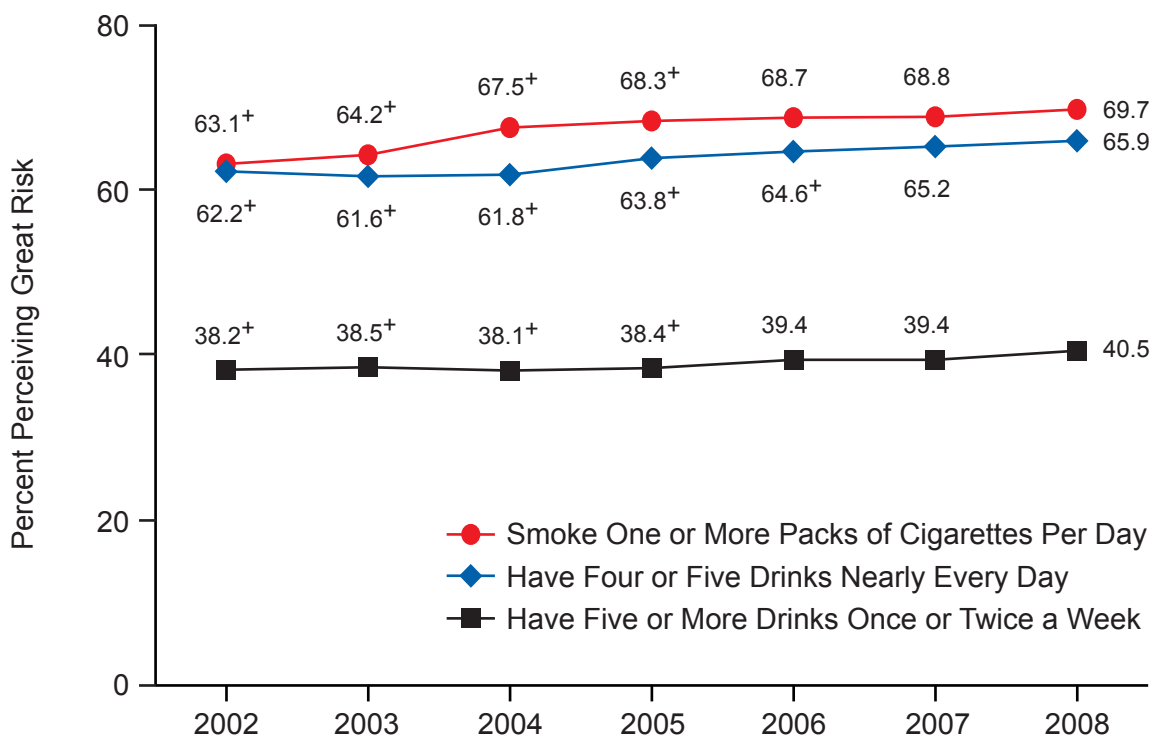
- The percentages of youths reporting binge alcohol use and use of cigarettes and marijuana in the past month were lower among those who perceived great risk in using these substances than among those who did not perceive great risk. For example, in 2008, 5.0 percent of youths aged 12 to 17 who perceived great risk from "having five or more drinks of an alcoholic beverage once or twice a week" reported binge drinking in the past month (consumption of five or more drinks of an alcoholic beverage on a single occasion on at least 1 day in the past 30 days); by contrast, past month binge drinking was reported by 11.5 percent of youths who saw moderate, slight, or no risk from having five or more drinks of an alcoholic beverage once or twice a week (Figure 6.1). Past month marijuana use was reported by 1.5 percent of youths who saw great risk in smoking marijuana once a month compared with 9.4 percent of youths who saw moderate, slight, or no risk.

**Figure 6.1 Past Month Binge Drinking and Marijuana Use among Youths Aged 12 to 17, by Perceptions of Risk: 2008**



- Decreases in the rate of current use of a substance often occur when there are increases in the level of perceived risk of using that substance. Looking over the 7-year period, the proportion of youths aged 12 to 17 who reported perceiving great risk from smoking one or more packs of cigarettes per day increased from 63.1 percent in 2002 to 69.7 percent in 2008 (Figure 6.2). During the same period, the rate of past month cigarette smoking among youths aged 12 to 17 dropped from 13.0 to 9.1 percent.

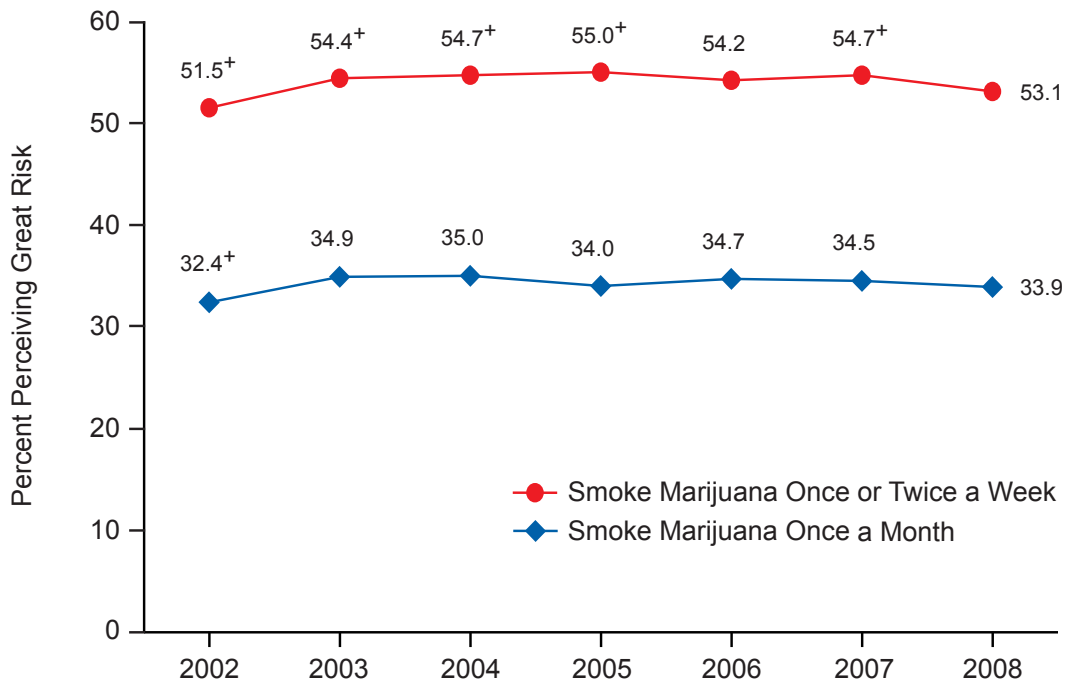
**Figure 6.2 Perceived Great Risk of Cigarette and Alcohol Use among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- The percentage of youths aged 12 to 17 indicating great risk in having four or five drinks of an alcoholic beverage nearly every day increased from 62.2 percent in 2002 to 65.9 percent in 2008 (Figure 6.2). The rate of past month heavy alcohol use among youths aged 12 to 17 decreased from 2.5 percent in 2002 to 2.0 percent in 2008.
- The percentage of youths aged 12 to 17 perceiving great risk in having five or more drinks of an alcoholic beverage once or twice a week increased from 38.2 percent in 2002 to 40.5 percent in 2008 (Figure 6.2). The rate of past month binge alcohol use among youths decreased from 10.7 percent in 2002 to 8.8 percent in 2008.
- The percentage of youths aged 12 to 17 indicating great risk in smoking marijuana once a month increased from 32.4 percent in 2002 to 34.9 percent in 2003, but the percentage remained unchanged between 2003 and 2008 (33.9 percent) (Figure 6.3). The rate of youths aged 12 to 17 perceiving great risk in smoking marijuana once or twice a week also increased from 51.5 percent in 2002 to 55.0 percent in 2005, but the rate declined between 2005 and 2008 (53.1 percent). Coincident with trends in perceived great risk of marijuana use, the prevalence of past month marijuana use among youths aged 12 to 17 decreased between 2002 (8.2 percent) and 2005 (6.8 percent), then remained stable between 2005 and 2008 (6.7 percent).

**Figure 6.3 Perceived Great Risk of Marijuana Use among Youths Aged 12 to 17: 2002-2008**



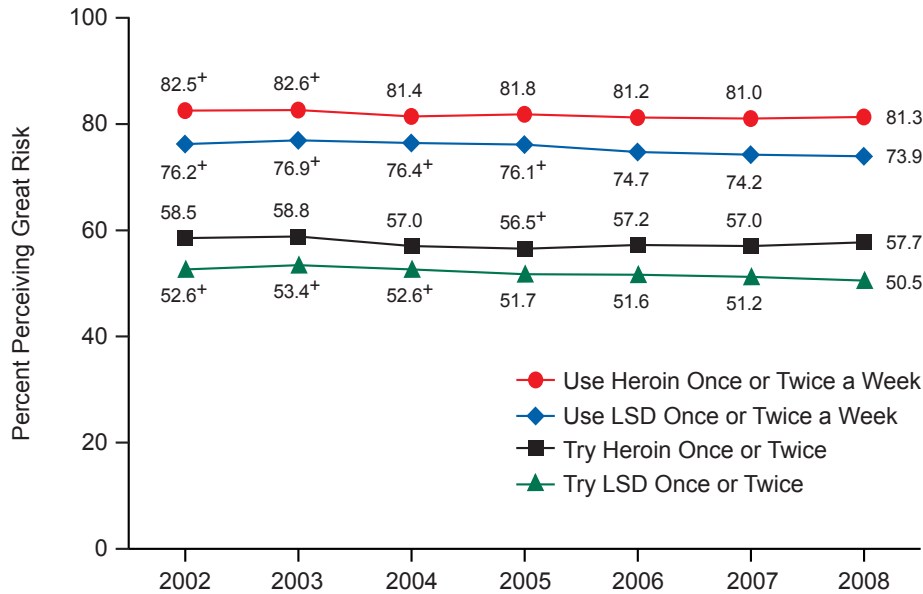
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- Between 2002 and 2008, the percentage of youths aged 12 to 17 perceiving great risk declined for the following substance use patterns: using heroin once or twice a week (from 82.5 to 81.3 percent), trying LSD once or twice (from 52.6 to 50.5 percent), and using LSD once or twice a week (from 76.2 to 73.9 percent) (Figure 6.4). Over the same period, however, there were no statistically significant changes in the percentages of youths aged 12 to 17 indicating great risk for trying heroin once or twice (from 58.5 to 57.7 percent), using cocaine once a month (50.5 percent in 2002 and 49.7 percent in 2008), and using cocaine once or twice a week (79.8 percent in 2002 and 79.2 percent in 2008). Moreover, percentages for all of these perceptions of risk measures remained stable between 2007 and 2008.

### Perceived Availability

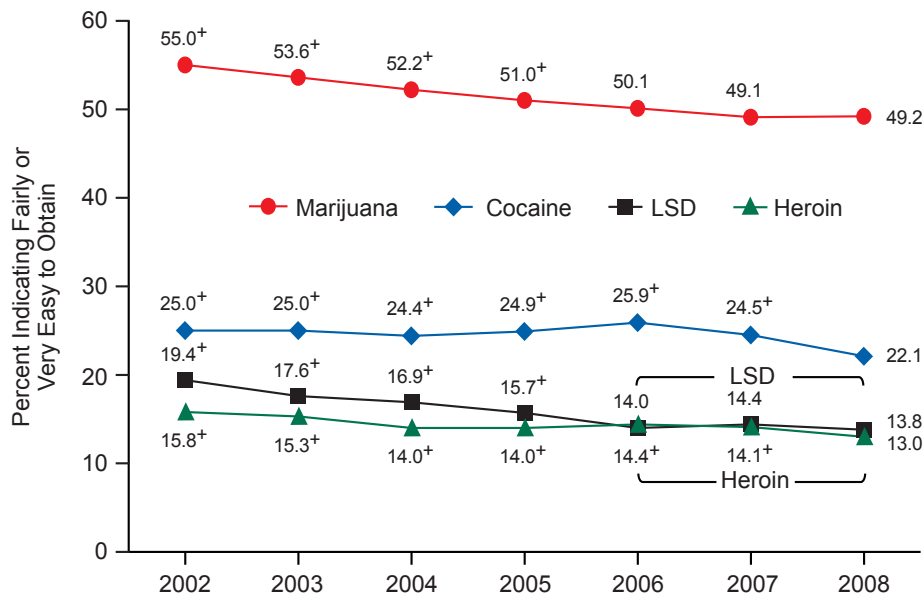
- In 2008, about half (49.2 percent) of the youths aged 12 to 17 reported that it would be "fairly easy" or "very easy" for them to obtain marijuana if they wanted some (Figure 6.5). One in seven (13.0 percent) indicated that heroin would be "fairly" or "very" easily available, and 13.8 percent reported so for LSD. Between 2002 and 2008, there were decreases in the perceived easy availability of marijuana (from 55.0 to 49.2 percent), cocaine (from 25.0 to 22.1 percent), crack (from 26.5 to 23.2 percent), LSD (from 19.4 to 13.8 percent), and heroin (from 15.8 to 13.0 percent). The perceived availability of the following illicit drugs declined between 2007 and 2008: cocaine from 24.5 to 22.1 percent; crack from 25.3 to 23.2 percent; and heroin from 14.1 to 13.0 percent. However, the perceived availability of marijuana and LSD did not change significantly during the 2-year period.

**Figure 6.4 Perceived Great Risk of Use of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

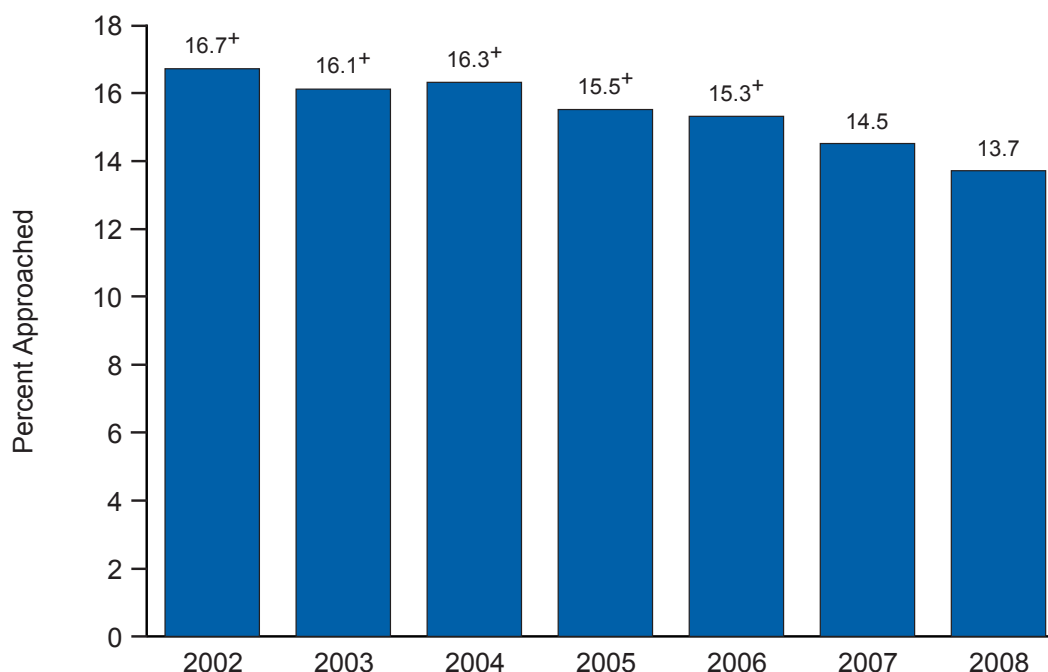
**Figure 6.5 Perceived Availability of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- The percentage of youths who reported that marijuana, cocaine, and LSD would be easy to obtain increased with age in 2008. For example, 20.5 percent of those aged 12 or 13 said it would be fairly or very easy to obtain marijuana compared with 52.2 percent of those aged 14 or 15 and 71.0 percent of those aged 16 or 17.
- In 2008, 13.7 percent of youths aged 12 to 17 indicated that they had been approached by someone selling drugs in the past month, which was down from the 16.7 percent reported in 2002 (Figure 6.6). The rate remained stable between 2007 (14.5 percent) and 2008.

**Figure 6.6    Approached in the Past Month by Someone Selling Drugs among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

### **Perceived Parental Disapproval of Substance Use**

- Most youths aged 12 to 17 believed their parents would "strongly disapprove" of their using substances. In 2008, 90.8 percent of youths reported that their parents would strongly disapprove of their trying marijuana or hashish once or twice; this was similar to the 91.0 percent reported in 2007, but was higher than the 89.1 percent reported in 2002. Most (89.7 percent) reported that their parents would strongly disapprove of their having one or two drinks of an alcoholic beverage nearly every day, which was similar to the rates in 2007 (89.6 percent) and 2002 (89.0 percent). In 2008, 92.4 percent of youths reported that their parents would strongly disapprove of their smoking one or more packs of cigarettes per day, which was similar to the 92.1 percent reported in 2007, but was higher than the 89.5 percent reported in 2002.

- Youths aged 12 to 17 who believed their parents would strongly disapprove of their using substances were less likely to use that substance than were youths who believed their parents would somewhat disapprove or neither approve nor disapprove. For example, in 2008, past month cigarette use was reported by 6.7 percent of youths who perceived strong parental disapproval of their smoking one or more packs of cigarettes per day compared with 37.3 percent of youths who believed their parents would not strongly disapprove. Current marijuana use also was much less prevalent among youths who perceived strong parental disapproval for trying marijuana or hashish once or twice than among those who did not (4.3 vs. 29.8 percent, respectively).

### **Feelings about Peer Substance Use**

- A majority of youths aged 12 to 17 reported that they disapprove of their peers using substances. In 2008, 89.6 percent of youths "strongly" or "somewhat" disapproved of their peers smoking one or more packs of cigarettes per day, which was similar to the rate of 89.7 percent in 2007, but higher than the 87.1 percent in 2002. Also in 2008, 82.7 percent strongly or somewhat disapproved of peers using marijuana or hashish once a month or more, which was similar to the 82.9 percent reported in 2007, but was an increase from the 80.4 percent reported in 2002. In addition, 87.0 percent of youths strongly or somewhat disapproved of peers having one or two drinks of an alcoholic beverage nearly every day in 2008, which was similar to the 86.6 percent reported in 2007, but was higher than the 84.7 percent reported in 2002.
- In 2008, past month marijuana use was reported by 2.3 percent of youths aged 12 to 17 who strongly or somewhat disapproved of their peers using marijuana once a month or more, lower than the 27.1 percent of youths who reported that they neither approve nor disapprove of such behavior from their peers.

### **Fighting and Delinquent Behavior**

- In 2008, 21.4 percent of youths aged 12 to 17 reported that, in the past year, they had gotten into a serious fight at school or at work; this was similar to the rates in 2007 (22.3 percent) and 2002 (20.6 percent). Almost one in six (14.5 percent) in 2008 had taken part in a group-against-group fight, which was lower than the rates in 2007 (15.4 percent) and 2002 (15.9 percent). About 1 in 30 (3.2 percent) had carried a handgun at least once, which was similar to the rates in 2007 and 2002 (both at 3.3 percent). An estimated 3.0 percent had sold illegal drugs, which was similar to the rate of 2.9 percent in 2007, but was lower than the 4.4 percent rate in 2002. In 2008, 4.6 percent had, at least once, stolen or tried to steal something worth more than \$50; this was similar to the rates of 4.3 percent in 2007 and 4.9 percent in 2002. An estimated 7.3 percent had, in at least one instance, attacked others with the intent to harm or seriously hurt them in 2008, which was the same as the rate in 2007 and was similar to the 7.8 percent reported in 2002.

- Youths aged 12 to 17 who had engaged in fighting or other delinquent behaviors were more likely than other youths to have used illicit drugs in the past month. For example, in 2008, past month illicit drug use was reported by 15.9 percent of youths who had gotten into a serious fight at school or work in the past year compared with 7.3 percent of those who had not engaged in fighting, and by 39.8 percent of those who had stolen or tried to steal something worth over \$50 in the past year compared with 7.7 percent of those who had not engaged in such theft.

### **Religious Beliefs and Participation in Activities**

- In 2008, 31.7 percent of youths aged 12 to 17 reported that they had attended religious services 25 or more times in the past year, which was similar to the rates in 2007 (31.4 percent) and 2002 (33.0 percent). Also, 75.0 percent agreed or strongly agreed with the statement that religious beliefs are a very important part of their lives, which was similar to the 76.1 percent reported in 2007, but was lower than the 78.2 percent reported in 2002. In addition, 33.8 percent agreed or strongly agreed with the statement that it is important for their friends to share their religious beliefs, which was lower than the rates in 2007 (35.1 percent) and 2002 (35.8 percent).
- The rates of past month use of illicit drugs, cigarettes, and alcohol (including binge alcohol) were lower among youths aged 12 to 17 who agreed with these statements about religious beliefs than among those who disagreed. For example, in 2008, past month illicit drug use was reported by 6.8 percent of those who agreed that religious beliefs are a very important part of life compared with 16.2 percent of those who disagreed with that statement.

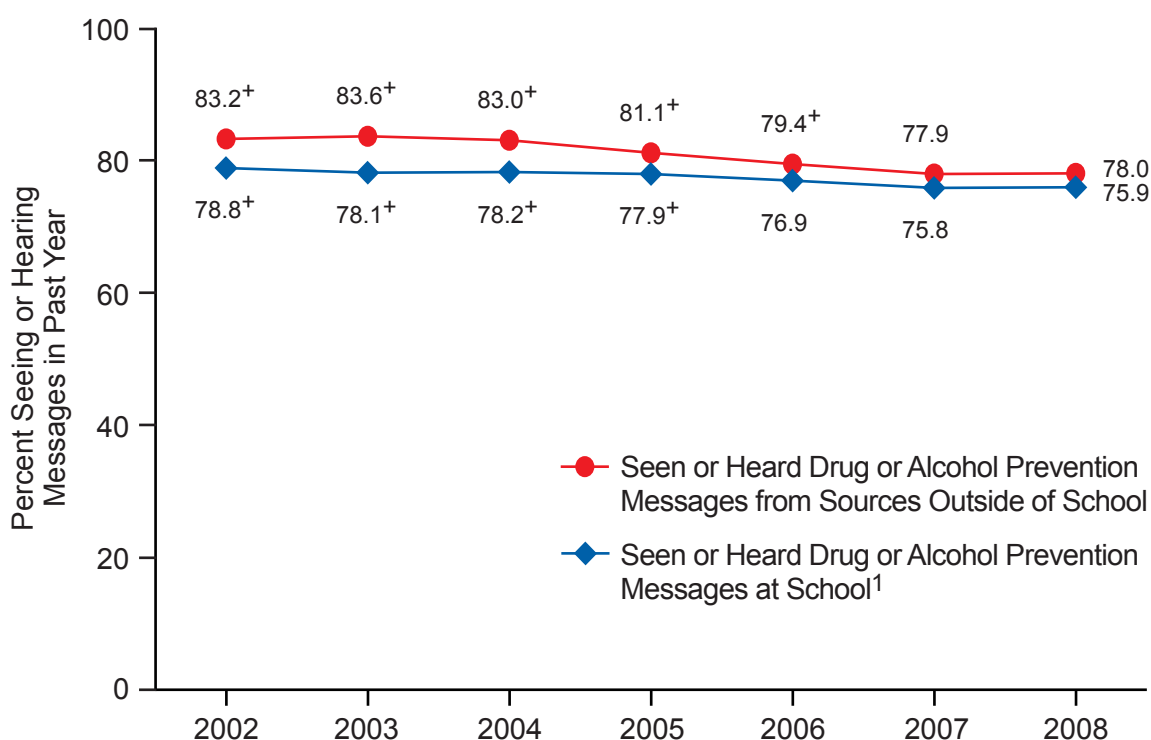
### **Exposure to Substance Use Prevention Messages and Programs**

- In 2008, approximately one in nine youths aged 12 to 17 (11.1 percent) reported that they had participated in drug, tobacco, or alcohol prevention programs outside of school in the past year. This rate was similar to the 11.3 percent reported in 2007, but was lower than the rates reported in 2002 (12.7 percent) and 2003 (13.9 percent). The prevalence of past month use of illicit drugs, marijuana, cigarettes, or binge alcohol use among those who participated in these prevention programs outside of school was not significantly lower (8.9 percent, 5.6 percent, 8.0 percent, or 7.5 percent, respectively) than among those who did not (9.2 percent, 6.7 percent, 9.2 percent, or 8.9 percent, respectively).
- In 2008, 78.0 percent of youths aged 12 to 17 reported having seen or heard drug or alcohol prevention messages in the past year from sources outside of school, which was similar to the 77.9 percent reported in 2007, but was lower than the 83.2 percent reported in 2002 (Figure 6.7). The prevalence of past month use of illicit drugs was lower among those who reported having such exposure (8.9 percent) than among those who reported having no such exposure (10.2 percent).



- In 2008, 75.9 percent of youths aged 12 to 17 enrolled in school in the past year reported having seen or heard drug or alcohol prevention messages at school, which was similar to the 75.8 percent reported in 2007, but was lower than the 78.8 percent reported in 2002 (Figure 6.7). The prevalence of past month use of illicit drugs or marijuana was lower among those who reported having such exposure (8.5 percent and 6.1 percent for illicit drugs and marijuana, respectively) than among those who reported having no such exposure (12.1 percent and 9.0 percent, respectively).

**Figure 6.7 Exposure to Substance Use Prevention Messages and Programs among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

<sup>1</sup> Estimates are from youths aged 12 to 17 who were enrolled in school in the past year.

- In 2008, 58.7 percent of youths aged 12 to 17 reported that they had talked at least once in the past year with at least one of their parents about the dangers of drug, tobacco, or alcohol use, which was similar to rates reported in 2007 (59.6 percent) and 2002 (58.1 percent). The prevalence of past month use of illicit drugs or cigarettes among those who reported having had such conversations with their parents (8.6 percent and 8.5 percent, respectively) was lower than that among those who reported having no such conversations (10.0 percent and 9.8 percent, respectively). However, the prevalence of past month use of marijuana or binge alcohol among those who reported having had such conversations with their parents (6.5 percent and 8.7 percent, respectively) was similar to that among those who reported having no such conversations (6.8 percent and 8.9 percent, respectively).

## Parental Involvement

- Youths aged 12 to 17 were asked a number of questions related to the extent of support, oversight, and control that they perceived their parents exercised over them in the year prior to the survey. In 2008, among youths aged 12 to 17 enrolled in school in the past year, 79.3 percent reported that in the past year their parents always or sometimes checked on whether or not they had completed their homework, and 70.2 percent reported that their parents limited the amount of time that they spent out with friends on school nights. Both of these rates reported in 2008 were similar to those reported in 2007 and remained statistically unchanged from the rates reported in 2002. However, in 2008, 80.0 percent reported that their parents always or sometimes provided help with their homework, which was similar to the rate in 2007 (80.9 percent) but was lower than the rate in 2002 (81.4 percent).
- In 2008, 87.9 percent of youths aged 12 to 17 reported that in the past year their parents made them always or sometimes do chores around the house, 86.1 percent reported that their parents always or sometimes let them know that they had done a good job, and 85.4 percent reported that their parents let them know they were proud of something they had done. All of these percentages in 2008 were similar to those reported in 2007 and remained statistically unchanged from the rates reported in 2002. In 2008, however, 39.9 percent of youths reported that their parents limited the amount of time that they watched television, which was similar to the rate in 2007 (39.7 percent), but was higher than the 36.9 percent reported in 2002.
- In 2008, past month use of illicit drugs, cigarettes, and alcohol (including binge alcohol) was lower among youths aged 12 to 17 who reported that their parents always or sometimes engaged in monitoring behaviors than among youths whose parents "seldom" or "never" engaged in such behaviors. For example, the rate of past month use of any illicit drug was 7.7 percent for youths whose parents always or sometimes helped with homework compared with 15.6 percent among youths who indicated that their parents seldom or never helped. Rates of current cigarette smoking and past month binge alcohol use were also lower among youths whose parents always or sometimes helped with homework (7.7 and 7.3 percent, respectively) than among youths whose parents did not (15.3 and 15.9 percent, respectively).

# 7. Substance Dependence, Abuse, and Treatment

The National Survey on Drug Use and Health (NSDUH) includes a series of questions to assess the prevalence of substance use disorders (i.e., dependence on or abuse of a substance) in the past 12 months. Substances include alcohol and illicit drugs, such as marijuana, cocaine, heroin, hallucinogens, inhalants, and the nonmedical use of prescription-type psychotherapeutic drugs. These questions are used to classify persons as dependent on or abusing specific substances based on criteria specified in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) (American Psychiatric Association [APA], 1994).

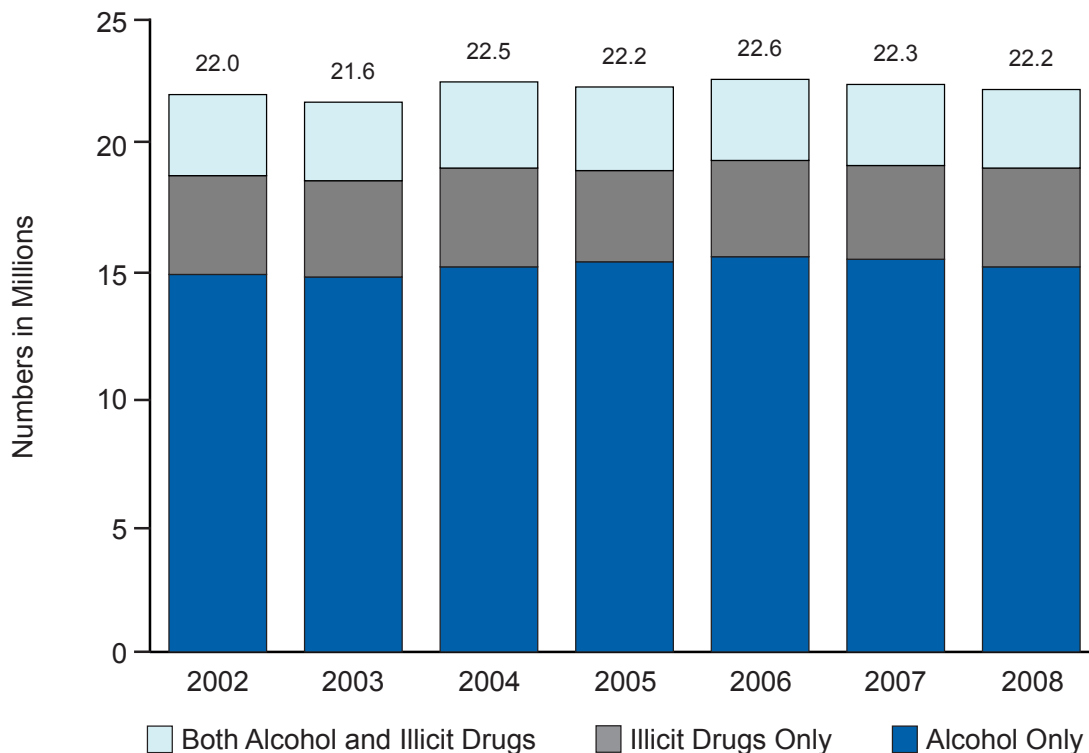
The questions related to dependence ask about health and emotional problems associated with substance use, unsuccessful attempts to cut down on use, tolerance, withdrawal, reducing other activities to use substances, spending a lot of time engaging in activities related to substance use, or using the substance in greater quantities or for a longer time than intended. The questions on abuse ask about problems at work, home, and school; problems with family or friends; physical danger; and trouble with the law due to substance use. Dependence is considered to be a more severe substance use problem than abuse because it involves the psychological and physiological effects of tolerance and withdrawal. Although individuals may meet the criteria specified here for both dependence and abuse, persons meeting the criteria for both are classified as having dependence, but not abuse. Persons defined with abuse in this report do not meet the criteria for dependence.

This chapter provides estimates of the prevalence and patterns of substance use disorders occurring in the past year from the 2008 NSDUH and compares these estimates against the results from the 2002 through 2007 surveys. It also provides estimates of the prevalence and patterns of the receipt of treatment in the past year for problems related to substance use. This chapter concludes with a discussion of the need for and the receipt of treatment at specialty facilities for problems associated with substance use.

## 7.1. Substance Dependence or Abuse

- In 2008, an estimated 22.2 million persons aged 12 or older were classified with substance dependence or abuse in the past year (8.9 percent of the population aged 12 or older) (Figure 7.1). Of these, 3.1 million were classified with dependence on or abuse of both alcohol and illicit drugs, 3.9 million were dependent on or abused illicit drugs but not alcohol, and 15.2 million were dependent on or abused alcohol but not illicit drugs.
- The number of persons with substance dependence or abuse was stable between 2002 and 2008 (22.0 million in 2002, 21.6 million in 2003, 22.5 million in 2004, 22.2 million in 2005, 22.6 million in 2006, 22.3 million in 2007, and 22.2 million in 2008).

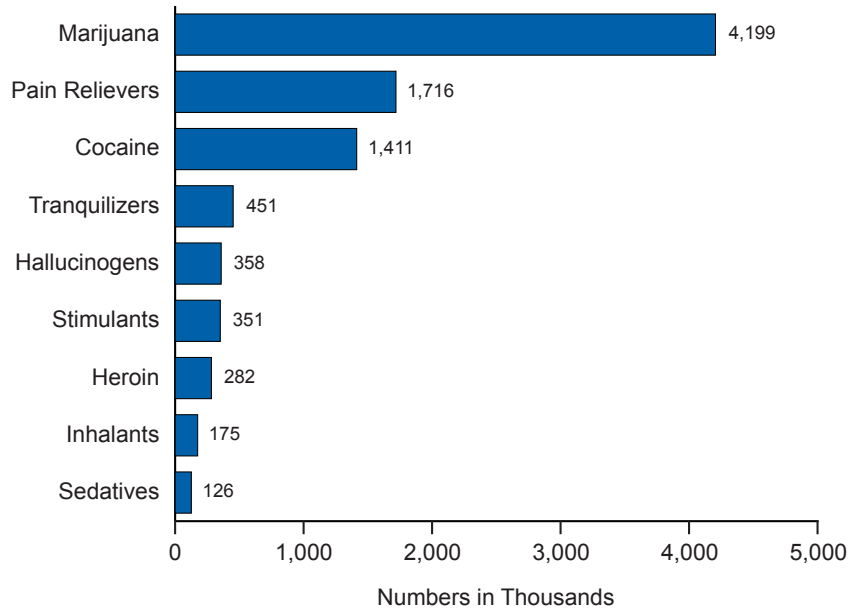
**Figure 7.1 Substance Dependence or Abuse in the Past Year among Persons Aged 12 or Older: 2002-2008**



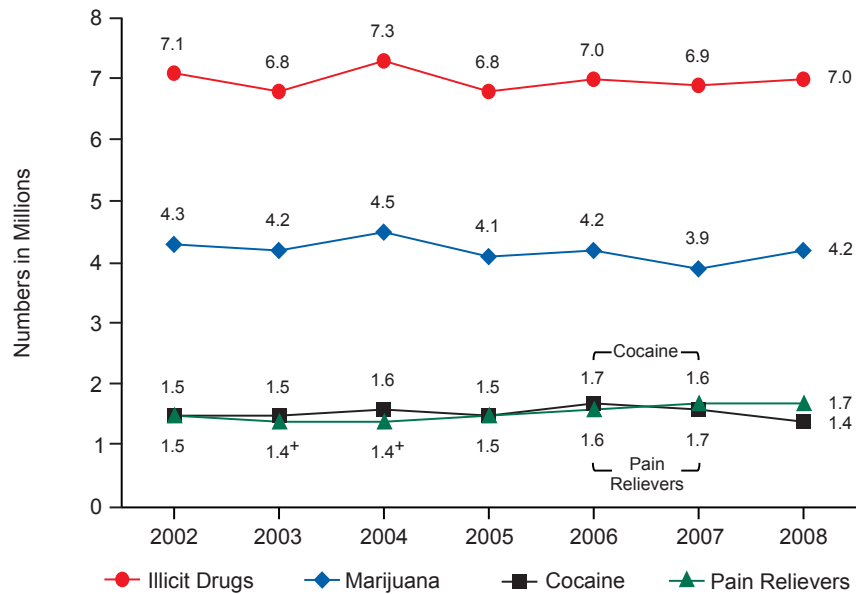
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- In 2008, 18.3 million persons aged 12 or older were classified with dependence on or abuse of alcohol. This represents 7.3 percent of the population. The number and percentage have remained similar since 2002.
- Marijuana was the illicit drug with the highest rate of past year dependence or abuse in 2008, followed by pain relievers and cocaine. Of the 7.0 million persons aged 12 or older classified with dependence on or abuse of illicit drugs in 2008, 4.2 million were dependent on or abused marijuana or hashish (representing 1.7 percent of the total population aged 12 or older, and 60.1 percent of all those classified with illicit drug dependence or abuse), 1.7 million persons were classified with dependence on or abuse of pain relievers, and 1.4 million persons were classified with dependence on or abuse of cocaine (Figure 7.2). None of these estimates changed significantly between 2007 and 2008 or between 2002 and 2008 (Figure 7.3).

**Figure 7.2 Dependence on or Abuse of Specific Illicit Drugs in the Past Year among Persons Aged 12 or Older: 2008**



**Figure 7.3 Dependence on or Abuse of Illicit Drugs, Marijuana, Cocaine, and Pain Relievers in the Past Year among Persons Aged 12 or Older: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- The rate for use of marijuana in the past year decreased from 2002 to 2008 but was stable between 2007 and 2008, while the number of persons who were dependent on or were abusing marijuana did not change significantly between 2002 and 2008 and between 2007 and 2008. However, between 2004 and 2008, the percentage and the number of persons dependent on or abusing pain relievers increased (from 0.6 to 0.7 percent and from 1.4 million to 1.7 million).
- The percentages of persons aged 12 or older with dependence on or abuse of illicit drugs remained the same between 2007 (2.8 percent) and 2008 (2.8 percent) and were stable between 2002 (3.0 percent) and 2008. During the 7-year period, the percentages of persons with dependence on or abuse of alcohol remained stable as well (7.7 percent in 2002, 7.5 percent in 2007, and 7.3 percent in 2008).

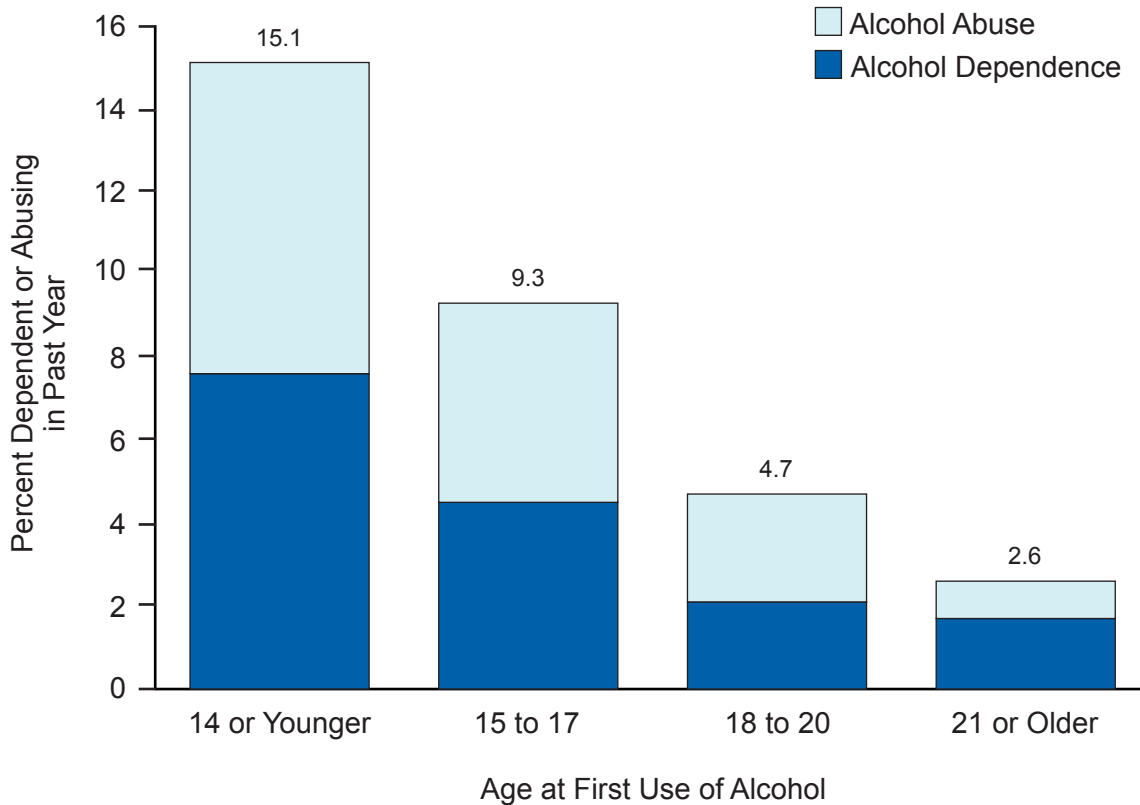
### **Age at First Use**

- In 2008, among adults aged 18 or older, age at first use of marijuana was associated with dependence on or abuse of marijuana. Among those who first tried marijuana at age 14 or younger, 13.5 percent were classified with illicit drug dependence or abuse, higher than the 2.2 percent of adults who had first used marijuana at age 18 or older.
- Among adults, age at first use of alcohol was associated with dependence on or abuse of alcohol. Among adults aged 18 or older who first tried alcohol at age 14 or younger, 16.5 percent were classified with alcohol dependence or abuse compared with only 3.9 percent of adults who had first used alcohol at age 18 or older. Adults aged 21 or older who had first used alcohol before age 21 were more likely than adults who had their first drink at age 21 or older to be classified with alcohol dependence or abuse (15.1, 9.3, and 4.7 percent for adults who first used alcohol at age 14 or younger, age 15 to 17, and age 18 to 20, respectively, vs. 2.6 percent for first use at age 21 or older) (Figure 7.4).

### **Age**

- Rates of substance dependence or abuse were associated with age. In 2008, the rate of substance dependence or abuse among adults aged 18 to 25 (20.8 percent) was higher than that among youths aged 12 to 17 (7.6 percent) and among adults aged 26 or older (7.0 percent). None of these rates changed significantly between 2007 and 2008. For youths aged 12 to 17, the rate decreased from 8.9 percent in 2002 to 7.6 percent in 2008. For young adults aged 18 to 25 and adults aged 26 or older, these rates remained stable from 2002 to 2008.
- In 2008, among persons with substance dependence or abuse, the proportion with dependence on or abuse of illicit drugs also was associated with age: 60.6 percent of youths aged 12 to 17 were dependent on or abused illicit drugs compared with 37.4 percent of young adults aged 18 to 25 and 24.3 percent of adults aged 26 or older.

**Figure 7.4 Alcohol Dependence or Abuse in the Past Year among Adults Aged 21 or Older, by Age at First Use of Alcohol: 2008**

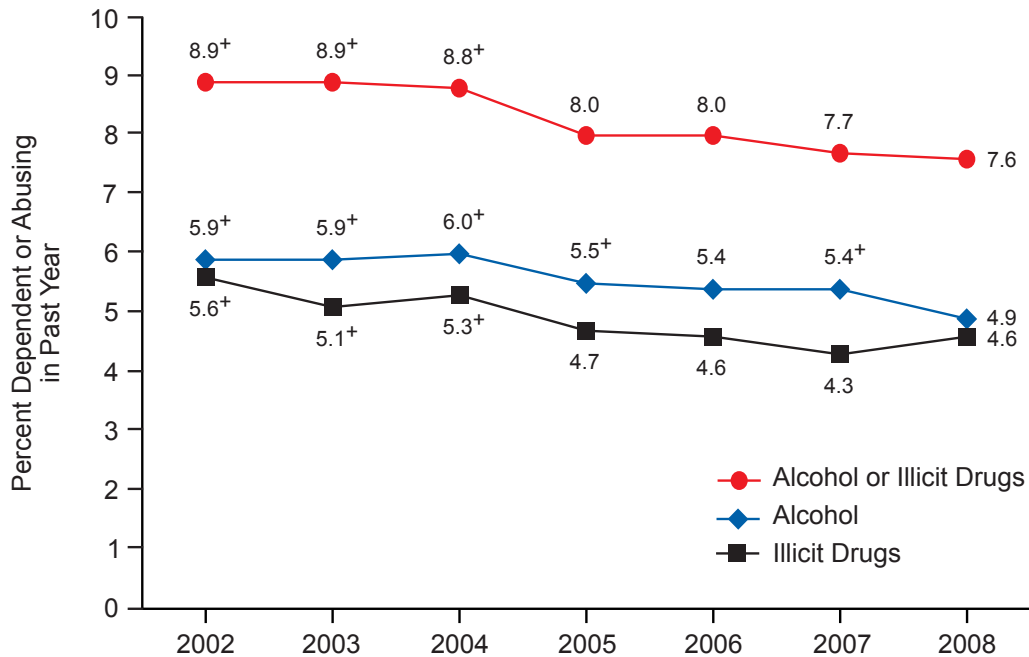


- The rate of alcohol dependence or abuse among youths aged 12 to 17 was 4.9 percent in 2008, which was down from 5.4 percent in 2007 and from 5.9 percent in 2002 (Figure 7.5). Among adults aged 26 or older, the rate remained stable between 2007 (6.2 percent) and 2008 (6.0 percent) and between 2002 (6.2 percent) and 2008. Among young adults aged 18 to 25, the rate of alcohol dependence or abuse remained similar between 2007 (16.8 percent) and 2008 (17.2 percent) and between 2002 (17.7 percent) and 2008.

### Gender

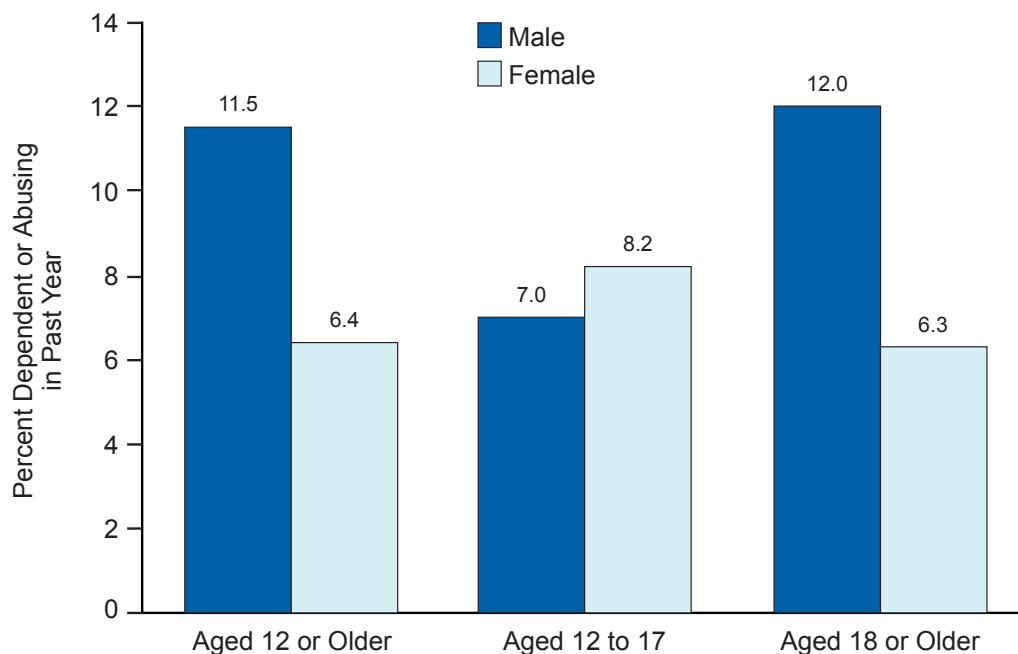
- As was the case from 2002 through 2007, the rate of substance dependence or abuse for males aged 12 or older in 2008 was about twice as high as the rate for females. For males in 2008, the rate was 11.5 percent, which was down from the 12.5 percent in 2007, while for females, it was 6.4 percent, which was higher than the 5.7 percent in 2007 (Figure 7.6). Among youths aged 12 to 17, however, the rate of substance dependence or abuse among males was lower than the rate among females in 2008 (7.0 vs. 8.2 percent).

**Figure 7.5 Dependence on or Abuse of Alcohol and Illicit Drugs among Youths Aged 12 to 17: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

**Figure 7.6 Substance Dependence or Abuse in the Past Year, by Age and Gender: 2008**





## **Race/Ethnicity**

- In 2008, among persons aged 12 or older, the rate of substance dependence or abuse was the lowest among Asians (4.2 percent). Racial/ethnic groups with similar rates included American Indians or Alaska Natives (11.1 percent), persons reporting two or more races (9.8 percent), whites (9.0 percent), blacks (8.8 percent), and Hispanics (9.5 percent). These rates in 2008 were similar to the rates in 2002 through 2007.

## **Education/Employment**

- Rates of substance dependence or abuse were associated with level of education in 2008. Among adults aged 18 or older, those who graduated from a college or university had a lower rate of dependence or abuse (7.0 percent) than those who graduated from high school (9.4 percent), those who did not graduate from high school (9.5 percent), and those with some college (10.5 percent).
- Rates of substance dependence or abuse were associated with current employment status in 2008. A higher percentage of unemployed adults aged 18 or older were classified with dependence or abuse (19.0 percent) than were full-time employed adults (10.2 percent) or part-time employed adults (11.0 percent).
- Most adults aged 18 or older with substance dependence or abuse were employed full time in 2008. Of the 20.3 million adults classified with dependence or abuse, 12.5 million (61.5 percent) were employed full time.

## **Criminal Justice Populations**

- In 2008, adults aged 18 or older who were on parole or a supervised release from jail during the past year had higher rates of dependence on or abuse of a substance (27.8 percent) than their counterparts who were not on parole or supervised release during the past year (8.9 percent).
- In 2008, probation status was associated with substance dependence or abuse. The rate of substance dependence or abuse was 34.0 percent among adults who were on probation during the past year, which was significantly higher than the rate among adults who were not on probation during the past year (8.4 percent).

## **Geographic Area**

- In 2008, rates of substance dependence or abuse for persons aged 12 or older showed evidence of differences by region, with the West (9.6 percent) having a higher rate than the South (8.2 percent), but a similar rate to the Midwest (9.4 percent) and the Northeast (8.9 percent). Rates for substance dependence or abuse among persons aged 12 or older in 2008 also varied by county type, with large metropolitan counties (9.3 percent) having a significantly higher rate than nonmetropolitan counties (8.0 percent), but a similar rate when compared with small metropolitan counties (8.6 percent).

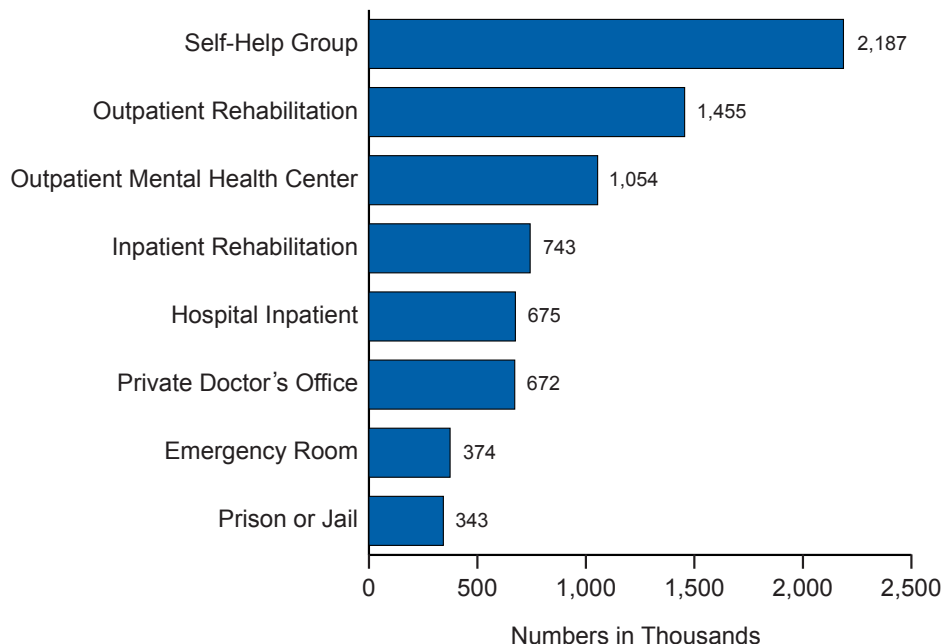
## 7.2. Past Year Treatment for a Substance Use Problem

Estimates described in this section refer to treatment received for illicit drug or alcohol use, or for medical problems associated with the use of illicit drugs or alcohol. This includes treatment received in the past year at any location, such as a hospital (inpatient), rehabilitation facility (outpatient or inpatient), mental health center, emergency room, private doctor's office, prison or jail, or a self-help group, such as Alcoholics Anonymous or Narcotics Anonymous. Persons could report receiving treatment at more than one location. Note that the definition of treatment in this section is different from the definition of specialty treatment described in Section 7.3. Specialty treatment only includes treatment at a hospital (inpatient), a rehabilitation facility (inpatient or outpatient), or a mental health center.

Individuals who reported receiving substance use treatment but were missing information on whether the treatment was specifically for alcohol use or illicit drug use were not counted in estimates of either illicit drug use treatment or in estimates of alcohol use treatment; however, they were counted in estimates for "drug or alcohol use" treatment.

- In 2008, 4.0 million persons aged 12 or older (1.6 percent of the population) received treatment for a problem related to the use of alcohol or illicit drugs. Of these, 1.3 million received treatment for the use of both alcohol and illicit drugs, 0.8 million received treatment for the use of illicit drugs but not alcohol, and 1.6 million received treatment for the use of alcohol but not illicit drugs. (Note that estimates by substance do not sum to the total number of persons receiving treatment because the total includes persons who reported receiving treatment but did not report for which substance the treatment was received.)
- The percentage of the population aged 12 or older receiving substance use treatment within the past year remained stable between 2007 and 2008 and between 2002 and 2008 (1.6 percent in 2008, 1.6 percent in 2007, and 1.5 percent in 2002). Although the number of persons receiving substance use treatment within the past year remained stable between 2007 and 2008, the number increased between 2002 (3.5 million) and 2008 (4.0 million).
- In 2008, among the 4.0 million persons aged 12 or older who received treatment for alcohol or illicit drug use in the past year, 2.2 million persons received treatment at a self-help group, and 1.5 million received treatment at a rehabilitation facility as an outpatient (Figure 7.7). There were 1.1 million persons who received treatment at a mental health center as an outpatient, 743,000 persons who received treatment at a rehabilitation facility as an inpatient, 675,000 at a hospital as an inpatient, 672,000 at a private doctor's office, 374,000 at an emergency room, and 343,000 at a prison or jail. None of these estimates changed significantly between 2007 and 2008 or between 2002 and 2008, except that the number of persons who received treatment at a rehabilitation facility as an inpatient in 2008 was lower than that in 2007 (1.0 million) and 2002 (1.1 million).

**Figure 7.7 Locations Where Past Year Substance Use Treatment Was Received among Persons Aged 12 or Older: 2008**

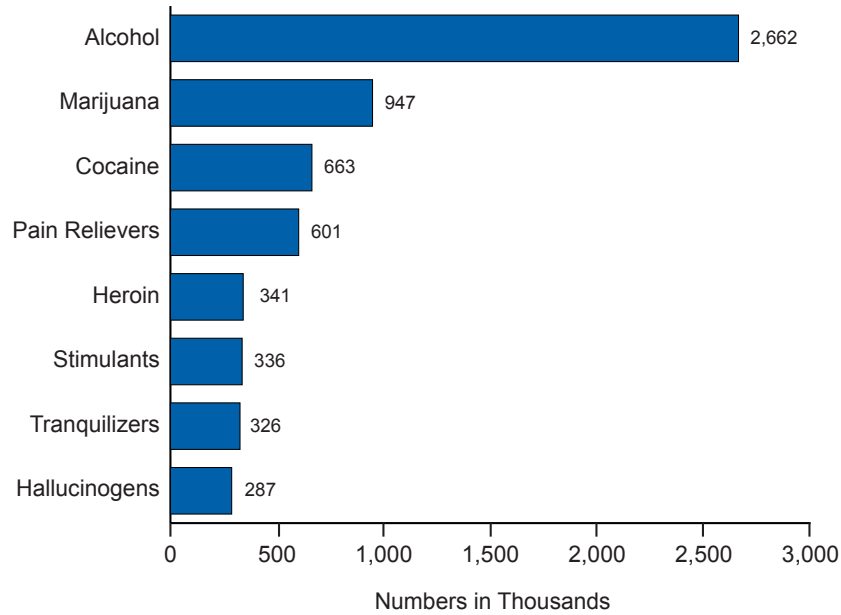


- In 2008, during their most recent treatment in the past year, 2.7 million persons aged 12 or older reported receiving treatment for alcohol use, and 947,000 persons reported receiving treatment for marijuana use (Figure 7.8). Accordingly, estimates on receiving treatment for the use of other drugs were 663,000 persons for cocaine, 601,000 for pain relievers, 341,000 for heroin, 336,000 for stimulants, 326,000 for tranquilizers, and 287,000 for hallucinogens. None of these estimates changed significantly between 2007 and 2008. Also, none of these estimates changed significantly between 2002 and 2008, except that the numbers who received treatment for the use of pain relievers and tranquilizers in 2008 were higher than the numbers in 2002 (360,000 and 197,000 persons, respectively) (Figure 7.9). (Note that respondents could indicate that they received treatment for more than one substance during their most recent treatment.)

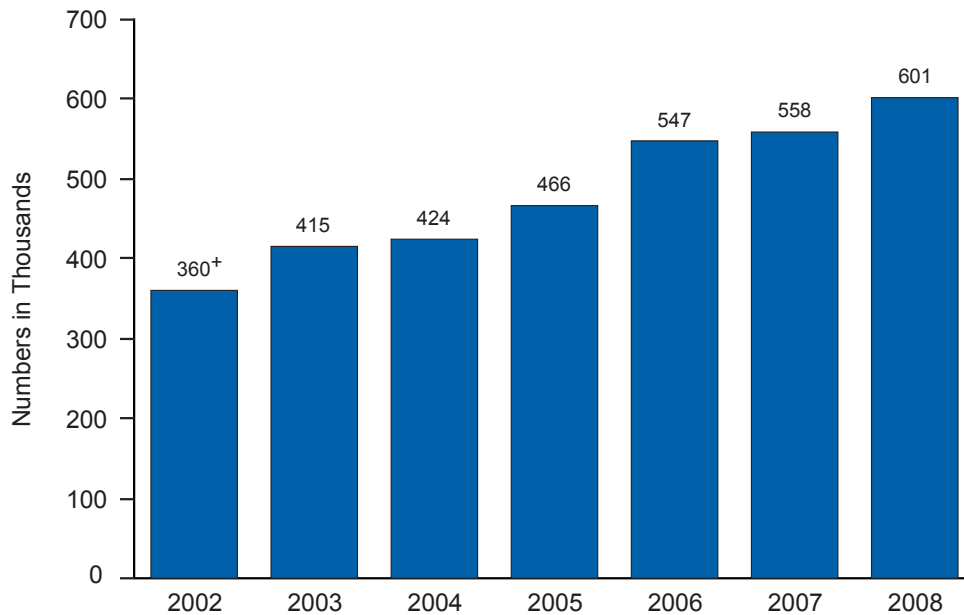
### 7.3. Need for and Receipt of Specialty Treatment

This section discusses the need for and receipt of treatment for a substance use problem at a "specialty" treatment facility. Specialty treatment is defined as treatment received at any of the following types of facilities: hospitals (inpatient only), drug or alcohol rehabilitation facilities (inpatient or outpatient), or mental health centers. It does not include treatment at an emergency room, private doctor's office, self-help group, prison or jail, or hospital as an outpatient. An individual is defined as needing treatment for an alcohol or drug use problem if he or she met the DSM-IV (APA, 1994) diagnostic criteria for dependence on or abuse of alcohol or illicit drugs in the past 12 months or if he or she received specialty treatment for alcohol use or illicit drug use in the past 12 months.

**Figure 7.8 Substances for Which Most Recent Treatment Was Received in the Past Year among Persons Aged 12 or Older: 2008**



**Figure 7.9 Received Most Recent Treatment in the Past Year for the Use of Pain Relievers among Persons Aged 12 or Older: 2002-2008**



<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

In this section, an individual needing treatment for an illicit drug use problem is defined as receiving treatment for his or her drug use problem only if he or she reported receiving specialty treatment for drug use in the past year. Thus, an individual who needed treatment for illicit drug use but only received specialty treatment for alcohol use in the past year or who received treatment for illicit drug use only at a facility not classified as a specialty facility was not counted as receiving treatment for drug use. Similarly, an individual who needed treatment for an alcohol use problem was only counted as receiving alcohol use treatment if the treatment was received for alcohol use at a specialty treatment facility. Individuals who reported receiving specialty substance use treatment but were missing information on whether the treatment was specifically for alcohol use or drug use were not counted in estimates of specialty drug use treatment or in estimates of specialty alcohol use treatment; however, they were counted in estimates for "drug or alcohol use" treatment.

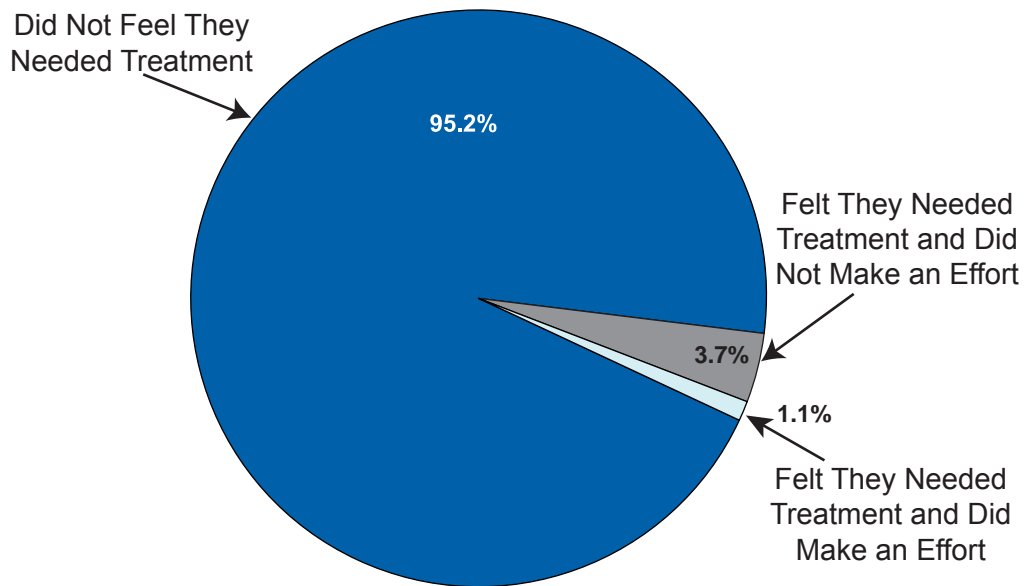
In addition to questions about symptoms of substance use problems that are used to classify respondents' need for treatment based on DSM-IV criteria, NSDUH includes questions asking respondents about their perceived need for treatment (i.e., whether they felt they needed treatment or counseling for illicit drug use or alcohol use). In this report, estimates for perceived need for treatment are only discussed for persons who were classified as needing treatment (based on DSM-IV criteria) but did not receive treatment at a specialty facility. Similarly, estimates for whether a person made an effort to get treatment are only discussed for persons who felt the need for treatment.

### **Illicit Drug or Alcohol Use Treatment and Treatment Need**

- In 2008, 23.1 million persons aged 12 or older needed treatment for an illicit drug or alcohol use problem (9.2 percent of the persons aged 12 or older). Of these, 2.3 million (0.9 percent of persons aged 12 or older and 9.9 percent of those who needed treatment) received treatment at a specialty facility. Thus, 20.8 million persons (8.3 percent of the population aged 12 or older) needed treatment for an illicit drug or alcohol use problem but did not receive treatment at a specialty substance abuse facility in the past year. These estimates are similar to the estimates for 2007 and for 2002.
- Of the 2.3 million people aged 12 or older who received specialty substance use treatment in 2008, 983,000 received treatment for alcohol use only, 632,000 received treatment for illicit drug use only, and 577,000 received treatment for both alcohol and illicit drug use. These estimates are similar to the estimates for 2007 and for 2002.
- In 2008, among persons who received their most recent substance use treatment at a specialty facility in the past year, 49.5 percent reported using their "own savings or earnings" as a source of payment for their most recent specialty treatment, 36.1 percent reported using private health insurance, 24.7 percent reported using Medicaid, 22.3 percent reported using public assistance other than Medicaid, 17.5 percent reported using Medicare, and 16.5 percent reported using funds from family members. None of these estimates changed significantly between 2007 and 2008 and between 2002 and 2008. (Note that persons could report more than one source of payment.)

- Of the 20.8 million persons in 2008 who were classified as needing substance use treatment but not receiving treatment at a specialty facility in the past year, 1.0 million persons (4.8 percent) reported that they perceived a need for treatment for their illicit drug or alcohol use problem (Figure 7.10). Of these 1.0 million persons who felt they needed treatment but did not receive treatment in 2008, 233,000 (23.3 percent) reported that they made an effort to get treatment, and 766,000 (76.7 percent) reported making no effort to get treatment. These estimates remained stable between 2007 and 2008, except that the number of persons who felt they needed treatment, made an effort to get treatment, but did not receive treatment in 2008 decreased from 380,000 persons in 2007 to 233,000 persons in 2008, and the percentage of persons who felt they needed treatment among those who were classified as needing substance use treatment declined from 6.4 percent in 2007 to 4.8 percent in 2008.

**Figure 7.10 Past Year Perceived Need for and Effort Made to Receive Specialty Treatment among Persons Aged 12 or Older Needing But Not Receiving Treatment for Illicit Drug or Alcohol Use: 2008**



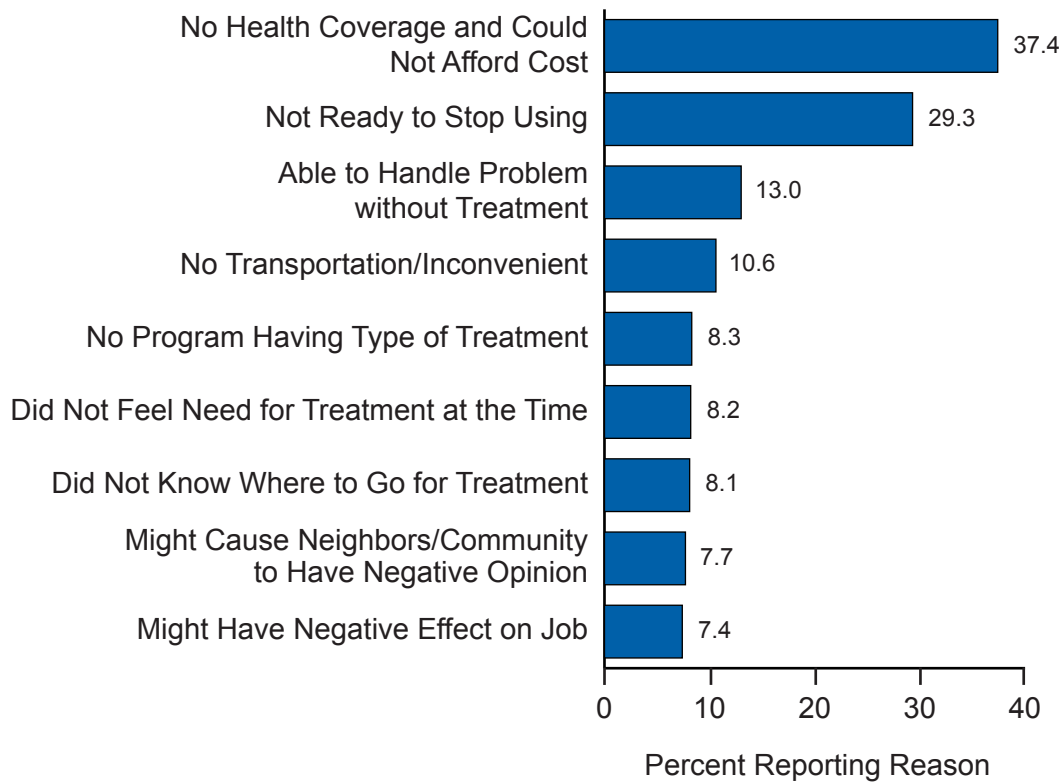
20.8 Million Needing But Not Receiving Treatment for Illicit Drug or Alcohol Use

- The number and the percentage of youths aged 12 to 17 who needed treatment for an illicit drug or alcohol use problem remained unchanged between 2007 (2.0 million, 7.9 percent) and 2008 (1.9 million, 7.8 percent); however, there was a significant decrease between 2002 (2.3 million, 9.1 percent) and 2008. Of the 1.9 million youths who needed treatment in 2008, 143,000 received treatment at a specialty facility (about 7.4 percent of the youths who needed treatment), leaving 1.8 million who needed treatment for a substance use problem but did not receive it at a specialty facility.
- Based on 2005-2008 combined data, the five most often reported reasons for not receiving illicit drug or alcohol use treatment among persons aged 12 or older who needed but did not receive treatment at a specialty facility and perceived a need for treatment included (a) not ready to stop using (38.8 percent), (b) no health coverage and could not afford cost (32.1 percent), (c) possible negative effect on job (12.3 percent), (d) not knowing where to go for treatment (12.0 percent), and (e) concern that receiving treatment might cause neighbors/community to have negative opinion (11.8 percent).
- Based on 2005-2008 combined data, among persons aged 12 or older who needed but did not receive illicit drug or alcohol use treatment, felt a need for treatment, and made an effort to receive treatment, the most often reported reasons for not receiving treatment were (a) no health coverage and could not afford cost (37.4 percent), (b) not ready to stop using (29.3 percent), (c) able to handle the problem without treatment (13.0 percent), (d) no transportation/inconvenient (10.6 percent), (e) no program having type of treatment (8.3 percent), (f) did not feel need for treatment at the time (8.2 percent), (g) did not know where to go for treatment (8.1 percent), (h) might cause neighbors/community to have negative opinion (7.7 percent), and (i) might have negative effect on job (7.4 percent) (Figure 7.11).

### **Illicit Drug Use Treatment and Treatment Need**

- In 2008, the number of persons aged 12 or older needing treatment for an illicit drug use problem was 7.6 million (3.0 percent of the total population). Of these, 1.2 million (0.5 percent of the total population and 16.0 percent of the persons who needed treatment) received treatment at a specialty facility for an illicit drug use problem in the past year. Thus, there were 6.4 million persons (2.5 percent of the total population) who needed but did not receive treatment at a specialty facility for an illicit drug use problem in 2008. None of these estimates changed significantly between 2007 and 2008. The percentage of persons needing treatment for an illicit drug use problem decreased between 2002 (3.3 percent) and 2008 (3.0 percent).
- Of the 6.4 million people aged 12 or older who needed but did not receive specialty treatment for illicit drug use in 2008, 400,000 (6.3 percent) reported that they perceived a need for treatment for their illicit drug use problem. Of the 400,000 persons who felt a need for treatment in 2008, 99,000 (24.7 percent) reported that they made an effort (the number and percentage decreased from 205,000 persons and 37.5 percent in 2007), and 301,000 (75.3 percent) reported making no effort to get treatment (the number and percentage remained similar to those reported in 2007).

**Figure 7.11 Reasons for Not Receiving Substance Use Treatment among Persons Aged 12 or Older Who Needed and Made an Effort to Get Treatment But Did Not Receive Treatment and Felt They Needed Treatment: 2005-2008 Combined**



- Among youths aged 12 to 17, there were 1.2 million (4.8 percent) who needed treatment for an illicit drug use problem in 2008. Of this group, only 111,000 received treatment at a specialty facility (9.3 percent of youths aged 12 to 17 who needed treatment), leaving 1.1 million youths who needed treatment but did not receive it at a specialty facility.
- Among people aged 12 or older who needed but did not receive illicit drug use treatment and felt they needed treatment (based on 2005-2008 combined data), the most often reported reasons for not receiving treatment were (a) no health coverage and could not afford cost (37.2 percent), (b) not ready to stop using (29.5 percent), (c) concern that receiving treatment might cause neighbors/community to have negative opinion (15.4 percent), (d) not knowing where to go for treatment (15.3 percent), (e) possible negative effect on job (13.0 percent), and (f) being able to handle the problem without treatment (12.0 percent).



## **Alcohol Use Treatment and Treatment Need**

- In 2008, the number of persons aged 12 or older needing treatment for an alcohol use problem was 19.0 million (7.6 percent of the population aged 12 or older). Of these, 1.6 million (0.6 percent of the total population and 8.2 percent of the people who needed treatment for an alcohol use problem) received alcohol use treatment at a specialty facility. Thus, there were 17.4 million people who needed but did not receive treatment at a specialty facility for an alcohol use problem. None of these estimates changed significantly between 2007 and 2008 and between 2002 and 2008.
- Among the 17.4 million people aged 12 or older who needed but did not receive treatment for an alcohol use problem in 2008, there were 651,000 (3.7 percent) who felt they needed treatment for their alcohol use problem. The number and the percentage were similar to those reported in 2007 (859,000 persons and 4.8 percent, respectively) and 2002 (761,000 persons and 4.5 percent, respectively). Of these, 512,000 (78.6 percent) did not make an effort to get treatment, and 139,000 (21.4 percent) made an effort but were unable to get treatment in 2008.
- In 2008, there were 1.2 million youths (5.0 percent) aged 12 to 17 who needed treatment for an alcohol use problem. Of this group, only 77,000 received treatment at a specialty facility (0.3 percent of all youths and 6.2 percent of youths who needed treatment), leaving almost 1.2 million youths who needed but did not receive treatment.



## 8. Mental Health

This chapter presents findings on mental health problems in the United States, including the prevalence of serious mental illness (SMI), serious psychological distress (SPD), suicidal thoughts and behavior, and major depressive episode (MDE). The association of these problems with substance use and substance dependence or abuse (i.e., substance use disorder) is discussed. Also reported here are the rates of treatment for depression (among those with MDE) in the past year among adults aged 18 or older and youths aged 12 to 17, the percentages of adults and youths who received mental health care in the past year, and the percentage of adults who had an unmet need for mental health care in the past year.

### **Serious Mental Illness**

Public Law No. 102-321, the Alcohol, Drug Abuse, and Mental Health Administration Reorganization Act of 1992, established a block grant for U.S. States to fund community mental health services for adults with SMI. The law required States to include prevalence estimates in their annual applications for block grant funds. This legislation also required the Substance Abuse and Mental Health Services Administration (SAMHSA) to develop an operational definition of SMI. SAMHSA defined SMI as persons aged 18 or older who currently or at any time in the past year have had diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified within the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) (American Psychiatric Association [APA], 1994) that has resulted in serious functional impairment, which substantially interferes with or limits one or more major life activities.

To establish the means to generate estimates of SMI in the United States, SAMHSA conducted a methodological study—the Mental Health Surveillance Study (MHSS)—to calibrate mental health questionnaire items in the National Survey on Drug Use and Health (NSDUH) with a "gold standard" clinical psychiatric interview and assessment of functioning. A split-sample design was used to administer the 12-month K6 distress scale and either an abbreviated World Health Organization Disability Assessment Schedule (WHODAS) or the Sheehan Disability Scale (SDS) to each respondent aged 18 or older. A subsample of 1,502 adults selected from the main study participated in the calibration study by agreeing to undergo additional mental health assessment via a telephone interview. An analysis was conducted to determine the statistical models (using K6 plus WHODAS items or K6 plus SDS) that accurately predict SMI status as determined by the clinical interview and assessment of function. The analyses found that the WHODAS impairment measure performed slightly better than the SDS, so the WHODAS has been retained as the only impairment scale in the survey instrument for 2009 going forward. A description of the MHSS design and results may be found in Section B.4.6 in Appendix B.

### **Serious Psychological Distress**

As a direct outcome of the MHSS, this report focuses on a past 30 day indicator of SPD rather than a past year reference period as has been reported in previous national findings reports.

SPD is defined as having a score of 13 or higher on the 30-day K6 scale. Based on responses about symptoms (on the K6) in the past 30 days, this measure of SPD now more closely corresponds with SPD reference periods reported in other surveys, such as the National Health Interview Survey (NHIS) and the Behavioral Risk Factor Surveillance System (BRFSS). Although the differing modes and contexts of the other surveys prevent direct comparisons of SPD prevalence, there is utility in examining health and behavior correlates of SPD within each survey. Further description of the SPD measure may be found in Section B.4.5 in Appendix B.

### **Suicidal Thoughts and Behavior**

Responding to a need for national data on the prevalence of suicidal thoughts and behavior, a brief module was added to the 2008 NSDUH questionnaire. Suicidality data have been (and continue to be) collected within the context of the MDE module; however, that approach did not capture respondents who screened out of the depression module before they were asked about suicide and did not specifically assess suicidal thoughts and behaviors in the past 12 months. The current module asks all adult respondents if they had serious thoughts of suicide, and if they had thoughts of suicide, whether they made suicide plans or attempts in the past year and further, if an attempt was made, whether the respondent received medical attention or hospitalization as a result of attempted suicide.

### **Major Depressive Episode (Depression)**

A module of questions designed to obtain measures of lifetime and past year prevalence of MDE, the level of functional impairment caused by MDE in the past year, and treatment for depression has been administered to adults aged 18 or older and youths aged 12 to 17 since 2004. Some questions in the adolescent depression module differ slightly from the adult depression module to make them more appropriate for youths. Given these differences, adult and youth depression estimates are presented separately in this chapter.

MDE is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had at least four of seven additional symptoms reflecting the criteria as described in the DSM-IV. It should be noted that unlike the DSM-IV criteria for MDE, no exclusions were made in NSDUH for depressive symptoms caused by medical illness, bereavement, or substance use disorders. Impairment is defined by the level of role interference reported to be caused by MDE in the past 12 months. For adults aged 18 or older, the SDS role domains are (1) home management, (2) work, (3) close relationships with others, and (4) social life. The role domains are assessed on a 0 to 10 scale with impairment categories of "none" (0), "mild" (1-3), "moderate" (4-6), "severe" (7-9), and "very severe" (10). The role domains for youths aged 12 to 17 are slightly modified to be made age appropriate, but are assessed on the same 0 to 10 scale described for adults. The specific questions used to measure MDE and role impairment and the scoring algorithm for these responses are included in Section B.4.7 in Appendix B.

One consequence of the MHSS is that the measures inserted to accommodate it (i.e., the past 30 day K6 scale, the functional impairment scale[s], and the suicidal thoughts and behavior items) are suspected of having some impact on respondents' reporting of symptoms in the adult MDE module. As a result, direct comparison with previous years of data is compromised,

requiring that a new MDE trend begin with the 2008 data. To facilitate comparison with the 2009 MDE estimates, only data from the sample of respondents receiving the WHODAS items are presented in this report.

## **Comparing the Measures**

Although the populations classified with SMI, MDE, and SPD substantially overlap, the definitions used for the three measures differ distinctly. Meeting the criteria for SMI indicates that a respondent endorsed having symptoms and related functional impairment at a level that is predictive of having a clinically significant mental disorder and functional impairment as measured by a "gold standard" clinical interview. Meeting the criteria for past year MDE indicates that a respondent had the specific physical and emotional symptom profile indicative of MDE for 2 weeks or more in the past 12 months as described in the DSM-IV. (MDE is known to be a fairly common disorder that often includes significant impairment in a person's functioning at work, at home, and in his or her social life.) Meeting the criteria for past 30 day SPD indicates a respondent recently experienced heightened distress symptomatology that may be affecting health and behavior. This distress may be part of a chronic psychological disturbance (even SMI) or may represent a temporary disturbance (e.g., in reaction to an acute stressor) that could subside after a brief period of adjustment.

## **Mental Health Service Utilization**

This chapter also presents data on mental health care among adults aged 18 or older and youths aged 12 to 17. Initiated in 2000, the mental health service utilization modules are asked of respondents regardless of SMI, MDE, or SPD status. In the adult module, respondents are asked whether they received treatment or counseling for any problem with emotions, "nerves," or mental health in the past year in any inpatient or outpatient setting or used prescription medication for a mental or emotional condition. The treatment questions in this module are generic in that they do not ask specifically about treatment for a particular disorder, as do the questions in the MDE module. Consequently, references to treatment or counseling for any problem with emotions, nerves, or mental health are described broadly as "mental health service use" or receiving/needing "mental health care." Of note, it is possible for a respondent to have indicated receipt of treatment for depression without having indicated that he or she received services for any problems with emotions, nerves, or mental health.

In NSDUH, questions designed to assess mental health service utilization asked of youths differ from those asked of adults. Youths aged 12 to 17 are asked whether they received any treatment or counseling within the 12 months prior to the interview for problems with behavior or emotions in the specialty mental health setting (outpatient or inpatient care), the general medical setting (pediatrician or family physician care for emotional or behavior problems), or the education setting (talked with a counselor, psychologist, or teacher; or received special education services while in a regular classroom; or placed in a special classroom, special program, or special school). Youths also are asked for the number of nights spent in overnight facilities, the number of visits they had to outpatient mental health providers, and the reason(s) for the most recent stay or visit. Both the youth and the adult mental health questions specifically exclude treatment for problems with substance use because substance use treatment is assessed in other interview modules.

Estimates of unmet need for mental health care are reported for adults. Unmet need is established using a question that asks whether a respondent perceived a need for, but did not receive mental health treatment or counseling at any time in the 12 months prior to the NSDUH interview. This measure also includes persons who received some type of mental health service in the past 12 months, but reported a perceived need for additional services they did not receive.

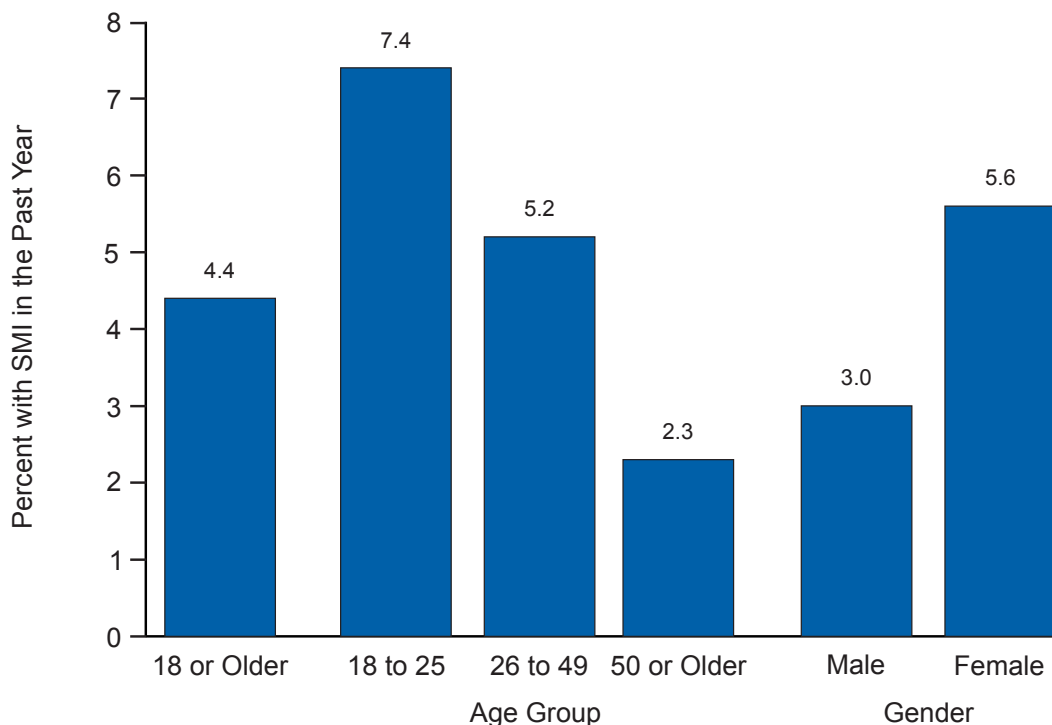
It is important to note that because the survey covers the U.S. civilian, noninstitutionalized population, persons residing in long-term psychiatric or other institutions continuously throughout the year were not included in the NSDUH sampling frame. Persons who were hospitalized or institutionalized for a period of time during 2008, but who resided in households during the rest of the year, were included in the sample.

## 8.1. Adults Aged 18 or Older

### Prevalence of Serious Mental Illness among Adults

- In 2008, there were an estimated 9.8 million adults aged 18 or older in the United States with SMI in the past year. This represents 4.4 percent of all adults in this country (Figure 8.1).
- Rates of SMI in 2008 were highest for adults aged 18 to 25 (7.4 percent) and lowest for adults aged 50 or older (2.3 percent).

**Figure 8.1 Serious Mental Illness in the Past Year among Adults Aged 18 or Older, by Age and Gender: 2008**



- The prevalence of SMI in 2008 among women aged 18 or older (5.6 percent) was significantly higher than among men in that age group (3.0 percent).
- In 2008, the rate of past year SMI was lowest among Asians (2.9 percent) and blacks (3.5 percent). Rates for other racial/ethnic groups were 4.0 percent among Hispanics, 4.2 percent among American Indians or Alaska Natives, 4.7 percent among whites, and 5.6 percent among persons reporting two or more races. Estimates of SMI among Native Hawaiians or Other Pacific Islanders could not be reported due to low precision.
- The rate of SMI in 2008 was higher among adults who were unemployed (8.0 percent) than those who were employed full time (3.5 percent) or part time (4.8 percent).

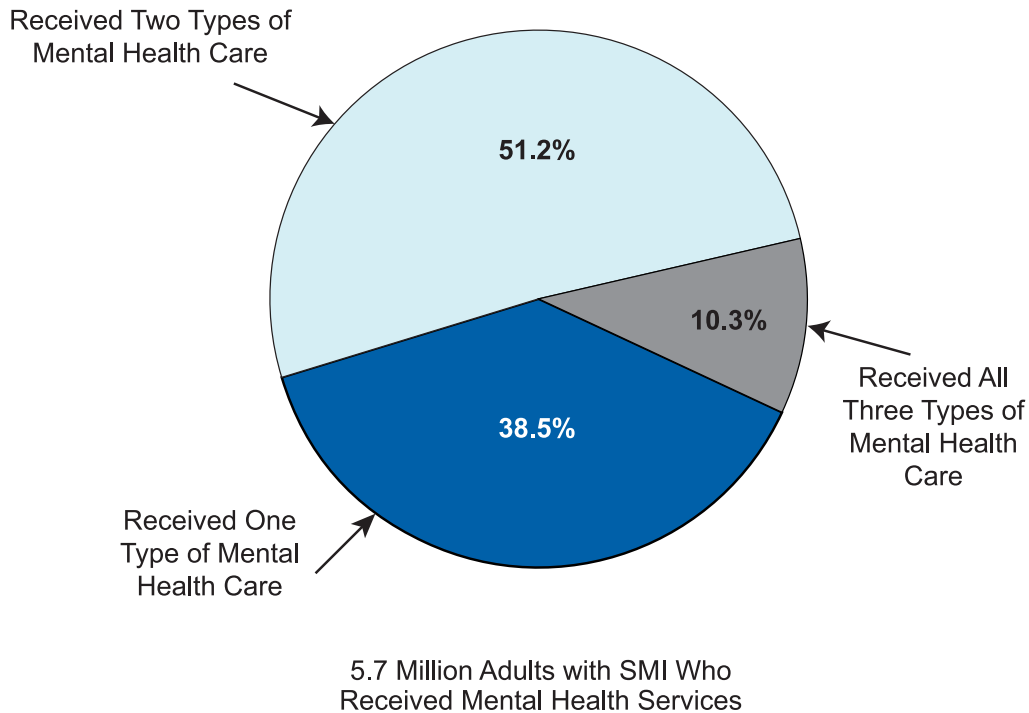
### **Mental Health Service Use among Adults with Serious Mental Illness**

- Among the 9.8 million adults aged 18 or older with SMI in 2008, 5.7 million (58.7 percent) used mental health services in the past year. Service use was higher among adults with SMI who were aged 50 or older (70.9 percent) and aged 26 to 49 (62.2 percent) than among adults aged 18 to 25 (40.4 percent).
- Among all adults aged 18 or older with SMI, 52.6 percent received prescription medication, 40.5 percent received outpatient services, and 7.5 percent received inpatient services for a mental health problem in the past year. Respondents could report more than one type of service used.
- Among adults aged 18 or older with SMI who reported receiving mental health services in the past year, 38.5 percent received one type of care (inpatient, outpatient, or prescription medication), 51.2 percent received two types of care, and 10.3 percent received all three types of care (Figure 8.2).

### **Serious Mental Illness and Substance Use and Dependence or Abuse among Adults**

- Past year illicit drug use in 2008 was higher among adults aged 18 or older with past year SMI (30.3 percent) than among adults without SMI (12.9 percent). Similarly, the rate of past year cigarette use was higher among adults with SMI (50.5 percent) than among adults without SMI (28.5 percent).
- Among adults aged 18 or older with past year SMI in 2008, the rate of binge alcohol use (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) was 29.4 percent, which was higher than the 24.6 percent among adults who did not meet the criteria for SMI. Similarly, the rate of heavy alcohol use (drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days) among adults with SMI in the past year (11.6 percent) was higher than the rate reported among adults without SMI in the past year (7.3 percent).

**Figure 8.2 Number of Types of Mental Health Services Received in the Past Year among Persons Aged 18 or Older with Past Year Serious Mental Illness Who Received Mental Health Services in the Past Year: 2008**



Note: The three types of mental health care are receiving inpatient care, outpatient care, or prescription medication.

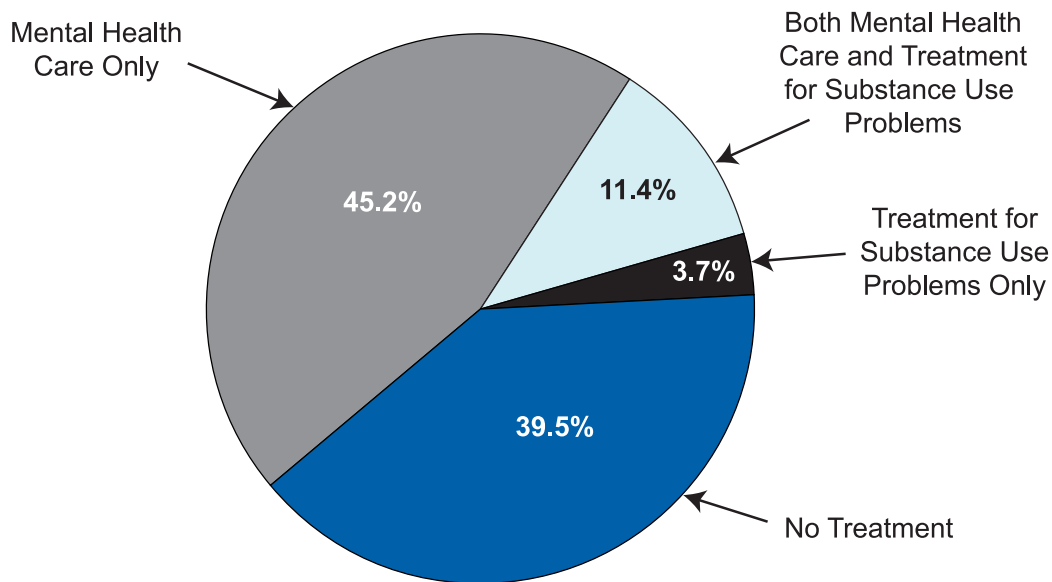
- SMI in the past year was associated with past year substance dependence or abuse in 2008. Among adults aged 18 or older with SMI, 25.2 percent (2.5 million) were dependent on or abused illicit drugs or alcohol. The rate among adults without SMI was 8.3 percent (17.9 million).

**Mental Health Care among Adults with Co-Occurring Serious Mental Illness and Substance Use Disorders**

- Among the 2.5 million adults aged 18 or older with both SMI and substance dependence or abuse (i.e., a substance use disorder) in 2008, 60.5 percent received mental health care or substance use treatment at a specialty facility; 11.4 percent received both mental health care and specialty substance use treatment, 45.2 percent received only mental health care, and 3.7 percent received only specialty substance use treatment (Figure 8.3).



**Figure 8.3 Past Year Mental Health Care and Treatment for Substance Use Problems among Adults Aged 18 or Older with Both Serious Mental Illness and a Substance Use Disorder: 2008**



2.5 Million Adults with Co-Occurring SMI and Substance Use Disorder

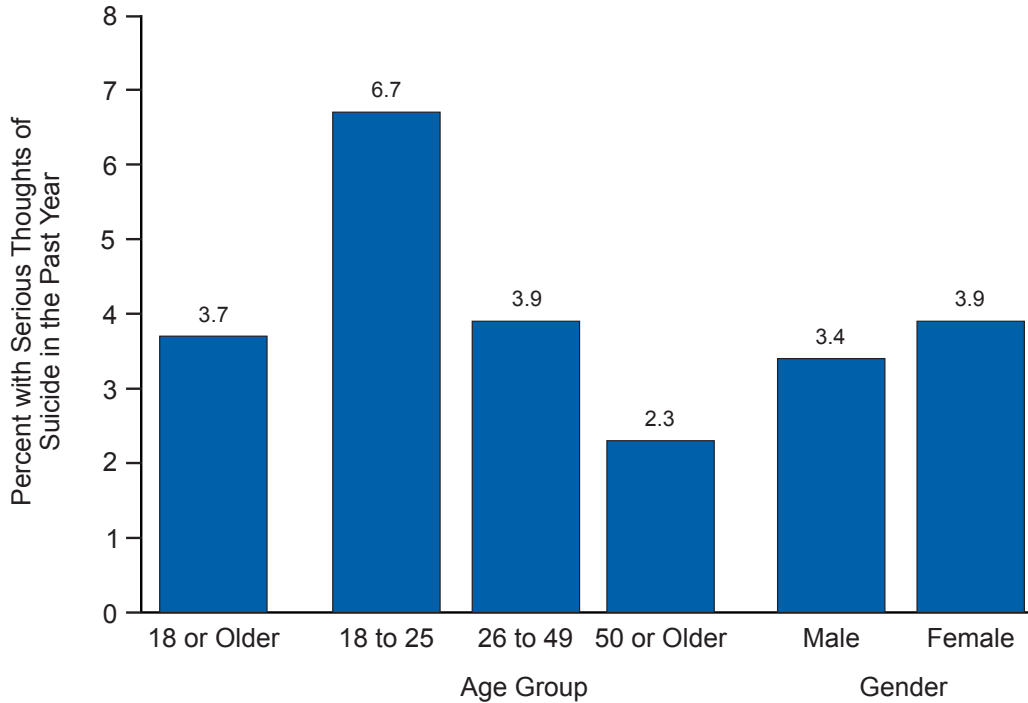
Note: The percentages add to less than 100 percent because of rounding.

Note: Mental health care is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Treatment for substance use problems refers to treatment at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center in order to reduce or stop drug or alcohol use, or for medical problems associated with drug or alcohol use.

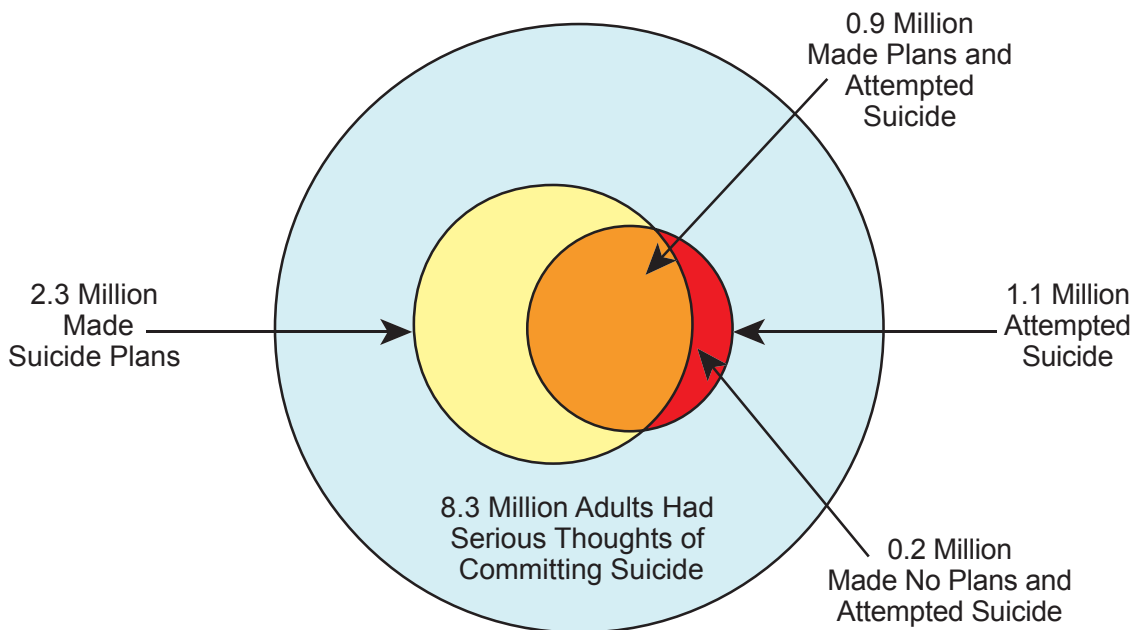
### Prevalence of Suicidal Thoughts and Behavior among Adults

- In 2008, an estimated 8.3 million adults (3.7 percent) aged 18 or older had serious thoughts of suicide in the past year (Figure 8.4). The rate was 3.9 percent among women and 3.4 percent among men. Rates of serious thoughts of suicide were highest among young adults aged 18 to 25 (6.7 percent) compared with adults aged 26 to 49 (3.9 percent) and adults aged 50 or older (2.3 percent).
- Among adults 18 or older, 2.3 million (1.0 percent) made suicide plans in the past year (Figure 8.5). The rate was 1.1 percent among women and 0.9 percent among men. Rates of adults who made suicide plans were also highest among 18 to 25 year olds (1.9 percent), followed by 26 to 49 year olds (1.1 percent) and adults 50 years or older (0.7 percent).

**Figure 8.4 Suicidal Thoughts in the Past Year among Adults Aged 18 or Older, by Age and Gender: 2008**



**Figure 8.5 Suicidal Thoughts and Behavior in the Past Year among Adults Aged 18 or Older: 2008**



- In 2008, 1.1 million adults (0.5 percent) aged 18 or older attempted suicide (Figure 8.5). Among those 1.1 million adults who attempted suicide, 0.9 million reported having made plans for suicide, while 0.2 million had not made suicide plans. Among adults, 678,000 (0.3 percent) received medical attention for their suicide attempt, and 500,000 (0.2 percent) stayed overnight or longer in a hospital as a result of their suicide attempt in the past year.

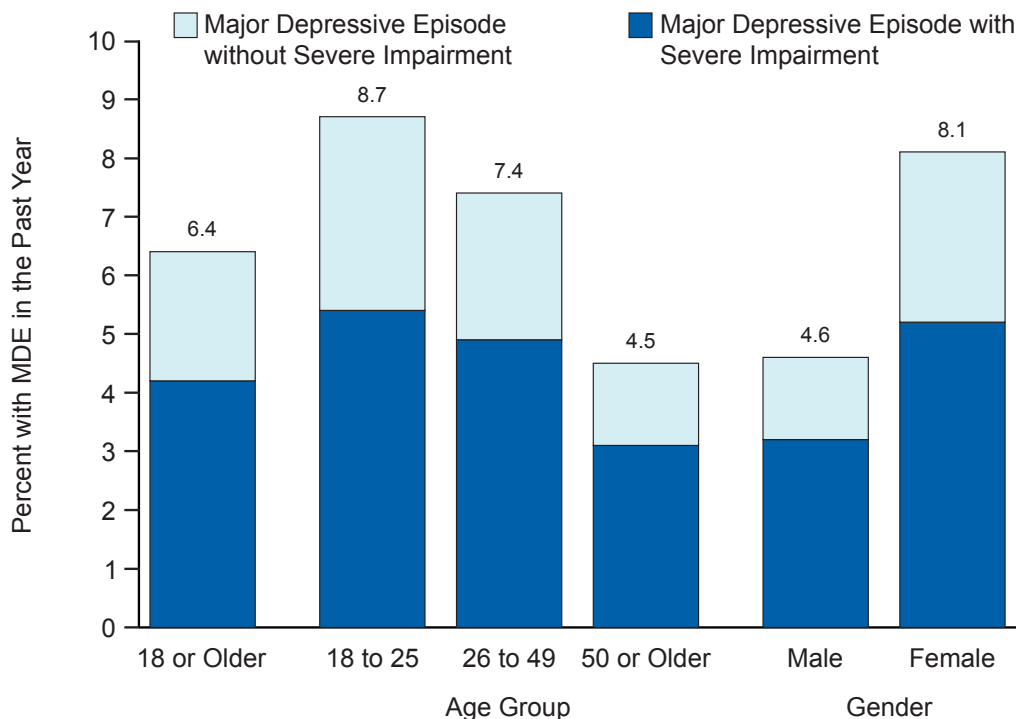
### **Prevalence of Major Depressive Episode among Adults**

- In 2008, 6.4 percent of adults aged 18 or older (14.3 million people) had at least one MDE in the past year (Figure 8.6). Over 1 in 25 adults (4.2 percent or 9.5 million people) had past year MDE with severe impairment.
- The past year prevalence of MDE in 2008 was lower for those aged 50 or older (4.5 percent) compared with rates among persons aged 18 to 25 (8.7 percent) and those aged 26 to 49 (7.4 percent).
- The past year prevalence of MDE was higher among adult females than among adult males (8.1 vs. 4.6 percent). Among women, past year MDE rates were higher in the younger age groups (12.1 percent for 18 to 25 year olds, 8.8 percent for 26 to 49 year olds) compared with those 50 or older (6.0 percent).
- Among adults aged 18 or older, past year prevalence of MDE varied by race/ethnicity in 2008. The rate of MDE was highest among persons reporting two or more races (12.7 percent), while rates for single race groups were 7.0 percent among whites, 5.2 percent among Hispanics, 4.9 percent among American Indians or Alaska Natives, 4.9 percent among blacks, and 3.6 percent among Asians. Estimates of past year MDE among Native Hawaiians or Other Pacific Islanders could not be reported due to low precision.
- Among adults aged 18 or older in 2008, past year prevalence of MDE with severe impairment was higher among unemployed persons (6.6 percent) than among persons employed full time (3.2 percent). Past year prevalence of MDE was 4.8 percent among persons employed part time and 5.7 percent among persons retired or otherwise not in the labor force.

### **Major Depressive Episode and Substance Use and Dependence or Abuse among Adults**

- In 2008, adults aged 18 or older with past year MDE had higher rates of past year illicit drug use than those without MDE (27.2 vs. 13.0 percent). A similar pattern was observed for specific types of past year illicit drug use, such as the use of marijuana, cocaine, heroin, or hallucinogens and the nonmedical use of prescription-type psychotherapeutics.

**Figure 8.6 Major Depressive Episode in the Past Year among Adults Aged 18 or Older, by Severe Impairment, Age, and Gender: 2008**



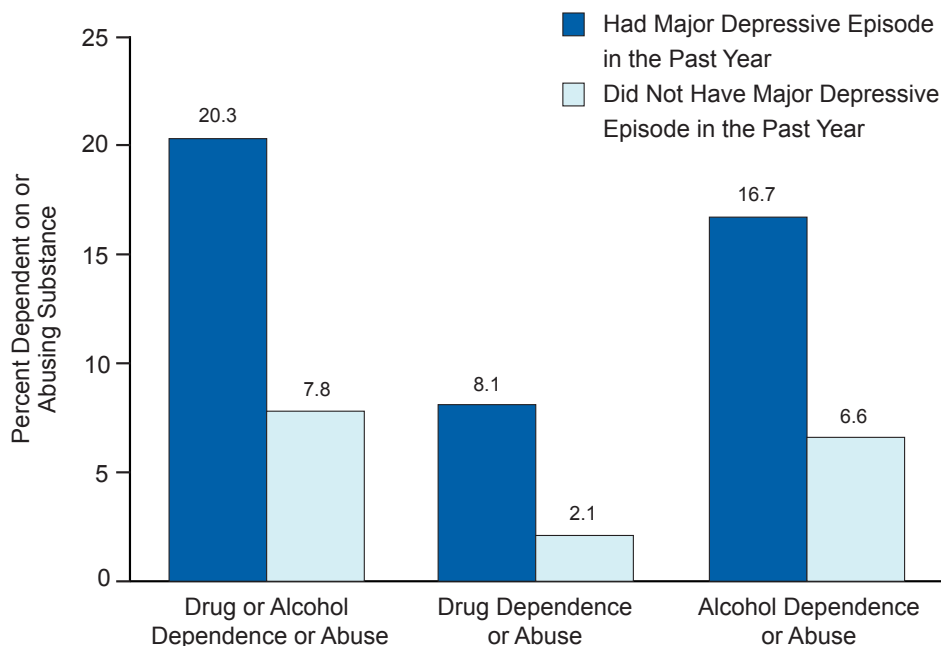
Note: Respondents with an unknown level of impairment were included in the estimates for Major Depressive Episode without Severe Impairment.

- Among adults aged 18 or older with MDE in the past year, 9.6 percent were heavy alcohol users in the past month, higher than the 7.1 percent of heavy alcohol users without MDE in the past year. Similarly, among adults with past year MDE, the rate of daily cigarette use in the past month was 29.1 percent, while the rate was 15.2 percent among adults without past year MDE.
- Having MDE in the past year was associated with past year substance dependence or abuse. Among adults aged 18 or older who had MDE in 2008, 20.3 percent were dependent on or abused alcohol or illicit drugs, while among adults without MDE, 7.8 percent were dependent on or abused alcohol or illicit drugs (Figure 8.7).

### Treatment for Major Depressive Episode among Adults

- Among adults aged 18 or older who had past year MDE in 2008, 71.0 percent received treatment (i.e., saw or talked to a medical doctor or other professional or used prescription medication) for depression in the same time period. The past year MDE treatment rate was highest among persons aged 50 or older (86.3 percent), followed by adults aged 26 to 49 (72.6 percent) and adults aged 18 to 25 (44.7 percent). Of all adults aged 18 or older who had past year MDE with severe impairment in 2008, 75.0 percent received treatment.

**Figure 8.7 Substance Dependence or Abuse among Adults Aged 18 or Older, by Major Depressive Episode in the Past Year: 2008**



- In 2008, women aged 18 or older who had MDE in the past year were more likely than their male counterparts to have received treatment for depression in the past year (74.2 vs. 65.0 percent).
- Among adults aged 18 or older with past year MDE in 2008, about two thirds of those with no insurance (64.1 percent) and private insurance (69.8 percent) received treatment for depression in the past year compared with higher rates for those with Medicaid or CHIP (83.1 percent) and 83.5 percent of adults with other health insurance (including Medicare, CHAMPUS, TRICARE, CHAMPVA, VA, and other sources of health care or insurance).

**Prevalence of Past 30 Day Serious Psychological Distress among Adults**

- In 2008, there were an estimated 10.2 million adults aged 18 or older in the United States with SPD in the past month. This represents 4.5 percent of all U.S. adults.
- Rates of SPD were highest for adults aged 18 to 25 (7.5 percent) and lowest for adults aged 50 or older (2.9 percent).
- In 2008, rates of past 30 day SPD were higher among unemployed adults (10.2 percent) than among adults employed full time (3.3 percent), part time (4.4 percent), or other persons not in the labor force (6.1 percent).

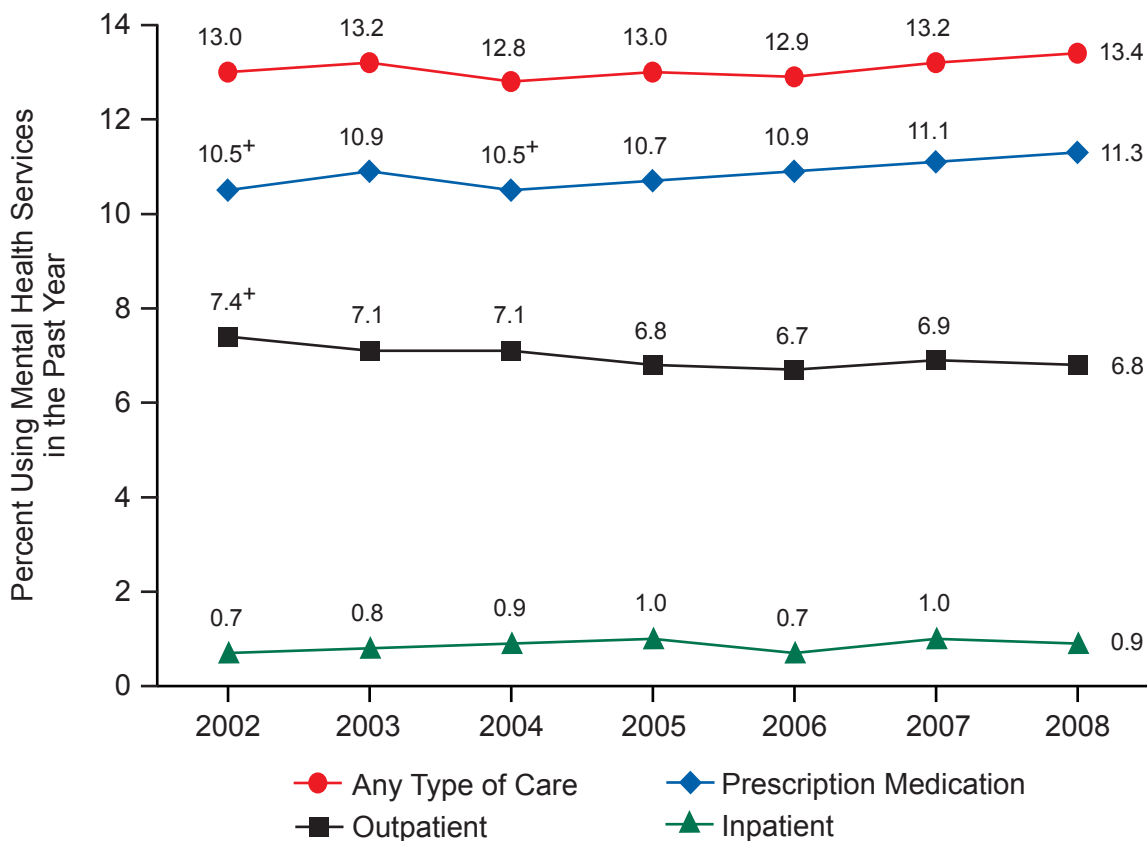
## **Serious Psychological Distress and Substance Use among Adults**

- Past 30 day illicit drug use in 2008 was higher among adults aged 18 or older with SPD (19.6 percent) than among adults without SPD (7.3 percent). Past 30 day use of illicit drugs other than marijuana in 2008 was higher among adults with SPD (12.3 percent) than among adults without SPD (2.9 percent).
- Among adults aged 18 or older with past month SPD in 2008, the rate of binge alcohol use (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) was 30.9 percent, which was higher than the 24.6 percent rate among adults who did not meet the criteria for SPD. The rate of heavy alcohol use (drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days) among adults with SPD in the past month was higher (12.1 percent) than the rate reported among adults without SPD in the past month (7.3 percent). Similarly, the rate of past month use of cigarettes was higher among adults with SPD (47.6 percent) than among adults without SPD (24.5 percent).

## **Mental Health Service Use and Unmet Need for Mental Health Care among Adults**

- In 2008, 30 million adults (13.4 percent of the population 18 years or older) received mental health services during the past 12 months (Figure 8.8). This was similar to the rate in 2007 (13.2 percent).
- In 2008, the type of mental health services most often received by adults aged 18 or older was prescription medication (11.3 percent), followed by outpatient services (6.8 percent). Rates of prescription medication and outpatient service use in 2008 were similar to the rates in 2007 (11.1 and 6.9 percent, respectively). Note that respondents could report receiving more than one type of mental health care. Between 2002 and 2008, the percentage of adults receiving outpatient services declined from 7.4 to 6.8 percent, while the percentage receiving prescription medication increased from 10.5 to 11.3 percent.
- About 2.0 million adults (0.9 percent of the population aged 18 years or older) received inpatient care for mental health problems during the past year. This estimate was similar to the rate reported in 2007 (1.0 percent or 2.1 million adults).
- Rates of mental health service use varied by age for adults aged 18 or older. Adults aged 18 to 25 had a lower rate of mental health service use (10.8 percent) than both adults aged 26 to 49 (14.0 percent) and adults aged 50 or older (13.6 percent).
- Men were less likely than women to receive outpatient mental health services (5.0 vs. 8.5 percent) and prescription medication (7.5 vs. 14.8 percent) for mental health problems in the past year.

**Figure 8.8 Past Year Mental Health Service Use among Adults Aged 18 or Older, by Type of Care: 2002-2008**

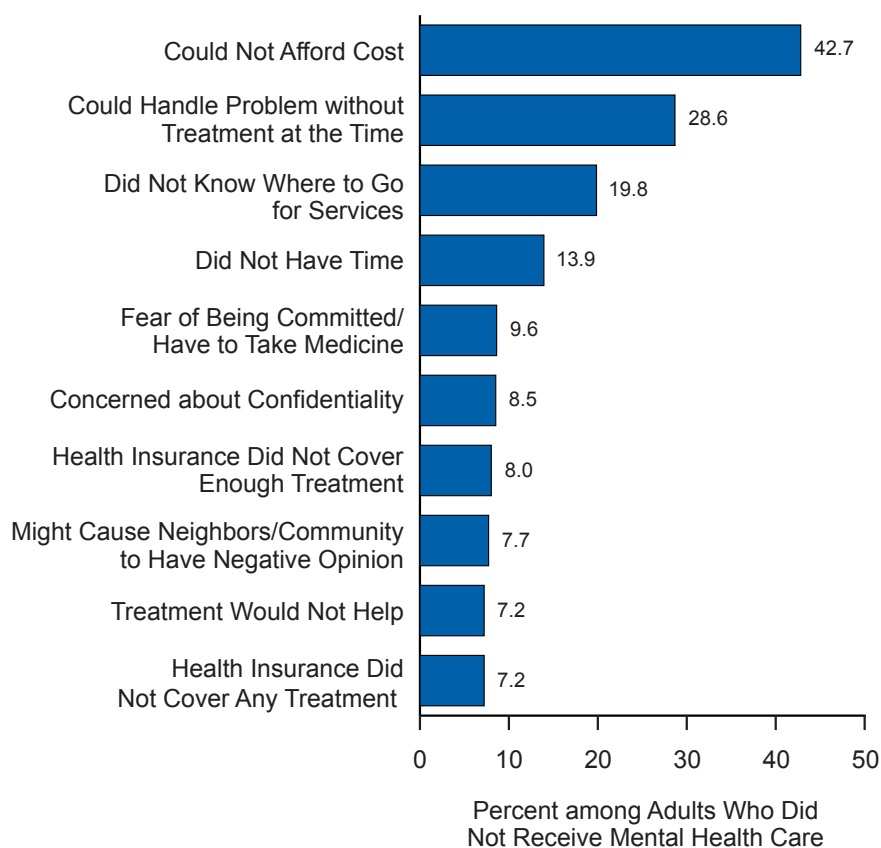


<sup>+</sup>Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

- Among racial/ethnic groups, the rates of mental health service use for adults aged 18 or older in 2008 were 18.8 percent for persons reporting two or more races, 16.0 percent for whites, 13.2 percent for American Indians or Alaska Natives, 8.7 percent for blacks (up from 6.8 percent in 2007), 6.8 percent for Hispanics, and 4.5 percent for Asians. Estimates of mental health service use among Native Hawaiians or Other Pacific Islanders could not be reported due to low precision.
- In 2008, there were 10.6 million adults aged 18 or older (4.7 percent) who reported an unmet need for mental health care in the past year. This included 5.1 million adults who did not receive any mental health services in the past year. Among adults who did receive some type of mental health service in the past year, 17.9 percent (5.4 million) reported an unmet need for mental health care. (Unmet need among adults who received mental health services may reflect a delay in care or a perception of insufficient care.)

- Among the 5.1 million adults who reported an unmet need for mental health care and did not receive mental health services in the past year, several barriers to care were reported. These included an inability to afford care (42.7 percent), believing at the time that the problem could be handled without care (28.6 percent), not knowing where to go for care (19.8 percent), and not having the time to go for care (13.9 percent) (Figure 8.9).

**Figure 8.9 Reasons for Not Receiving Mental Health Services in the Past Year among Adults Aged 18 or Older with an Unmet Need for Mental Health Care Who Did Not Receive Mental Health Services: 2008**



## 8.2. Youths Aged 12 to 17

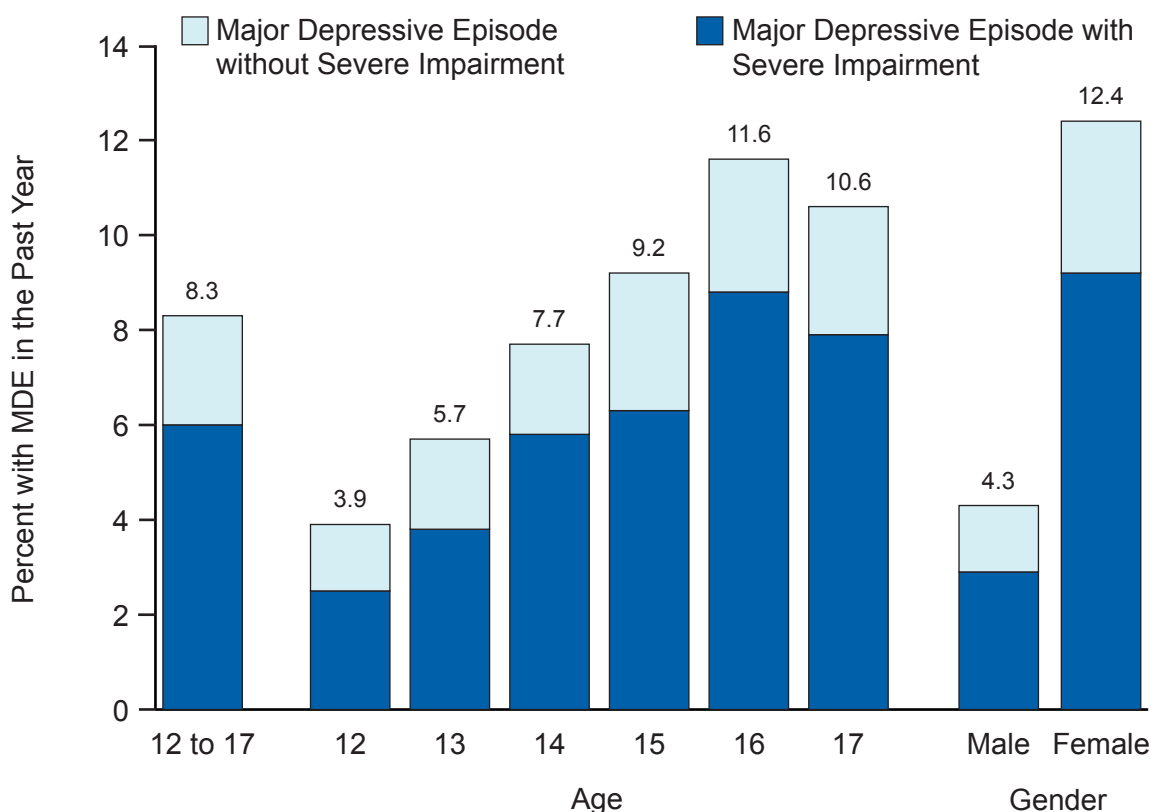
### Prevalence of Major Depressive Episode among Youths

- In 2008, there were 2.0 million youths (8.3 percent of the population aged 12 to 17) who had major depressive episode (MDE) during the past year. An estimated 1.5 million (6.0 percent) had MDE with severe impairment in one or more role domains (chores at home; school or work; close relationships with family; or social life).



- Among youths aged 12 to 17 in 2008, the past year prevalence of MDE ranged from 3.9 percent among 12 year olds to 11.6 percent among those aged 16 and 10.6 percent among those aged 17 (Figure 8.10). Similarly, rates of past year MDE with severe impairment ranged from 2.5 percent among 12 years olds to 8.8 percent among 16 year olds and 7.9 percent among 17 year olds.

**Figure 8.10 Major Depressive Episode in the Past Year among Youths Aged 12 to 17, by Severe Impairment, Age, and Gender: 2008**



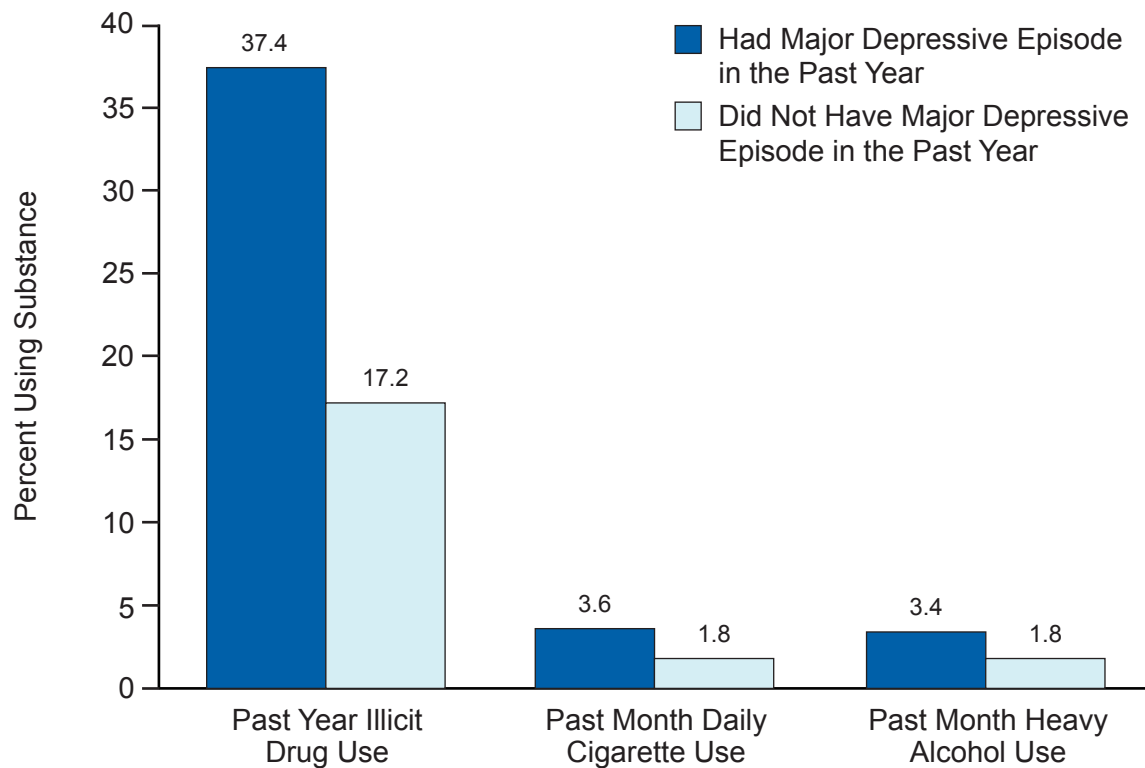
Note: Respondents with an unknown level of impairment were included in the estimates for Major Depressive Episode without Severe Impairment.

- Among youths aged 12 to 17 in 2008, the prevalence rates of MDE and MDE with severe impairment among females were higher than those of their male counterparts. Female youths had an MDE prevalence rate of 12.4 percent in 2008, almost 3 times the rate for males in the same age range (4.3 percent). The prevalence of MDE with severe impairment was 9.2 percent for females, which was over 3 times the rate for males (2.9 percent).

## Major Depressive Episode and Substance Use among Youths

- Among 12 to 17 year olds who had past year MDE in 2008, 37.4 percent had used illicit drugs during the same period (Figure 8.11), which was higher than the rate of 17.2 percent among youths who did not have past year MDE. This pattern was similar for most specific types of illicit drug use, including the use of marijuana, cocaine, hallucinogens, or inhalants and the nonmedical use of prescription-type psychotherapeutics.

**Figure 8.11 Substance Use among Youths Aged 12 to 17, by Major Depressive Episode in the Past Year: 2008**



- In 2008, youths aged 12 to 17 who had MDE during the past year were more likely to report daily cigarette use in comparison with those who did not have MDE during the past year (3.6 vs. 1.8 percent). Similarly, youths who had past year MDE were more likely to report heavy use of alcohol than those who did not have MDE (3.4 vs. 1.8 percent).
- The occurrence of MDE in the past year among youths aged 12 to 17 was associated with a higher prevalence of illicit drug or alcohol dependence or abuse (21.3 percent). Among youths who did not report past year MDE, 6.4 percent had illicit drug or alcohol dependence or abuse during the same period.

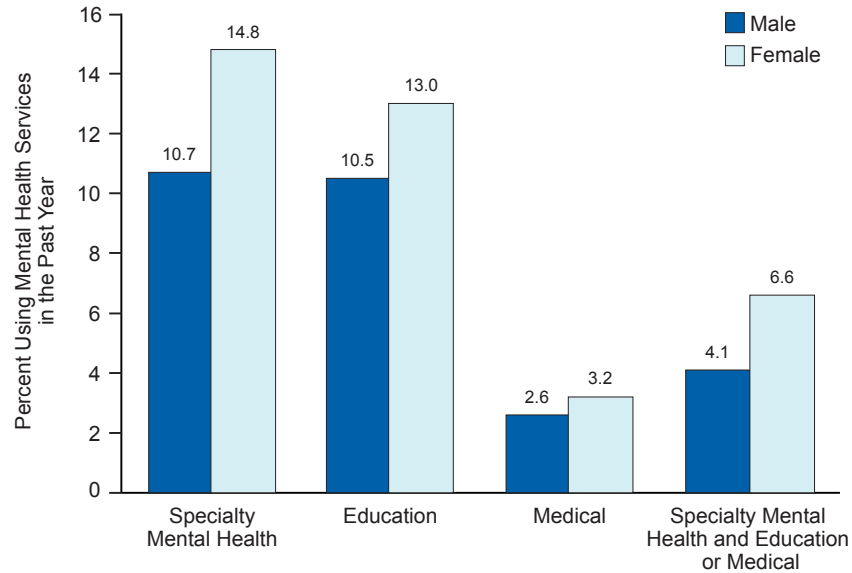
## **Treatment for Major Depressive Episode among Youths**

- In 2008, 37.7 percent of youths aged 12 to 17 with past year MDE received treatment for depression (i.e., saw or talked to a medical doctor or other professional or used prescription medication).
- In 2008, among youths with past year MDE, 21.7 percent saw or talked to a medical doctor or other professional only, 2.9 percent used prescription medication only, and 13.1 percent received treatment from both sources for depression in the past year.

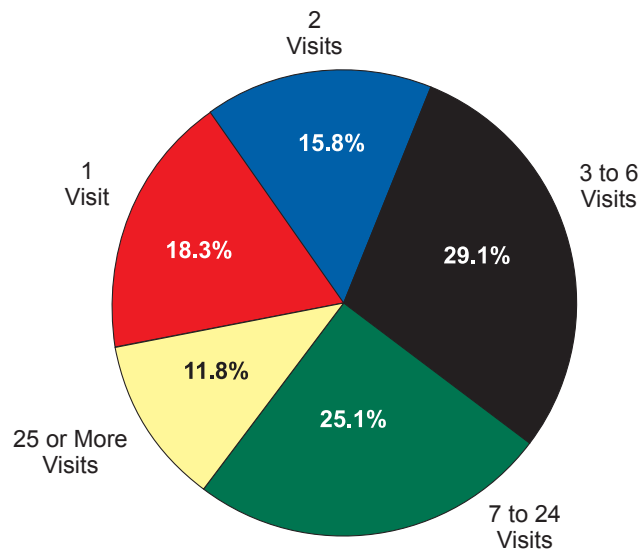
## **Mental Health Service Use among Youths**

- In 2008, 3.1 million youths aged 12 to 17 (12.7 percent) received treatment or counseling for problems with behavior or emotions in a specialty mental health setting (inpatient or outpatient care). Additionally, 11.8 percent of youths received services in an education setting, and 2.9 percent received mental health services in a general medical setting in the past 12 months. Mental health services were received in both a specialty setting and either an education or a general medical setting (i.e., care from multiple settings) by 5.3 percent of youths.
- Female youths were more likely than male youths to report using outpatient specialty mental health services (13.6 vs. 9.3 percent), education services (13.0 vs. 10.5 percent), or general medical-based services (3.2 vs. 2.6 percent), but there was no significant gender difference in the use of inpatient specialty mental health services (Figure 8.12).
- Of the 2.8 million youths who received outpatient specialty mental health services in the past 12 months, 18.3 percent reported having 1 visit, 15.8 percent reported having 2 visits, 29.1 percent reported having 3 to 6 visits, 25.1 percent reported having 7 to 24 visits, and 11.8 percent reported having 25 or more visits (Figure 8.13).
- Of the 598,000 youths who received inpatient or residential specialty mental health services in the past 12 months, about one third (36.0 percent) reported staying overnight 1 night, 31.4 percent reported staying 2 to 6 nights, 19.6 percent reported staying 7 to 24 nights, and 13.0 percent reported staying 25 or more nights.

**Figure 8.12 Past Year Mental Health Service Use among Youths Aged 12 to 17, by Gender: 2008**



**Figure 8.13 Number of Outpatient Visits in the Past Year among Youths Aged 12 to 17 Who Received Outpatient Specialty Mental Health Services: 2008**



2.8 Million Youths Who Received Outpatient Specialty Mental Health Services

Note: The percentages add to greater than 100 percent because of rounding.

## 9. Discussion of Trends in Substance Use among Youths and Young Adults

This report presents findings from the 2008 National Survey on Drug Use and Health (NSDUH). Conducted since 1971 and previously named the National Household Survey on Drug Abuse (NHSDA), the survey underwent several methodological improvements in 2002 that have affected prevalence estimates. As a result, the 2002 through 2008 estimates are not comparable with estimates from 2001 and earlier surveys. Therefore, the primary focus of the report is on comparisons of measures of substance use and mental health problems across subgroups of the U.S. population in 2008, changes between 2007 and 2008, and changes between 2002 and 2008. This chapter provides an additional discussion of the findings concerning a topic of great interest—trends in substance use among youths and young adults.

An important step in the analysis and interpretation of NSDUH or any other survey data is to compare the results with those from other data sources. This can be difficult sometimes because the other surveys typically have different purposes, definitions, and designs. Research has established that surveys of substance use and other sensitive topics often produce inconsistent results because of different methods used. Thus, it is important to understand that conflicting results often reflect differing methodologies, not incorrect results. Despite this limitation, comparisons can be very useful. Consistency across surveys can confirm or support conclusions about trends and patterns of use, and inconsistent results can point to areas for further study. Further discussion of this issue is included in Appendix D, along with descriptions of methods and results from other sources of substance use and mental health data.

Unfortunately, few additional data sources are available at this time to compare with NSDUH results. One established source is Monitoring the Future (MTF), a study sponsored by the National Institute on Drug Abuse (NIDA). MTF surveys students in the 8th, 10th, and 12th grades in classrooms during the spring of each year, and it also collects data by mail from a subsample of adults who had participated earlier in the study as 12th graders (Johnston, O'Malley, Bachman, & Schulenberg, 2008a, 2008b, 2009). Historically, NSDUH rates of substance use among youths have been lower than those of MTF, and occasionally the two surveys have shown different trends over a short time period. Nevertheless, the two sources have shown very similar long-term trends in prevalence. NSDUH and MTF rates of substance use generally have been similar among young adults, and the two sources also have shown similar trends.

A comparison of NSDUH and MTF estimates for 2002 to 2008 is shown in Tables 9.1 and 9.2 at the end of this chapter for several substances that are defined similarly in the two surveys. For comparison purposes, MTF data on 8th and 10th graders are combined to give an age range close to 12 to 17 years, the standard youth age group for NSDUH. Appendix D provides comparisons according to MTF definitions (8th, 10th, and 12th grades). MTF follow-up data on persons aged 19 to 24 provide the closest match on age to estimates for NSDUH young adults aged 18 to 25. The NSDUH results are remarkably consistent with MTF trends for both youths and young adults, as discussed below.

Both surveys generally show decreases between 2002 and 2008 in the percentages of youths who used marijuana, cocaine, Ecstasy, LSD, alcohol, and cigarettes in the lifetime, past year, and past month (Table 9.1). Exceptions were for the past month use of LSD in both NSDUH and MTF data and the past month use of Ecstasy in the NSDUH data. The hallucinogen trends are discussed in more detail below. Both surveys show no decrease in the rates of past year and past month inhalant use among youths between 2002 and 2008, and only NSDUH shows a significant decrease in lifetime use. The consistency between NSDUH and MTF trend data is found not only in terms of the specific drugs showing decreases, but also in terms of the magnitude of the decreases. Despite the higher levels of prevalence estimated from MTF, the two surveys show very similar rates of change in past month prevalence, especially for the three substances used most commonly by youths: alcohol, cigarettes, and marijuana. Between 2002 and 2008, the rate of current alcohol use among youths declined 17 percent according to NSDUH and 19 percent according to MTF, and between 2007 and 2008 the declines were 8 and 9 percent, respectively. Current cigarette use prevalence rates in 2008 were 30 percent lower in NSDUH and 32 percent lower in MTF compared with 2002 rates. For past month marijuana use, the NSDUH decline from 2002 to 2008 was 18 percent, and the MTF decline was 25 percent.

In both surveys, the decline in marijuana use among youths between 2002 and 2008 was driven by decreases early in the 7-year period, while in the most recent years, little change has occurred in the rate of use. Between 2006 and 2008, there was no significant change in rates of lifetime, past year, or past month marijuana use for youths in NSDUH (aged 12 to 17) or MTF (8th and 10th graders).

Data on young adults also show similar trends in the two surveys, although not as consistent as for the youth data (Table 9.2). Potential reasons for differences from the data for youths are the relatively smaller MTF sample size for young adults and possible bias in the MTF sample due to noncoverage of school dropouts and a low overall response rate, considering nonresponse by schools, by students in the 12th grade survey, and in the follow-up mail survey.

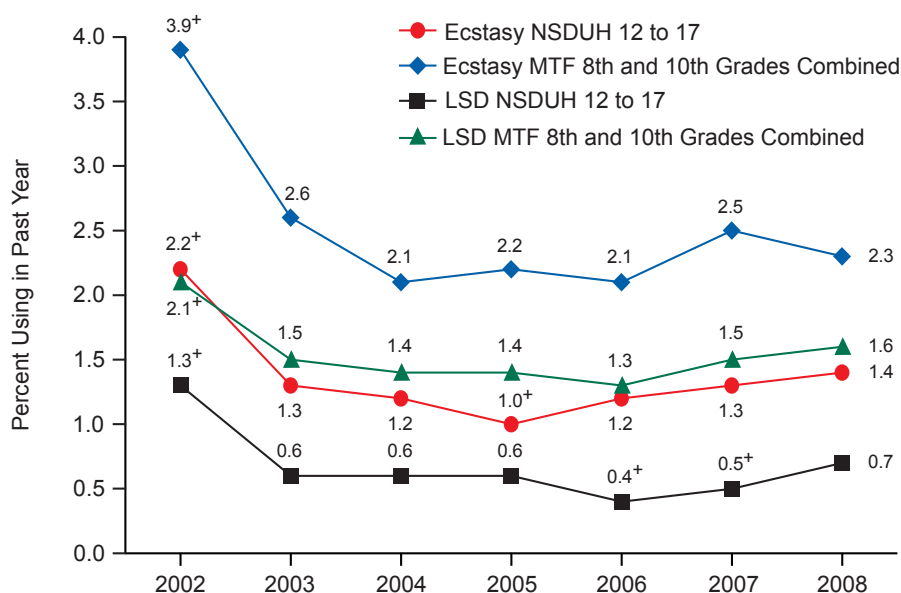
Both surveys show declines between 2002 and 2008 for past year and past month cigarette and marijuana use among young adults, although the decline in past month marijuana use in NSDUH was not significant. In addition, the extent of the declines in current cigarette and marijuana use for young adults in NSDUH from 2002 through 2008 were less than the corresponding declines for young adults in MTF. Past month marijuana prevalence among young adults declined 5 percent according to NSDUH and by 13 percent according to MTF. Similarly, the prevalence of past month cigarette use among young adults in NSDUH declined by 13 percent over this period and by 23 percent in MTF. Both surveys show no significant change between 2002 and 2008 in the rate of current alcohol use among young adults. A significant decline in past month cocaine use between 2006 and 2008 is seen in the NSDUH data. The MTF data show a similar drop in use between 2006 and 2008 (although not statistically significant).

Both NSDUH and MTF generally show decreases for both youths and young adults in the past year use of Ecstasy and LSD between 2002 and 2004, then a leveling in 2005. The 2006, 2007, and 2008 data from NSDUH show evidence of a possible resurgence in the use of these two hallucinogens among both youths and young adults. Between 2005 and 2008, there were increases in the use of Ecstasy in the lifetime among youths according to NSDUH (from 1.6 to 2.1 percent) and past year (from 1.0 to 1.4 percent); past month use among youths increased

from 0.3 to 0.4 percent between 2007 and 2008. LSD use among youths also increased between 2007 and 2008 in the lifetime (0.8 to 1.1 percent) and in the past year (0.5 to 0.7 percent). Past year Ecstasy and LSD estimates among youths in MTF were higher in 2008 than in 2006, but these differences were not statistically significant (Figure 9.1). For young adults in NSDUH, past year Ecstasy use increased from 3.1 percent in 2005 to 3.9 percent in 2008, and LSD use increased from 1.0 to 1.5 percent during that same period. No significant changes were observed in the MTF data on past year Ecstasy use for young adults between 2004 and 2008. However, past year LSD use among young adults in MTF in 2008 was significantly greater than in 2004 and 2005.

Data on availability and perceived risk from NSDUH and MTF provide important context for these emerging trends. Both surveys indicate diminishing availability of these drugs in early years of the decade, but a plateau in recent years. In NSDUH, the percentage of youths aged 12 to 17 reporting that LSD is easy to get declined from 19.4 percent in 2002 to 14.0 percent in 2006, but the rate has not changed since then (13.8 percent in 2008). MTF (8th and 10th graders combined) has shown the same trend for perceived availability of LSD (21.0 percent in 2002, 15.0 percent in 2006, and 15.1 percent in 2008). Although NSDUH does not ask about availability of Ecstasy, MTF showed similar trends for perceived availability of Ecstasy (31.9 percent in 2002, 21.0 percent in 2006, and 20.4 percent in 2008). Measures of youths' perceptions of risk in using these hallucinogens declined during the period from 2002 to 2008 in both surveys. Declining perceived risk could lead to more young people initiating use of these drugs and could be contributing to the increase from 2005 to 2008 in the number of past year initiates of Ecstasy (from 615,000 to 894,000) and LSD (from 243,000 to 394,000) among persons aged 12 or older.

**Figure 9.1 Past Year Ecstasy and LSD Use among Youths in NSDUH and MTF: 2002-2008**



MTF = Monitoring the Future; NSDUH = National Survey on Drug Use and Health.

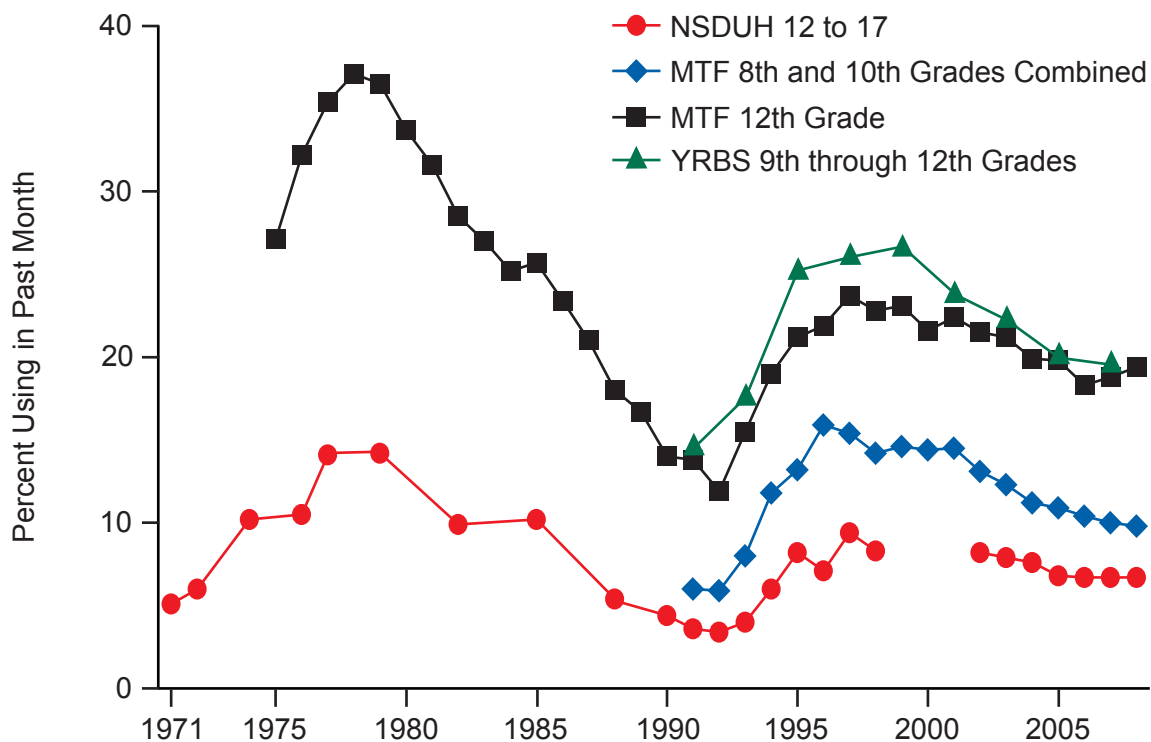
<sup>+</sup> Difference between this estimate and the 2008 estimate is statistically significant at the .05 level.

Another source of data on trends in the use of drugs among youths is the Youth Risk Behavior Survey (YRBS), sponsored by the Centers for Disease Control and Prevention. YRBS surveys students in the 9th through 12th grades in classrooms every other year during the spring (Eaton et al., 2008). The most recent survey was completed in 2007. YRBS has generally shown higher prevalence rates but similar long-term trends when compared with NSDUH and MTF. However, comparisons between YRBS and NSDUH or MTF are less straightforward because of the different periodicity (i.e., biennially instead of annually) and ages covered, the limited number of drug use questions, and smaller sample size in the YRBS. For the substances for which information on current use is collected in the YRBS, including alcohol, cigarettes, marijuana, and cocaine, the YRBS trend results between 2001 and 2007 are consistent with NSDUH and MTF (Eaton et al., 2008; Grunbaum et al., 2002). YRBS data for the combined grades 9 through 12 showed no significant change in current alcohol use (47.1 percent in 2001 and 44.7 percent in 2007), but decreases in cigarette use (28.5 percent in 2001, 20.0 percent in 2007), marijuana use (23.9 percent in 2001, 19.7 percent in 2007), and cocaine use (4.2 percent in 2001, 3.3 percent in 2007).

Although changes in NSDUH survey methodology preclude direct comparisons of recent estimates with estimates from before 2002, it is important to put the recent trends in context by reviewing longer term trends in use. NSDUH data (prior to the design changes in 1999 and 2002) on youths aged 12 to 17 and MTF data on high school seniors have shown substantial increases in youth illicit drug use during the 1970s, reaching a peak in the late 1970s. Both surveys then showed significant declines throughout the 1980s until about 1992, when rates reached a low point. These trends were driven by the trend in marijuana use. With the start of annual data collection in NSDUH in 1991, along with the biennial YRBS and the annual 8th and 10th grade samples in MTF, trends among youths are well documented since the low point that occurred in the early 1990s. Although they employ different survey designs and cover different age groups, the three surveys are consistent in showing increasing rates of marijuana use during the early to mid-1990s, reaching a peak in the late 1990s, although not as high as in the late 1970s, followed by declines in use after the turn of the 21st century and a leveling in the most recent years (Figure 9.2).



**Figure 9.2 Past Month Marijuana Use among Youths in NSDUH, MTF, and YRBS: 1971-2008**



MTF = Monitoring the Future; NSDUH = National Survey on Drug Use and Health; YRBS = Youth Risk Behavior Survey.

Note: NSDUH data for youths aged 12 to 17 are not presented for 1999 to 2001 because of design changes in the survey. These design changes preclude direct comparisons of estimates from 2002 to 2008 with estimates prior to 1999.

**Table 9.1 Comparison of NSDUH and MTF Prevalence Estimates among Youths: Percentages, 2002-2008**

Substance/ Time Period	NSDUH (2002)	NSDUH (2003)	NSDUH (2004)	NSDUH (2005)	NSDUH (2006)	NSDUH (2007)	NSDUH (2008)	MTF (2002)	MTF (2003)	MTF (2004)	MTF (2005)	MTF (2006)	MTF (2007)	MTF (2008)
<b>Marijuana</b>														
Lifetime	20.6 <sup>a</sup>	19.6 <sup>a</sup>	19.0 <sup>a</sup>	17.4	17.3	16.2	16.5	29.0 <sup>a</sup>	27.0 <sup>a</sup>	25.7 <sup>a</sup>	25.3 <sup>a</sup>	23.8	22.6	22.3
Past Year	15.8 <sup>a</sup>	15.0 <sup>a</sup>	14.5 <sup>a</sup>	13.3	13.2	12.5	13.0	22.5 <sup>a</sup>	20.5 <sup>a</sup>	19.7 <sup>a</sup>	19.4 <sup>a</sup>	18.5	17.5	17.4
Past Month	8.2 <sup>a</sup>	7.9 <sup>a</sup>	7.6 <sup>a</sup>	6.8	6.7	6.7	6.7	13.1 <sup>a</sup>	12.3 <sup>a</sup>	11.2 <sup>a</sup>	10.9 <sup>a</sup>	10.4	10.0	9.8
<b>Cocaine</b>														
Lifetime	2.7 <sup>a</sup>	2.6 <sup>a</sup>	2.4 <sup>a</sup>	2.3 <sup>a</sup>	2.2 <sup>a</sup>	2.1	1.9	4.9 <sup>a</sup>	4.4	4.4	4.5	4.1	4.2	3.8
Past Year	2.1 <sup>a</sup>	1.8 <sup>a</sup>	1.6 <sup>a</sup>	1.7 <sup>a</sup>	1.6 <sup>a</sup>	1.5 <sup>a</sup>	1.2	3.2 <sup>a</sup>	2.8	2.9	2.9	2.6	2.7	2.4
Past Month	0.6 <sup>a</sup>	0.6 <sup>a</sup>	0.5	0.6 <sup>a</sup>	0.4	0.4	0.4	1.4 <sup>a</sup>	1.1	1.3 <sup>a</sup>	1.3	1.3	1.1	1.0
<b>Ecstasy</b>														
Lifetime	3.3 <sup>a</sup>	2.4	2.1	1.6 <sup>a</sup>	1.9	1.8 <sup>a</sup>	2.1	5.5 <sup>a</sup>	4.3 <sup>a</sup>	3.6	3.4	3.5	3.8	3.4
Past Year	2.2 <sup>a</sup>	1.3	1.2	1.0 <sup>a</sup>	1.2	1.3	1.4	3.9 <sup>a</sup>	2.6	2.1	2.2	2.1	2.5	2.3
Past Month	0.5	0.4	0.3	0.3	0.3	0.3 <sup>a</sup>	0.4	1.6 <sup>a</sup>	0.9	0.8	0.8	1.0	0.9	1.0
<b>LSD</b>														
Lifetime	2.7 <sup>a</sup>	1.6 <sup>a</sup>	1.2	1.1	0.9	0.8 <sup>a</sup>	1.1	3.8 <sup>a</sup>	2.8	2.3	2.2	2.2	2.3	2.3
Past Year	1.3 <sup>a</sup>	0.6	0.6	0.6	0.4 <sup>a</sup>	0.5 <sup>a</sup>	0.7	2.1 <sup>a</sup>	1.5	1.4	1.4	1.3	1.5	1.6
Past Month	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.7	0.6	0.6	0.6	0.6	0.6	0.6
<b>Inhalants</b>														
Lifetime	10.5 <sup>a</sup>	10.7 <sup>a</sup>	11.0 <sup>a</sup>	10.5 <sup>a</sup>	10.1 <sup>a</sup>	9.6	9.3	14.4	14.3	14.9	15.1	14.7	14.6	14.3
Past Year	4.4	4.5 <sup>a</sup>	4.6 <sup>a</sup>	4.5 <sup>a</sup>	4.4	3.9	3.9	6.8	7.1	7.8	7.8	7.8	7.5	7.4
Past Month	1.2	1.3	1.2	1.2	1.3	1.2	1.1	3.1	3.2	3.5	3.2	3.2	3.2	3.1
<b>Alcohol</b>														
Lifetime	43.4 <sup>a</sup>	42.9 <sup>a</sup>	42.0 <sup>a</sup>	40.6 <sup>a</sup>	40.4 <sup>a</sup>	39.4	38.3	57.0 <sup>a</sup>	55.8 <sup>a</sup>	54.1 <sup>a</sup>	52.1 <sup>a</sup>	51.0 <sup>a</sup>	50.3 <sup>a</sup>	48.6
Past Year	34.6 <sup>a</sup>	34.3 <sup>a</sup>	33.9 <sup>a</sup>	33.3 <sup>a</sup>	32.9 <sup>a</sup>	31.8	30.8	49.4 <sup>a</sup>	48.3 <sup>a</sup>	47.5 <sup>a</sup>	45.3 <sup>a</sup>	44.7 <sup>a</sup>	44.1 <sup>a</sup>	42.3
Past Month	17.6 <sup>a</sup>	17.7 <sup>a</sup>	17.6 <sup>a</sup>	16.5 <sup>a</sup>	16.6 <sup>a</sup>	15.9 <sup>a</sup>	14.6	27.5 <sup>a</sup>	27.6 <sup>a</sup>	26.9 <sup>a</sup>	25.2 <sup>a</sup>	25.5 <sup>a</sup>	24.7 <sup>a</sup>	22.4
<b>Cigarettes</b>														
Lifetime	33.3 <sup>a</sup>	31.0 <sup>a</sup>	29.2 <sup>a</sup>	26.7 <sup>a</sup>	25.8 <sup>a</sup>	23.7	22.9	39.4 <sup>a</sup>	35.7 <sup>a</sup>	34.3 <sup>a</sup>	32.4 <sup>a</sup>	30.4 <sup>a</sup>	28.4 <sup>a</sup>	26.1
Past Year	20.3 <sup>a</sup>	19.0 <sup>a</sup>	18.4 <sup>a</sup>	17.3 <sup>a</sup>	17.0 <sup>a</sup>	15.7	15.0	--	--	--	--	--	--	--
Past Month	13.0 <sup>a</sup>	12.2 <sup>a</sup>	11.9 <sup>a</sup>	10.8 <sup>a</sup>	10.4 <sup>a</sup>	9.8 <sup>a</sup>	9.1	14.2 <sup>a</sup>	13.5 <sup>a</sup>	12.6 <sup>a</sup>	12.1 <sup>a</sup>	11.6 <sup>a</sup>	10.6 <sup>a</sup>	9.6

-- Not available.

NOTE: NSDUH data are for youths aged 12 to 17, and MTF data are simple averages of estimates for 8th and 10th graders. MTF data for 8th and 10th graders are reported in Johnston, O'Malley, Bachman, and Schulenberg (2009a). MTF design effects used for variance estimation are reported in Johnston, O'Malley, Bachman, and Schulenberg (2008b).

<sup>a</sup> Difference between this estimate and 2008 estimate is statistically significant at the .05 level.

Sources: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008. University of Michigan, The Monitoring the Future Study, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table 9.2 Comparison of NSDUH and MTF Prevalence Estimates among Young Adults: Percentages, 2002-2008**

Substance/ Time Period	NSDUH (2002)	NSDUH (2003)	NSDUH (2004)	NSDUH (2005)	NSDUH (2006)	NSDUH (2007)	NSDUH (2008)	MTF (2002)	MTF (2003)	MTF (2004)	MTF (2005)	MTF (2006)	MTF (2007)	MTF (2008)
<b>Marijuana</b>														
Lifetime	53.8 <sup>a</sup>	53.9 <sup>a</sup>	52.8 <sup>a</sup>	52.4 <sup>a</sup>	52.4 <sup>a</sup>	50.8	50.4	56.1 <sup>a</sup>	56.4 <sup>a</sup>	55.6 <sup>a</sup>	54.4	53.8	53.9	53.0
Past Year	29.8 <sup>a</sup>	28.5	27.8	28.0	28.0	27.5	27.6	34.2 <sup>a</sup>	33.0	31.6	31.4	30.9	31.0	30.9
Past Month	17.3	17.0	16.1	16.6	16.3	16.4	16.5	19.8 <sup>a</sup>	19.9 <sup>a</sup>	18.2	17.0	17.0	17.5	17.3
<b>Cocaine</b>														
Lifetime	15.4 <sup>a</sup>	15.0	15.2	15.1	15.7 <sup>a</sup>	15.0	14.4	12.9	14.5 <sup>a</sup>	14.3 <sup>a</sup>	12.6	13.6	12.4	12.2
Past Year	6.7 <sup>a</sup>	6.6 <sup>a</sup>	6.6 <sup>a</sup>	6.9 <sup>a</sup>	6.9 <sup>a</sup>	6.4 <sup>a</sup>	5.5	6.5	7.3 <sup>a</sup>	7.8 <sup>a</sup>	6.9	7.0	6.3	6.0
Past Month	2.0 <sup>a</sup>	2.2 <sup>a</sup>	2.1 <sup>a</sup>	2.6 <sup>a</sup>	2.2 <sup>a</sup>	1.7	1.5	2.5	2.6	2.4	2.1	2.4	1.9	1.9
<b>Ecstasy</b>														
Lifetime	15.1 <sup>a</sup>	14.8 <sup>a</sup>	13.8 <sup>a</sup>	13.7 <sup>a</sup>	13.4 <sup>a</sup>	12.8	12.1	16.0 <sup>a</sup>	16.6 <sup>a</sup>	14.9 <sup>a</sup>	12.4 <sup>a</sup>	11.5	9.5	10.1
Past Year	5.8 <sup>a</sup>	3.7	3.1 <sup>a</sup>	3.1 <sup>a</sup>	3.8	3.5	3.9	8.0 <sup>a</sup>	5.3 <sup>a</sup>	3.3	3.4	3.6	2.8	3.8
Past Month	1.1	0.7	0.7	0.8	1.0 <sup>a</sup>	0.7	0.9	1.6	1.0	0.8	0.6	0.9	0.3	0.9
<b>LSD</b>														
Lifetime	15.9 <sup>a</sup>	14.0 <sup>a</sup>	12.1 <sup>a</sup>	10.5 <sup>a</sup>	8.9 <sup>a</sup>	7.3 <sup>a</sup>	6.5	13.9 <sup>b</sup>	13.8 <sup>b</sup>	10.4 <sup>b</sup>	7.9 <sup>b</sup>	6.7	5.9	5.6
Past Year	1.8	1.1 <sup>a</sup>	1.0 <sup>a</sup>	1.0 <sup>a</sup>	1.2 <sup>a</sup>	1.1 <sup>a</sup>	1.5	2.4 <sup>b</sup>	1.5	1.2	1.1	1.5	1.4	1.9
Past Month	0.1 <sup>a</sup>	0.2	0.3	0.2	0.2 <sup>a</sup>	0.2	0.3	0.4	0.2	0.2	0.2	0.3	0.3	0.5
<b>Inhalants</b>														
Lifetime	15.7 <sup>a</sup>	14.9 <sup>a</sup>	14.0 <sup>a</sup>	13.3 <sup>a</sup>	12.5 <sup>a</sup>	11.3 <sup>a</sup>	10.4	11.7 <sup>b</sup>	11.4 <sup>b</sup>	10.6 <sup>b</sup>	9.3	9.7	7.5	8.4
Past Year	2.2 <sup>a</sup>	2.1 <sup>a</sup>	2.1 <sup>a</sup>	2.1 <sup>a</sup>	1.8	1.6	1.6	2.2 <sup>b</sup>	1.5	2.3 <sup>b</sup>	1.6	1.8	1.1	1.7
Past Month	0.5 <sup>a</sup>	0.4	0.4	0.5	0.4	0.4	0.3	0.8	0.3	0.4	0.3	0.4	0.3	0.6
<b>Alcohol</b>														
Lifetime	86.7 <sup>a</sup>	87.1 <sup>a</sup>	86.2	85.7	86.5	85.2	85.6	88.4 <sup>b</sup>	87.6	87.2	87.1	87.0	86.0	86.4
Past Year	77.9	78.1	78.0	77.9	78.8	77.9	78.0	83.9	82.3	83.1	82.8	83.2	82.8	82.5
Past Month	60.5	61.4	60.5	60.9	61.9	61.2	61.2	67.7	66.3	67.3	66.8	67.0	67.4	67.4
<b>Cigarettes</b>														
Lifetime	71.2 <sup>a</sup>	70.2 <sup>a</sup>	68.7 <sup>a</sup>	67.3 <sup>a</sup>	66.6 <sup>a</sup>	64.7	64.2	--	--	--	--	--	--	--
Past Year	49.0 <sup>a</sup>	47.6 <sup>a</sup>	47.5 <sup>a</sup>	47.2 <sup>a</sup>	47.0 <sup>a</sup>	45.1	45.0	41.8 <sup>b</sup>	40.8 <sup>b</sup>	41.4 <sup>b</sup>	40.2 <sup>b</sup>	37.1	36.2	35.4
Past Month	40.8 <sup>a</sup>	40.2 <sup>a</sup>	39.5 <sup>a</sup>	39.0 <sup>a</sup>	38.4 <sup>a</sup>	36.2	35.7	31.4 <sup>b</sup>	29.5 <sup>b</sup>	30.2 <sup>b</sup>	28.7 <sup>b</sup>	26.7	25.7	24.3

-- Not available.

NOTE: NSDUH data shown in this table are for persons aged 18 to 25.

NOTE: MTF data shown in this table are for persons aged 19 to 24. These estimates are simple averages of modal age groups 19-20, 21-22, and 23-24 as reported in Johnston, O'Malley, and Bachman (2003) and in Johnston, O'Malley, Bachman, and Schulenberg (2004, 2005, 2006, 2007, 2008a, 2009b).

NOTE: For the 19 to 24 age group in the MTF data, significance tests were performed assuming independent samples between years an odd number of years apart because two distinct cohorts a year apart were monitored longitudinally at 2-year intervals. Although appropriate for comparisons of 2003, 2005, and 2007 estimates with 2008 estimates, this assumption results in conservative tests for comparisons of 2002, 2004, and 2006 estimates with 2008 estimates because it does not take into account covariances that are associated with repeated observations from the longitudinal samples. Estimates of covariances were not available.

<sup>a</sup> Difference between this estimate and 2008 estimate is statistically significant at the .05 level.

Sources: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008. University of Michigan, The Monitoring the Future Study, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.



# Appendix A: Description of the Survey

## A.1 Sample Design

The 2008 National Survey on Drug Use and Health (NSDUH)<sup>3</sup> is part of a coordinated 5-year sample design providing estimates for all 50 States plus the District of Columbia for the years 2005 through 2009. The respondent universe is the civilian, noninstitutionalized population aged 12 years old or older residing within the United States. The survey includes persons living in noninstitutionalized group quarters (e.g., shelters, rooming/boarded houses, college dormitories, migratory workers' camps, halfway houses), and civilians living on military bases. Persons excluded from the survey include persons with no fixed household address (e.g., homeless and/or transient persons not in shelters), active-duty military personnel, and residents of institutional group quarters, such as correctional facilities, nursing homes, mental institutions, and long-term hospitals.

Although there is no planned overlap with the 1999 through 2004 samples, a coordinated design for 2005 through 2009 facilitates 50 percent overlap in second-stage units (area segments) within each successive 2-year period from 2005 through 2009. Because the 2005 through 2009 design enables estimates to be developed by State in all 50 States plus the District of Columbia, States may be viewed as the first level of stratification and as a reporting variable.

For the 50-State design, 8 States were designated as large sample States (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) with target sample sizes of 3,600. In 2008, sample sizes in these States ranged from 3,556 to 3,830. For the remaining 42 States and the District of Columbia, the target sample size was 900. Sample sizes in these States ranged from 876 to 981 in 2008. This approach ensures there is sufficient sample in every State to support small area estimation (SAE)<sup>4</sup> while at the same time maintaining efficiency for national estimates.

States were first stratified into a total of 900 State sampling (SS) regions (48 regions in each large sample State and 12 regions in each small sample State). These regions were contiguous geographic areas designed to yield the same number of interviews on average.<sup>5</sup> Unlike the 1999 through 2001 NHSDAs and the 2002 through 2004 NSDUHs in which the first-stage sampling units were clusters of census blocks called area segments, the first stage of

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<sup>3</sup> Prior to 2002, the survey was known as the National Household Survey on Drug Abuse (NHSDA).

<sup>4</sup> SAE is a hierarchical Bayes modeling technique used to make State-level estimates for approximately 20 measures related to substance use. For more details, see the *State Estimates of Substance Use from the 2006-2007 National Surveys on Drug Use and Health* (Hughes, Sathe, & Spagnola, 2009).

<sup>5</sup> Sampling areas were defined using 2000 census geography. Dwelling units (DUs) and population counts were obtained from the 2000 census data supplemented with revised population counts from Claritas (<http://www.claritas.com/Default.jsp>).

selection for the 2005 through 2009 NSDUHs was census tracts.<sup>6</sup> This stage was included to contain sample segments within a single census tract to the extent possible.<sup>7</sup>

Within each SS region, 48 census tracts were selected with probability proportional to size. Within sampled census tracts, adjacent census blocks were combined to form the second-stage sampling units or area segments. One area segment was selected within each sampled census tract with probability proportional to population size to support the 5-year sample and any supplemental studies that the Substance Abuse and Mental Health Services Administration (SAMHSA) may choose to field. Of these segments, 24 were designated for the coordinated 5-year sample and 24 were designated as "reserve" segments. Eight sample segments per SS region were fielded during the 2008 survey year.

These sampled segments were allocated equally into four separate samples, one for each 3-month period (calendar quarter) during the year. That is, a sample was selected from two segments in each calendar quarter so that the survey was essentially continuous in the field. In each of the area segments, a listing of all addresses was made from which a national sample of 194,815 addresses was selected. Of the selected addresses, 160,133 were determined to be eligible sample units. In these sample units (which can be either households or units within group quarters), sample persons were randomly selected using an automated screening procedure programmed in a handheld computer carried by the interviewers. The number of sample units completing the screening was 142,938. Youths aged 12 to 17 years and young adults aged 18 to 25 years were oversampled at this stage, with 12 to 17 year olds sampled at a rate of 85.9 percent and 18 to 25 year olds at a rate of 76.5 percent on average, when they were present in the sampled households or group quarters. Persons in age groups 26 or older were sampled at rates of 29.3 percent or less, with persons in the eldest age group (50 years or older) sampled at a rate of 8.5 percent on average. The overall population sampling rates were 0.09 percent for 12 to 17 year olds, 0.07 percent for 18 to 25 year olds, 0.02 percent for 26 to 34 year olds, 0.02 percent for 35 to 49 year olds, and 0.01 percent for those 50 or older. Because of the large sample size, there was no need to oversample racial/ethnic groups, as was done on surveys prior to 1999. Nationwide, 86,435 persons were selected. Consistent with previous surveys in this series, the final respondent sample of 68,736 persons was representative of the U.S. general population (since 1991, the civilian, noninstitutionalized population) aged 12 or older. In addition, State samples were representative of their respective State populations. More detailed information on the disposition of the national screening and interview sample can be found in Appendix B.

The survey covers residents of households (living in houses/townhouses, apartments, condominiums, etc.), persons in noninstitutional group quarters (e.g., shelters, rooming/boarding houses, college dormitories, migratory workers' camps, halfway houses), and civilians living on military bases. Although the survey covers residents of these types of units (they are given a nonzero probability of selection), the sample sizes of most specific groups are too small to provide separate estimates.

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<sup>6</sup> Census tracts are relatively permanent statistical subdivisions of counties and provide a stable set of geographic units across decennial census periods.

<sup>7</sup> Some census tracts had to be aggregated in order to meet the minimum DU requirement of 150 DUs in urban areas and 100 DUs in rural areas.

More information on the sample design can be found in the 2008 NSDUH sample design report by Morton, Chromy, Hirsch, and Martin (2009) on the Office of Applied Studies (OAS) website (available as a PDF at <http://oas.samhsa.gov/nsduh/methods.cfm>).

## **A.2 Data Collection Methodology**

The data collection method used in NSDUH involves in-person interviews with sample persons, incorporating procedures that would be likely to increase respondents' cooperation and willingness to report honestly about their illicit drug use behavior. Confidentiality is stressed in all written and oral communications with potential respondents. Respondents' names are not collected with the data, and computer-assisted interviewing (CAI) methods are used to provide a private and confidential setting to complete the interview.

Introductory letters are sent to sampled addresses, followed by an interviewer visit. A 5-minute screening procedure using a handheld computer involves listing all household members along with their basic demographic data. The computer uses the demographic data in a preprogrammed selection algorithm to select zero to two sample persons, depending on the composition of the household. This selection process is designed to provide the necessary sample sizes for the specified population age groupings. In areas where a third or more of the households contain Spanish-speaking residents, the initial introductory letters written in English are mailed with a Spanish version on the back. All interviewers carry copies of this letter in Spanish. If the interviewer is not certified bilingual, he or she will use preprinted Spanish cards to attempt to find someone in the household who speaks English and who can serve as the screening respondent or who can translate for the screening respondent. If no one is available, the interviewer will schedule a time when a Spanish-speaking interviewer can come to the address. In households where a language other than Spanish is encountered, another language card is used to attempt to find someone who speaks English to complete the screening.

The NSDUH interview is available in English and Spanish, and both versions have the same content. If the sample person prefers to complete the interview in Spanish, a certified bilingual interviewer is sent to the address to conduct the interview. Because the interview is not translated into any other language, if a sample person does not speak English or Spanish, the interview is not conducted.

Interviewers attempt to conduct the NSDUH interview immediately with each sample person in the household. The interviewer requests the selected respondent to identify a private area in the home to conduct the interview away from other household members. The interview averages about an hour and includes a combination of CAPI (computer-assisted personal interviewing, in which the interviewer reads the questions) and ACASI (audio computer-assisted self-interviewing).

The NSDUH interview consists of core and noncore (i.e., supplemental) sections. A core set of questions critical for basic trend measurement of prevalence estimates remains in the survey every year and comprises the first part of the interview. Noncore questions, or modules, that can be revised, dropped, or added from year to year make up the remainder of the interview. The core consists of initial demographic items (which are interviewer-administered) and self-administered questions pertaining to the use of tobacco, alcohol, marijuana, cocaine, crack

cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, and sedatives. Topics in the remaining noncore self-administered sections include (but are not limited to) injection drug use, perceived risks of substance use, substance dependence or abuse, arrests, treatment for substance use problems, pregnancy and health care issues, and mental health issues. Noncore demographic questions (which are interviewer-administered and follow the ACASI questions) address such topics as immigration, current school enrollment, employment and workplace issues, health insurance coverage, and income. It should be noted that some of the noncore portions of the interview have remained in the survey, relatively unchanged, from year to year (e.g., current health insurance coverage, employment).

Thus, the interview begins in CAPI mode with the field interviewer (FI) reading the questions from the computer screen and entering the respondent's replies into the computer. The interview then transitions to the ACASI mode for the sensitive questions. In this mode, the respondent can read the questions silently on the computer screen and/or listen to the questions read through headphones and enter his or her responses directly into the computer. At the conclusion of the ACASI section, the interview returns to the CAPI mode with the interviewer completing the questionnaire. Each respondent who completes a full interview is given a \$30 cash payment as a token of appreciation for his or her time.

No personal identifying information is captured in the CAI record for the respondent. Interviewers transmit the completed interview data to RTI in Research Triangle Park, North Carolina, via home telephone lines.

### **A.3 Data Processing**

Computers at RTI direct the information to a raw data file (i.e., in which no logical editing of the data had been done) that consists of one record for each completed interview. Cases are retained only if respondents provided data on lifetime use of cigarettes and at least nine other substances in the core section of the questionnaire. Written responses to questions (e.g., names of other drugs that were used) are assigned numeric codes as part of the data processing procedures. Even though editing and consistency checks are done by the CAI program during the interview, additional, more complex edits and consistency checks are completed at RTI. Additionally, statistical imputation is used to replace missing or ambiguous values after editing for some key variables. Analysis weights are created so that estimates will be representative of the target population.

#### **A.3.1 Data Coding and Logical Editing**

With the exception of industry and occupation data, coding of written answers that respondents or interviewers typed was performed at RTI for the 2008 NSDUH. These written answers include mentions of drugs that respondents had used or other responses that did not fit a previous response option (subsequently referred to as "OTHER, Specify" data). Coding of the "OTHER, Specify" variables was accomplished through computer-assisted survey procedures and the use of a secure website that allowed for coding and review of the data. The computer-assisted procedures entailed a database check for a given "OTHER, Specify" variable that contained typed entries and the associated numeric codes. If an exact match was found between the typed response and an entry in the system, the computer-assisted procedures assigned the



appropriate numeric code. Typed responses that did not match an existing entry were coded through the web-based coding system. Data on the industries in which respondents worked and respondents' occupations were assigned numeric industry and occupation codes by staff at the U.S. Census Bureau.

As noted above, the CAI program included checks that alerted respondents or interviewers when an entered answer was inconsistent with a previous answer in a given module. In this way, the inconsistency could be resolved while the interview was in progress. However, not every inconsistency was resolved during the interview, and the CAI program did not include checks for every possible inconsistency that might have occurred in the data.

Therefore, the first important step in processing the raw NSDUH data was logical editing of the data. Logical editing involved using data from within a respondent's record to (a) reduce the amount of item nonresponse (i.e., missing data) in interview records, including identification of items that were legitimately skipped; (b) make related data elements consistent with each other; and (c) identify ambiguities or inconsistencies to be resolved through statistical imputation procedures (see Section A.3.2).

For example, if respondents reported that they never used a given drug, the CAI logic skipped them out of all remaining questions about use of that drug. In the editing procedures, the skipped variables were assigned codes to indicate that the respondents were lifetime nonusers. Similarly, respondents were instructed in the prescription psychotherapeutics modules (i.e., pain relievers, tranquilizers, stimulants, and sedatives) not to report the use of over-the-counter (OTC) drugs. Therefore, if a respondent's only report of lifetime use of a particular type of "prescription" psychotherapeutic drug was for an OTC drug, the respondent was logically inferred never to have been a nonmedical user of the prescription drugs in that psychotherapeutic category.

In addition, respondents could report that they were lifetime users of a drug but not provide specific information on when they last used it. In this situation, a temporary "indefinite" value for the most recent period of use was assigned to the edited recency-of-use variable (e.g., Used at some point in the lifetime LOGICALLY ASSIGNED), and a final, specific value was statistically imputed. The editing procedures for key drug use variables also involved identifying inconsistencies between related variables so that these inconsistencies could be resolved through statistical imputation. For example, if a respondent reported last using a drug more than 12 months ago and also reported first using it at his or her current age, both of those responses could not be true. In this example, the inconsistent period of most recent use was replaced with an "indefinite" value, and the inconsistent age at first use was replaced with a missing data code. These indefinite or missing values were subsequently imputed through statistical procedures to yield consistent data for the related measures, as discussed in the next section.

### **A.3.2 Statistical Imputation**

For some key variables that still had missing or ambiguous values after editing, statistical imputation was used to replace these values with appropriate response codes. For example, a response is ambiguous if the editing procedures assigned a respondent's most recent use of a drug to "use at some point in the lifetime," with no definite period within the lifetime. In this case, the

imputation procedure assigns a value for when the respondent last used the drug (e.g., in the past 30 days, more than 30 days ago but within the past 12 months, more than 12 months ago). Similarly, if a response is completely missing, the imputation procedures replace missing values with nonmissing ones.

For most variables, missing or ambiguous values are imputed in NSDUH using a methodology called predictive mean neighborhoods (PMN), which was developed specifically for the 1999 survey and used in all subsequent survey years. The PMN method offers a rigorous and flexible method that was implemented to improve the quality of estimates and allow more variables to be imputed. Some of the key reasons for implementing this method include the following: (1) the ability to use covariates to determine donors is greater than that offered in the hot deck, (2) the relative importance of covariates can be determined by standard estimating equation techniques, (3) the correlations across response variables can be accounted for by making the imputation multivariate, and (4) sampling weights can be easily incorporated in the models. The PMN method has some similarity with the predictive mean matching method of Rubin (1986) except that, for the donor records, Rubin used the observed variable value (not the predictive mean) to compute the distance function. Also, the well-known method of nearest neighbor imputation is similar to PMN, except that the distance function is in terms of the original predictor variables and often requires somewhat arbitrary scaling of discrete variables. PMN is a combination of a model-assisted imputation methodology and a random nearest neighbor hot-deck procedure. The hot-deck procedure within the PMN method ensures that missing values are imputed to be consistent with nonmissing values for other variables. Whenever feasible, the imputation of variables using PMN is multivariate, in which imputation is accomplished on several response variables at once. Variables requiring imputation using PMN are the core demographic variables, core drug use variables (recency of use, frequency of use, and age at first use), income, health insurance, and noncore demographic variables for work status, immigrant status, and the household roster. A weighted regression imputation is used to impute some of the missing values in the nicotine dependence variables.

In the modeling stage of PMN, the model chosen depends on the nature of the response variable  $Y$ . In the 2008 NSDUH, the models included binomial logistic regression, multinomial logistic regression, Poisson regression, and ordinary linear regression, where the models incorporated the sampling design weights.

In general, hot-deck imputation replaces an item nonresponse (missing or ambiguous value) with a recorded response that is donated from a "similar" respondent who has nonmissing data. For random nearest neighbor hot-deck imputation, the missing or ambiguous value is replaced by a responding value from a donor randomly selected from a set of potential donors. Potential donors are those defined to be "close" to the unit with the missing or ambiguous value according to a predefined function called a distance metric. In the hot-deck procedure of PMN, the set of candidate donors (the "neighborhood") consists of respondents with complete data who have a predicted mean close to that of the item nonrespondent. The predicted means are computed both for respondents with and without missing data, which differs from Rubin's method where predicted means are not computed for the donor respondent (Rubin, 1986). In particular, the neighborhood consists of either the set of the closest 30 respondents or the set of respondents with a predicted mean (or means) within 5 percent of the predicted mean(s) of the item nonrespondent, whichever set is smaller. If no respondents are available who have a

predicted mean (or means) within 5 percent of the item nonrespondent, the respondent with the predicted mean(s) closest to that of the item nonrespondent is selected as the donor.

In the univariate case (where only one variable is imputed using PMN), the neighborhood of potential donors is determined by calculating the relative distance between the predicted mean for an item nonrespondent and the predicted mean for each potential donor, then choosing those means defined by the distance metric. The pool of donors is restricted further to satisfy logical constraints whenever necessary (e.g., age at first crack use must not be less than age at first cocaine use).

Whenever possible, missing or ambiguous values for more than one response variable are considered at a time. In this (multivariate) case, the distance metric is a Mahalanobis distance (Manly, 1986) rather than a relative Euclidean distance. Whether the imputation is univariate or multivariate, only missing or ambiguous values are replaced, and donors are restricted to be logically consistent with the response variables that are not missing. Furthermore, donors are restricted to satisfy "likeness constraints" whenever possible. That is, donors are required to have the same values for variables highly correlated with the response. If no donors are available who meet these conditions, these likeness constraints can be loosened. For example, donors for the age at first use variable are required to be of the same age as recipients, if at all possible. Further details on the PMN methodology are provided in RTI International (2009) and by Singh, Grau, and Folsom (2001, 2002).

Although statistical imputation could not proceed separately within each State due to insufficient pools of donors, information about each respondent's State of residence was incorporated in the modeling and hot-deck steps. For most drugs, respondents were separated into three "State usage" categories as follows: respondents from States with high usage of a given drug were placed in one category, respondents from States with medium usage into another, and the remainder into a third category. This categorical "State rank" variable was used as one set of covariates in the imputation models. In addition, eligible donors for each item nonrespondent were restricted to be of the same State usage category (i.e., the same "State rank") as the nonrespondent.

### **A.3.3 Development of Analysis Weights**

The general approach to developing and calibrating analysis weights involved developing design-based weights as the product of the inverse of the selection probabilities at each selection stage. Similar to the 2006 and 2007 NSDUHs, the 2008 NSDUH used a four-stage sample selection scheme in which an extra selection stage of census tracts was added before the selection of a segment. Thus, the design-based weights,  $d_k$ , for the 2008 NSDUH incorporated an extra layer of sampling selection to reflect the sample design change. Adjustment factors,  $a_k(\lambda)$ , then were applied to the design-based weights to adjust for nonresponse, to poststratify to known population control totals, and to control for extreme weights when necessary. In view of the importance of State-level estimates with the 50-State design, it was necessary to control for a much larger number of known population totals. Several other modifications to the general weight adjustment strategy that had been used in past surveys also were implemented for the first time beginning with the 1999 CAI sample.

Weight adjustments were based on a generalization of Deville and Särndal's (1992) logit model. This generalized exponential model (GEM) (Folsom & Singh, 2000) incorporates unit-specific bounds  $(\ell_k, u_k)$ ,  $k \in s$ , for the adjustment factor  $a_k(\lambda)$  as follows:

$$a_k(\lambda) = \frac{\ell_k(u_k - c_k) + u_k(c_k - \ell_k) \exp(A_k x_k' \lambda)}{(u_k - c_k) + (c_k - \ell_k) \exp(A_k x_k' \lambda)},$$

where  $c_k$  are prespecified centering constants, such that  $\ell_k < c_k < u_k$  and  $A_k = (u_k - \ell_k) / (u_k - c_k)(c_k - \ell_k)$ . The variables  $\ell_k, c_k$ , and  $u_k$  are user-specified bounds, and  $\lambda$  is the column vector of  $p$  model parameters corresponding to the  $p$  covariates  $x$ . The  $\lambda$ -parameters are estimated by solving

$$\sum_s x_k d_k a_k(\lambda) - \tilde{T}_x = 0,$$

where  $\tilde{T}_x$  denotes control totals that could be either nonrandom, as is generally the case with poststratification, or random, as is generally the case for nonresponse adjustment.

The final weights  $w_k = d_k a_k(\lambda)$  minimize the distance function  $\Delta(w, d)$  defined as

$$\Delta(w, d) = \sum_{k \in s} \frac{d_k}{A_k} \left\{ (a_k - \ell_k) \log \frac{a_k - \ell_k}{c_k - \ell_k} + (u_k - a_k) \log \frac{u_k - a_k}{u_k - c_k} \right\}.$$

This general approach was used at several stages of the weight adjustment process, including (1) adjustment of household weights for nonresponse at the screener level, (2) poststratification of household weights to meet population controls for various household-level demographics by State, (3) adjustment of household weights for extremes, (4) poststratification of selected person weights, (5) adjustment of responding person weights for nonresponse at the questionnaire level, (6) poststratification of responding person weights, and (7) adjustment of responding person weights for extremes.

Every effort was made to include as many relevant State-specific covariates (typically defined by demographic domains within States) as possible in the multivariate models used to calibrate the weights (nonresponse adjustment and poststratification steps). Because further subdivision of State samples by demographic covariates often produced small cell sample sizes, it was not possible to retain all State-specific covariates (even after meaningful collapsing of covariate categories) and still estimate the necessary model parameters with reasonable precision. Therefore, a hierarchical structure was used in grouping States with covariates defined at the national level, at the census division level within the Nation, at the State group within the census division, and, whenever possible, at the State level. In every case, the controls for the total population within a State and the five age groups (12 to 17, 18 to 25, 26 to 34, 35 to 49, 50 or older) within a State were maintained except that, in the last step of poststratification of person weights, six age groups (12 to 17, 18 to 25, 26 to 34, 35 to 49, 50 to 64, 65 or older) were used. Census control totals by age, race, gender, and Hispanicity were required for the civilian, noninstitutionalized population of each State. Beginning with the 2002 NSDUH, the Population

Estimates Branch of the U.S. Census Bureau has produced the necessary population estimates for the same year as each NSDUH survey in response to a special request.

Consistent with the surveys from 1999 onward, control of extreme weights through separate bounds for adjustment factors was incorporated into the GEM calibration processes for both nonresponse and poststratification. This is unlike the traditional method of winsorization in which extreme weights are truncated at prespecified levels and the trimmed portions of weights are distributed to the nontruncated cases. In GEM, it is possible to set bounds around the prespecified levels for extreme weights, and then the calibration process provides an objective way of deciding the extent of adjustment (or truncation) within the specified bounds. A step was added to poststratify the household-level weights to obtain census-consistent estimates based on the household rosters from all screened households; these household roster-based estimates then provided the control totals needed to calibrate the respondent pair weights for subsequent planned analyses. An additional step poststratified the selected person sample to conform to the adjusted roster estimates. This additional step takes advantage of the inherent two-phase nature of the NSDUH design. The final step poststratified the respondent person sample to external census data (defined within the State whenever possible, as discussed above). For more detailed information, see the *2007 NSDUH Methodological Resource Book* (RTI International, 2009).

For certain populations of interest, 2 years of NSDUH data were combined to obtain annual averages. The person-level weights for estimates based on the annual averages were obtained by dividing the analysis weights for the 2 specific years by a factor of 2.



# Appendix B: Statistical Methods and Measurement

## B.1 Target Population

An important limitation of estimates of drug use prevalence from the National Survey on Drug Use and Health (NSDUH) is that they are only designed to describe the target population of the survey—the civilian, noninstitutionalized population aged 12 or older living in the United States. Although this population includes almost 98 percent of the total U.S. population aged 12 or older, it excludes some important and unique subpopulations who may have very different drug use patterns. For example, the survey excludes active military personnel, who have been shown to have significantly lower rates of illicit drug use. Also, persons living in institutional group quarters, such as prisons and residential drug use treatment centers, are not included in NSDUH, yet they have been shown in other surveys to have higher rates of illicit drug use. Also excluded are homeless persons not living in a shelter on the survey date; they are another population shown to have higher than average rates of illicit drug use. Appendix D describes other surveys that provide data for these populations.

## B.2 Sampling Error and Statistical Significance

This report includes tables for national estimates (see Appendices F and G) that were drawn from a more comprehensive set of tables referred to as "detailed tables."<sup>8</sup> The national estimates, along with the associated standard errors (SEs), were computed for all detailed tables, including those in this report, using a multiprocedure package, SUDAAN<sup>®</sup> Software for Statistical Analysis of Correlated Data. SUDAAN was designed for the statistical analysis of data collected using stratified, multistage cluster sampling designs, as well as other observational and experimental studies involving repeated measures or studies subject to cluster correlation effects (RTI International, 2008). The final, nonresponse-adjusted, and poststratified analysis weights were used in SUDAAN to compute unbiased design-based drug use estimates.

The sampling error (i.e., the standard error or SE) of an estimate is the error caused by the selection of a sample instead of conducting a census of the population. The sampling error may be reduced by selecting a large sample and/or by using efficient sample design and estimation strategies, such as stratification, optimal allocation, and ratio estimation.

With the use of probability sampling methods in NSDUH, it is possible to develop estimates of sampling error from the survey data. These estimates have been calculated using SUDAAN for all estimates presented in this report using a Taylor series linearization approach that takes into account the effects of NSDUH's complex design features. The sampling errors are used to identify unreliable estimates and to test for the statistical significance of differences between estimates.

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<sup>8</sup> This comprehensive set of tables is available at <http://oas.samhsa.gov/WebOnly.htm#NSDUHtabs>.

### B.2.1 Variance Estimation for Totals

Although the SEs of estimates of means and proportions can be calculated appropriately in SUDAAN using a Taylor series linearization approach, SEs of estimates of totals may be underestimated in situations where the domain size is poststratified to data from the U.S. Census Bureau. Because of this underestimation, alternatives for estimating SEs of totals were implemented.

Estimates of means or proportions,  $\hat{p}_d$ , such as drug use prevalence estimates for a domain  $d$ , can be expressed as a ratio estimate:

$$\hat{p}_d = \frac{\hat{Y}_d}{\hat{N}_d},$$

where  $\hat{Y}_d$  is a linear statistic estimating the number of substance users in the domain  $d$  and  $\hat{N}_d$  is a linear statistic estimating the total number of persons in domain  $d$  (both users and nonusers). The SUDAAN software package is used to calculate direct estimates of  $\hat{Y}_d$  and  $\hat{N}_d$  (and, therefore,  $\hat{p}_d$ ) and also can be used to estimate their respective SEs. A Taylor series approximation method implemented in SUDAAN provides the estimate for the SE of  $\hat{p}_d$ .

When the domain size,  $\hat{N}_d$ , is free of sampling error, an appropriate estimate of the SE for the total number of substance users is

$$SE(\hat{Y}_d) = \hat{N}_d SE(\hat{p}_d).$$

This approach is theoretically correct when the domain size estimates,  $\hat{N}_d$ , are among those forced to match their respective U.S. Census Bureau population estimates through the weight calibration process (Chen et al., 2009) described in the *2007 NSDUH Methodological Resource Book* (RTI International, 2009). In these cases,  $\hat{N}_d$  is not subject to a sampling error induced by the NSDUH design. For a more detailed explanation of the weight calibration process, see Section A.3.3 in Appendix A.

For estimated domain totals,  $\hat{Y}_d$ , where  $\hat{N}_d$  is not fixed (i.e., where domain size estimates are not forced to match the U.S. Census Bureau population estimates), this formulation still may provide a good approximation if it can be assumed that the sampling variation in  $\hat{N}_d$  is negligible relative to the sampling variation in  $\hat{p}_d$ . This is a reasonable assumption for most cases in this study.

For various subsets of estimates, the above approach yielded an underestimate of the variance of a total because  $\hat{N}_d$  was subject to considerable variation. Starting with the 2005 NSDUH report and continuing in the 2008 NSDUH report, a "mixed" method approach was implemented for all detailed tables to improve the accuracy of SEs and to better reflect the



effects of weighting on the variance of total estimates. This approach assigns the method of SE calculation to domains (subgroups for which the estimates were calculated) within tables so that all estimates among a select set of domains with fixed  $\hat{N}_d$  were calculated using the formula above, and all other estimates were calculated directly in SUDAAN, regardless of other estimates within the same table. The set of domains considered controlled (i.e., those with a fixed  $\hat{N}_d$ ) was restricted to main effects and two-way interactions in order to maintain continuity between years. Domains consisting of three-way interactions may be controlled in a single year but not necessarily in preceding or subsequent years. The use of such SEs did not affect the SE estimates for the corresponding proportions presented in the same sets of tables because all SEs for means and proportions are calculated directly in SUDAAN. As a result of the use of this mixed-method approach, the SEs for the total estimates within many detailed tables were calculated differently from those in NSDUH reports prior to the 2005 report.

Table B.1 at the end of this appendix contains a list of domains with a fixed  $\hat{N}_d$ . This table includes both the main effects and two-way interactions and may be used to identify the method of SE calculation employed for estimates of totals in the various tables of this report. For example, Table G.13 in Appendix G of this report presents estimates of illicit drug use among persons aged 18 or older within the domains of gender, Hispanic origin and race, education, and current employment. Estimates among the total population (age main effect), males and females (age by gender interaction), and Hispanics and non-Hispanics (age by Hispanic origin interaction) were treated as controlled in this table, and the formula above was used to calculate the SEs. The SEs for all other estimates, including white and black or African American (age by Hispanic origin by race interaction) were calculated directly from SUDAAN. It is important to note that estimates presented in this report for racial groups are among non-Hispanics. For instance, the domain for whites is actually non-Hispanic whites and is therefore a two-way interaction.

## B.2.2 Suppression Criteria for Unreliable Estimates

As has been done in past NSDUH reports, direct survey estimates produced for this study that are considered to be unreliable due to unacceptably large sampling errors are not shown in this report and are noted by asterisks (\*) in the tables containing such estimates. The criteria used for suppressing all direct survey estimates were based on the relative standard error (RSE) (defined as the ratio of the SE over the estimate), nominal (actual) sample size, and effective sample size for each estimate.

Proportion estimates ( $\hat{p}$ ) within the range  $[0 < \hat{p} < 1]$ , rates, and the corresponding estimated number of users were suppressed if

$$\text{RSE}[-\ln(\hat{p})] > .175 \text{ when } \hat{p} \leq .5$$

or

$$\text{RSE}[-\ln(1 - \hat{p})] > .175 \text{ when } \hat{p} > .5.$$

Using a first-order Taylor series approximation to estimate  $RSE[-\ln(\hat{p})]$  and  $RSE[-\ln(1 - \hat{p})]$ , the following equation was derived and used for computational purposes when developing a suppression rule dependent on effective sample size:

$$\frac{SE(\hat{p})/\hat{p}}{-\ln(\hat{p})} > .175 \text{ when } \hat{p} \leq .5$$

or

$$\frac{SE(\hat{p})/(1-\hat{p})}{-\ln(1-\hat{p})} > .175 \text{ when } \hat{p} > .5.$$

The separate formulas for  $\hat{p} \leq .5$  and  $\hat{p} > .5$  produce a symmetric suppression rule; that is, if  $\hat{p}$  is suppressed,  $1 - \hat{p}$  will be suppressed as well (see Figure B.1). When  $.05 < \hat{p} < .95$ , the symmetric properties of the rule produce a local minimum of 50 at  $\hat{p} = .2$  and at  $\hat{p} = .8$ . Using the minimum for the suppression rule would mean that estimates of  $\hat{p}$  between .05 and .95 would be suppressed if their corresponding effective sample sizes were less than 50. Within this same interval, a local maximum of 68 is found at  $\hat{p} = .5$ . To simplify requirements and maintain a conservative suppression rule, estimates of  $\hat{p}$  between .05 and .95 were suppressed if they had an effective sample size below 68.

In addition, a minimum nominal sample size suppression criterion ( $n = 100$ ) that protects against unreliable estimates caused by small design effects and small nominal sample sizes was employed. Prevalence estimates also were suppressed if they were close to 0 or 100 percent (i.e., if  $\hat{p} < .00005$  or if  $\hat{p} \geq .99995$ ).

Estimates of other totals (e.g., number of initiates) along with means and rates that are not bounded between 0 and 1 (e.g., mean age at first use and incidence rates) were suppressed if the RSEs of the estimates were larger than .5. Additionally, estimates of the mean age at first use were suppressed if the sample size was smaller than 10 respondents. Also, the estimated incidence rate and number of initiates were suppressed if they rounded to 0.

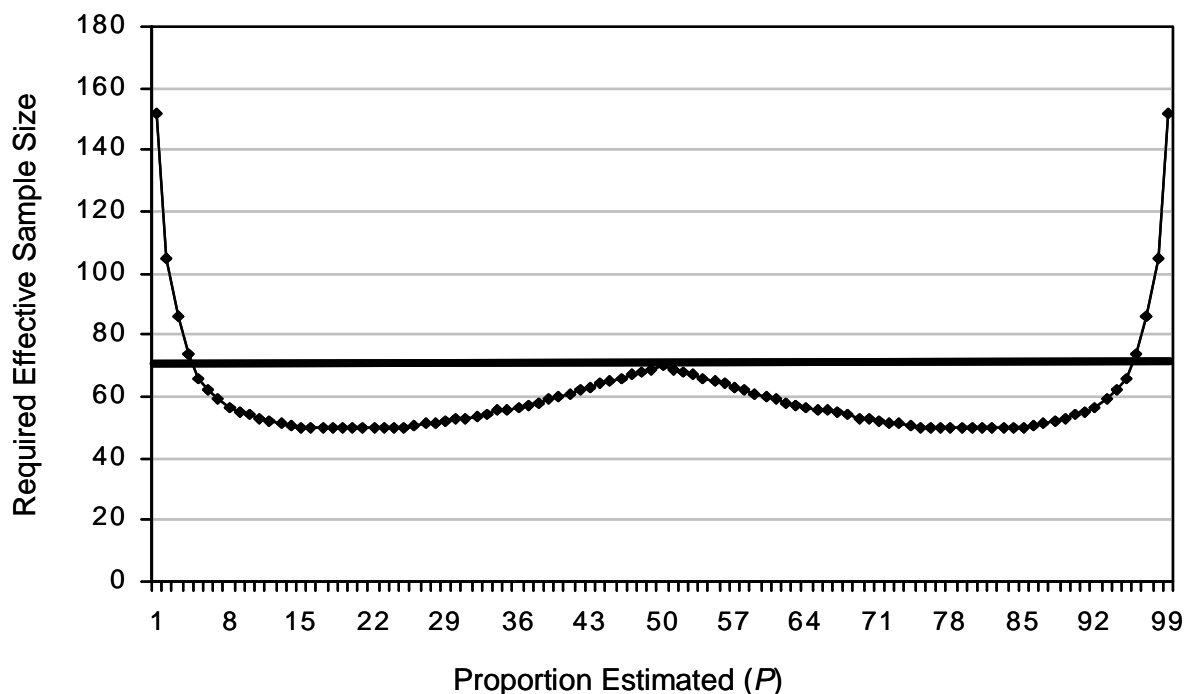
The suppression criteria for various NSDUH estimates are summarized in Table B.2 at the end of this appendix.

### **B.2.3 Statistical Significance of Differences**

This section describes the methods used to compare prevalence estimates in this report. Customarily, the observed difference between estimates is evaluated in terms of its statistical significance. Statistical significance is based on the  $p$  value of the test statistic and refers to the probability that a difference as large as that observed would occur due to random variability in the estimates if there were no difference in the prevalence estimates for the population groups being compared. The significance of observed differences in this report is reported at the .05 level. When comparing prevalence estimates, the null hypothesis (no difference between

**Figure B.1 Required Effective Sample as a Function of the Proportion Estimated**

Current Rule: NSDUH 2008



prevalence estimates) was tested against the alternative hypothesis (there is a difference in prevalence estimates) using the standard difference in proportions test expressed as

$$Z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\text{var}(\hat{p}_1) + \text{var}(\hat{p}_2) - 2\text{cov}(\hat{p}_1, \hat{p}_2)}}$$

where  $\hat{p}_1$  = first prevalence estimate,  $\hat{p}_2$  = second prevalence estimate,  $\text{var}(\hat{p}_1)$  = variance of first prevalence estimate,  $\text{var}(\hat{p}_2)$  = variance of second prevalence estimate, and  $\text{cov}(\hat{p}_1, \hat{p}_2)$  = covariance between  $\hat{p}_1$  and  $\hat{p}_2$ . In cases where significance tests between years were performed, the prevalence estimate from the earlier year (e.g., 2002, 2003, 2004, 2005, 2006, or 2007) becomes the first prevalence estimate, and the prevalence estimate from the later year (e.g., 2003, 2004, 2005, 2006, 2007, or 2008) becomes the second prevalence estimate.

Under the null hypothesis,  $Z$  is asymptotically distributed as a normal random variable. Therefore, calculated values of  $Z$  can be referred to the unit normal distribution to determine the corresponding probability level (i.e.,  $p$  value). Because the covariance term between the two estimates is not necessarily zero, SUDAAN was used to compute estimates of  $Z$  along with the associated  $p$  values using the analysis weights and accounting for the sample design as described in Appendix A. A similar procedure and formula for  $Z$  were used for estimated totals; however, it

should be noted that because it was necessary to calculate the SE outside of SUDAAN for domains forced by the weighting process to match their respective U.S. Census Bureau population estimates, the corresponding test statistics also were computed outside of SUDAAN.

When comparing population subgroups across three or more levels of a categorical variable, log-linear chi-square tests of independence of the subgroups and the prevalence variables were conducted using SUDAAN in order to first control the error level for multiple comparisons. If Shah's Wald  $F$  test (transformed from the standard Wald chi-square) indicated overall significant differences, the significance of each particular pairwise comparison of interest was tested using SUDAAN analytic procedures to properly account for the sample design (RTI International, 2008). Using the published estimates and SEs to perform independent  $t$  tests for the difference of proportions usually will provide the same results as tests performed in SUDAAN. However, where the significance level is borderline, results may differ for two reasons: (1) the covariance term is included in SUDAAN tests, whereas it is not included in independent  $t$  tests; and (2) the reduced number of significant digits shown in the published estimates may cause rounding errors in the independent  $t$  tests.

As part of a comparative analysis discussed in Chapter 9, prevalence estimates from the Monitoring the Future (MTF) study, sponsored by the National Institute on Drug Abuse (NIDA), were presented for recency measures of selected substances (see Tables 9.1 and 9.2). The analyses focused on prevalence estimates for 8th and 10th graders and prevalence estimates for young adults aged 19 to 24 for 2002 through 2008. Estimates for the 8th and 10th grade students were calculated using MTF data as the simple average of the 8th and 10th grade estimates. Estimates for young adults aged 19 to 24 were calculated using MTF data as the simple average of three modal age groups: 19 and 20 years, 21 and 22 years, and 23 and 24 years. Published results were not available from NIDA for significant differences in prevalence estimates between years for these subgroups, so testing was performed using information that was available.

For the 8th and 10th grade average estimates, tests of differences were performed between 2008 and the 6 prior years. Estimates for persons in grade 8 and grade 10 were considered independent, simplifying the calculation of variances for the combined grades. Across years, the estimates for 2008 involved samples independent of those in 2002, 2003, 2004, 2005, and 2006, but from 2007 to 2008 the sample of schools overlapped 50 percent, creating a covariance in the estimates. Design effects published in Johnston et al. (2008b) for adjacent and nonadjacent year testing were used.

For the 19- to 24-year-old age group, tests of differences were done assuming independent samples between years an odd number of years apart because two distinct cohorts a year apart were monitored longitudinally at 2-year intervals. This is appropriate for comparisons of 2003, 2005, and 2007 with 2008. However, this results in conservative tests for comparisons of 2002, 2004, and 2006 data with 2008 data because it does not take into account covariances associated with repeated observations from the longitudinal samples. Estimates of covariances were not available.

As an example, the difference between the 2007 and 2008 averages of prevalence estimates for persons in grades 8 and 10 can be expressed as

$$\bar{p}_2 - \bar{p}_1,$$

where  $\bar{p}_1 = (\hat{p}_{11} + \hat{p}_{12})/2$ ,  $\hat{p}_{11}$  and  $\hat{p}_{12}$  are the prevalence estimates for the 8th and 10th grades, respectively, for 2007; and  $\bar{p}_2$  is defined similarly for 2008. The variance of a prevalence estimate  $\hat{p}$  can be written as

$$\text{var}(\hat{p}) = \frac{1}{n} D \hat{p}(1 - \hat{p}),$$

where  $n$  is the sample size and  $D$  is the appropriate design effect obtained from the sampling design. In the MTF study, design effects were available for comparisons between adjacent-year (i.e., 2007 vs. 2008) estimates and nonadjacent-year (i.e., 2002 vs. 2008, 2003 vs. 2008, 2004 vs. 2008, 2005 vs. 2008, and 2006 vs. 2008) estimates; therefore, the variance of the difference between 2 years of estimates for a particular grade can be expressed as

$$\text{var}(\hat{p}_{2i} - \hat{p}_{1i}) = D_i \left( \frac{1}{n_{1i}} \hat{p}_{1i}(1 - \hat{p}_{1i}) + \frac{1}{n_{2i}} \hat{p}_{2i}(1 - \hat{p}_{2i}) \right); i = 1, 2,$$

where  $i = 1$  indexes the 8th grade,  $i = 2$  indexes the 10th grade,  $D_i$  is the design effect appropriate for comparisons between estimates of the 2 years (with separate design effect parameters for adjacent and nonadjacent years), and the  $n_{ji}$  are the sample sizes corresponding to the indexed year and grade prevalence estimates,  $i, j = 1, 2$ . Because the 8th and 10th grade samples were drawn independently, the variance of the difference between the 8th and 10th grade averages can be expressed as

$$\text{var}(\bar{p}_2 - \bar{p}_1) = \frac{1}{4} \{ \text{var}(\hat{p}_{21} - \hat{p}_{11}) + \text{var}(\hat{p}_{22} - \hat{p}_{12}) \}.$$

The test statistic can therefore be written as

$$Z = \frac{\bar{p}_2 - \bar{p}_1}{\sqrt{\text{var}(\bar{p}_2 - \bar{p}_1)}},$$

where  $Z$  is asymptotically distributed as a standard normal random variable.

### B.3 Other Information on Data Accuracy

The accuracy of survey estimates can be affected by nonresponse, coding errors, computer processing errors, errors in the sampling frame, reporting errors, and other errors not due to sampling. They are sometimes referred to as "nonsampling errors." These types of errors and their impact are reduced through data editing, statistical adjustments for nonresponse, close monitoring and periodic retraining of interviewers, and improvement in various quality control procedures.

Although these types of errors often can be much larger than sampling errors, measurement of most of these errors is difficult. However, some indication of the effects of some

types of these errors can be obtained through proxy measures, such as response rates and from other research studies.

### B.3.1 Screening and Interview Response Rate Patterns

In 2008, respondents continued to receive a \$30 incentive in an effort to maximize response rates. The weighted screening response rate (SRR) is defined as the weighted number of successfully screened households<sup>9</sup> divided by the weighted number of eligible households (as defined in Table B.3), or

$$SRR = \frac{\sum w_{hh} complete_{hh}}{\sum w_{hh} eligible_{hh}},$$

where  $w_{hh}$  is the inverse of the unconditional probability of selection for the household and excludes all adjustments for nonresponse and poststratification defined in Section A.3.3 of Appendix A. Of the 160,133 eligible households sampled for the 2008 NSDUH, 142,938 were screened successfully, for a weighted screening response rate of 89.0 percent (Table B.3). At the person level, the weighted interview response rate (IRR) is defined as the weighted number of respondents divided by the weighted number of selected persons (see Table B.4), or

$$IRR = \frac{\sum w_i complete_i}{\sum w_i selected_i}$$

where  $w_i$  is the inverse of the probability of selection for the person and includes household-level nonresponse and poststratification adjustments (adjustments 1, 2, and 3 in Section A.3.3 of Appendix A). To be considered a completed interview, a respondent must provide enough data to pass the usable case rule.<sup>10</sup> In the 142,938 screened households, a total of 86,435 sample persons were selected, and completed interviews were obtained from 68,736 of these sample persons, for a weighted IRR of 74.4 percent (Table B.4). A total of 12,075 (17.8 percent) sample persons were classified as refusals or parental refusals, 3,306 (3.7 percent) were not available or never at home, and 2,318 (4.1 percent) did not participate for various other reasons, such as physical or mental incompetence or language barrier (see Table B.4, which also shows the distribution of the selected sample by interview code and age group). Among demographic subgroups, the weighted IRR was higher among 12 to 17 year olds (84.7 percent), females (76.4 percent), blacks (78.8 percent), persons in the South (76.6 percent), and residents of nonmetropolitan areas (77.2 percent) than among other related groups (Table B.5).

The overall weighted response rate, defined as the product of the weighted screening response rate and weighted interview response rate or

$$ORR = SRR \times IRR$$

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<sup>9</sup> A successfully screened household is one in which all screening questionnaire items were answered by an adult resident of the household and either zero, one, or two household members were selected for the NSDUH interview.

<sup>10</sup> The usable case rule requires that a respondent answer "yes" or "no" to the question on lifetime use of cigarettes and "yes" or "no" to at least nine additional lifetime use questions.

was 66.3 percent in 2008. Nonresponse bias can be expressed as the product of the nonresponse rate ( $1 - R$ ) and the difference between the characteristic of interest between respondents and nonrespondents in the population ( $P_r - P_{nr}$ ). By maximizing NSDUH response rates, it is hoped that the bias due to the difference between the estimates from respondents and nonrespondents is minimized. Drug use surveys are particularly vulnerable to nonresponse due to the difficult nature of accessing heavy drug users. In a study that matched 1990 census data to 1990 NHSDA nonrespondents,<sup>11</sup> it was found that populations with low response rates did not always have high drug use rates. For example, although some populations were found to have low response rates and high drug use rates (e.g., residents of large metropolitan areas and males), other populations had low response rates and low drug use rates (e.g., older adults and high-income populations). Therefore many of the potential sources of bias tend to cancel each other in estimates of overall prevalence (Gfroerer, Lessler, & Parsley, 1997a).

### **B.3.2 Inconsistent Responses and Item Nonresponse**

Among survey participants, item response rates were above 99 percent for most drug use items. However, respondents could give inconclusive or inconsistent information about whether they ever used a given drug (i.e., "yes" or "no") and, if they had used a drug, when they last used it; the latter information is needed to identify those lifetime users of a drug who used it in the past year or past month. In addition, respondents could give inconsistent responses to items such as when they first used a drug compared with their most recent use of a drug. These missing or inconsistent responses first are resolved where possible through a logical editing process. Additionally, missing or inconsistent responses are imputed using statistical methodology (Ault et al., 2009). These imputation procedures in NSDUH are based on responses to multiple questions, so that the maximum amount of information is used in determining whether a respondent is classified as a user or nonuser, and if the respondent is classified as a user, whether the respondent is classified as having used in the past year or the past month. For example, ambiguous data on the most recent use of cocaine are statistically imputed based on a respondent's data for use (or most recent use) of tobacco products, alcohol, inhalants, marijuana, hallucinogens, and nonmedical use of prescription psychotherapeutic drugs. Nevertheless, editing and imputation of missing responses are potential sources of measurement error. For more information on editing and statistical imputation, see Sections A.3.1 and A.3.2 of Appendix A. Additional information on editing and statistical imputation procedures can be found online at <http://oas.samhsa.gov/nsduh/methods.cfm>.

### **B.3.3 Data Reliability**

A reliability study was conducted as part of the 2006 NSDUH to assess the reliability of responses to the NSDUH questionnaire. An interview/reinterview method was employed in which 3,136 individuals were interviewed on two occasions during 2006 generally 5 to 15 days apart; the initial interviews in the reliability study were a subset of the main study interviews. The reliability of the responses was assessed by comparing the responses of the first interview with the responses from the reinterview.

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<sup>11</sup> Prior to 2002, NSDUH was known as the National Household Survey on Drug Abuse (NHSDA).

Results for the reliability of selected substance use and mental health variables are presented in Table B.6. Reliability is expressed in the table by estimates of Cohen's kappa ( $\kappa$ ) (Cohen, 1960), which can be interpreted according to benchmarks proposed by Landis and Koch (1977, p. 165):

- poor agreement for kappas less than 0.00,
- slight agreement for kappas of 0.00 to 0.20,
- fair agreement for kappas of 0.21 to 0.40,
- moderate agreement for kappas of 0.41 to 0.60,
- substantial agreement for kappas of 0.61 to 0.80, and
- almost perfect agreement for kappas of 0.81 to 1.00.

None of the values for the substance use variables presented in Table B.6 fell below 0.82, indicating substantial to nearly perfect response consistency on these measures. Reliability statistics obtained for the substance dependence or abuse and major depressive episode (MDE) measures were moderate to substantial, while substance abuse treatment and mental health treatment variables showed almost perfect consistency. For further information on the reliability of a wide range of measures contained in NSDUH, see the complete methodology report (Chromy et al., 2009).

### **B.3.4 Validity of Self-Reported Substance Use**

Most substance use prevalence estimates, including those produced for NSDUH, are based on self-reports of use. Although studies generally have supported the validity of self-report data, it is well documented that these data often are biased (underreported or overreported). The bias varies by several factors, including the mode of administration, the setting, the population under investigation, and the type of drug (Aquilino, 1994; Brener et al., 2006; Harrison & Hughes, 1997; Tourangeau & Smith, 1996; Turner, Lessler, & Gfroerer, 1992). NSDUH utilizes widely accepted methodological practices for increasing the accuracy of self-reports, such as encouraging privacy through audio computer-assisted self-interviewing (ACASI) and providing assurances that individual responses will remain confidential. Comparisons using these methods within NSDUH have shown that they reduce reporting bias (Gfroerer, Eyerman, & Chromy, 2002). Various procedures, such as biological specimens (e.g., urine, hair, saliva), proxy reports (e.g., family member, peer), and repeated measures (e.g., recanting), have been used to validate self-report data (Fendrich, Johnson, Sudman, Wislar, & Spiehler, 1999). However, these procedures often are impractical or too costly for general population epidemiological studies (SRNT Subcommittee on Biochemical Verification, 2002).

A study cosponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA) and the National Institute on Drug Abuse (NIDA) examined the validity of NSDUH self-report data on drug use among persons aged 12 to 25. The study found that it is possible to



collect urine and hair specimens with a relatively high response rate in a general population survey, and that most youths and young adults reported their recent drug use accurately in self-reports (Harrison, Martin, Enev, & Harrington, 2007). However, there were some reporting differences in either direction, with some respondents not reporting use but testing positive, and some reporting use but testing negative. Technical and statistical problems related to the hair tests precluded presenting comparisons of self-reports and hair test results, while small sample sizes for self-reports and positive urine test results for opiates and stimulants precluded drawing conclusions about the validity of self-reports of these drugs. Further, inexactness in the window of detection for drugs in biological specimens and biological factors affecting the window of detection could account for some inconsistency between self-reports and urine test results.

## B.4 Measurement Issues

Several measurement issues associated with the 2008 NSDUH may be of interest and are discussed in this section. Specifically, these issues include the methods for measuring incidence; nicotine (cigarette) dependence; substance dependence and abuse; serious mental illness (SMI); serious psychological distress (SPD); major depressive episode (MDE); and methamphetamine use.

### B.4.1 Incidence

In epidemiological studies, incidence is defined as the number of new cases of a disease occurring within a specific period of time. Similarly, in substance use studies, incidence refers to the first use of a particular substance.

In the 2004 NSDUH national results report (Office of Applied Studies [OAS], 2005), a new measure related to incidence was introduced and since then has become the primary focus of Chapter 5 in this national results report series. The incidence measure is termed "past year initiation" and refers to respondents whose date of first use of a substance was within the 12 months prior to their interview date. This measure is determined by self-reported past year use, age at first use, year and month of recent new use, and the interview date.

Since 1999, the survey questionnaire has allowed for collection of year and month of first use for recent initiates (i.e., persons who used a particular substance for the first time in a given survey year). Month, day, and year of birth also are obtained directly or are imputed for item nonrespondents as part of the data postprocessing. Additionally, the computer-assisted interviewing (CAI) instrument records and provides the date of the interview. By imputing a day of first use within the year and month of first use, a specific date of first use,  $t_{fu,d,i}$ , can be used for estimation purposes.

Past year initiation among persons using a substance in the past year can be viewed as an indicator variable defined as follows:

$$I_{(Past\ Year\ Initiate)}(i) = \begin{cases} 1 & \text{if } (DOI_i MOI_i YOI_i - t_{fu,d,i}) \leq 365 \\ 0 & \text{otherwise} \end{cases},$$

where  $DOI_i$ ,  $MOI_i$ , and  $YOI_i$  denote the day, month, and year of the interview, respectively, and  $t_{fu,d,i}$  denotes the date of first use.

The calculation of this estimate does not take into account whether a respondent initiated substance use while a resident of the United States. This method of calculation has little effect on past year estimates and allows for direct comparability with other standard measures of substance use because the populations of interest for the measures will be the same (i.e., both measures examine all possible respondents and are not restricted to those initiating substance use only in the United States).

One important note for incidence estimates is the relationship between main categories and subcategories of substances (e.g., illicit drugs would be a main category, and inhalants and marijuana would be subcategories in relation to illicit drugs). For most measures of substance use, any member of a subcategory is by necessity a member of the main category (e.g., if a respondent is a past month user of a particular drug, then he or she is also a past month user of illicit drugs in general). However, this is not the case with regard to incidence statistics. Because an individual can only be an initiate of a particular substance category (main or sub) a single time, a respondent with lifetime use of multiple substances may not, by necessity, be included as a past year initiate of a main category, even if he or she were a past year initiate for a particular subcategory because his or her first initiation of other substances within the main category could have occurred earlier.

In addition to estimates of the number of persons initiating use of a substance in the past year, estimates of the mean age of past year first-time users of these substances are computed. Unless specified otherwise, estimates of the mean age at initiation in the past 12 months have been restricted to persons aged 12 to 49 so that the mean age estimates reported are not influenced by those few respondents who were past year initiates at age 50 or older. As a measure of central tendency, means are influenced heavily by the presence of extreme values in the data, and this constraint should increase the utility of these results to health researchers and analysts by providing a better picture of the substance use initiation behaviors among the civilian, noninstitutionalized population in the United States. This constraint was applied only to estimates of mean age at first use and does not affect estimates of incidence.

Because NSDUH is a survey of persons aged 12 years old or older at the time of the interview, younger individuals in the sample dwelling units are not eligible for selection into the NSDUH sample. Some of these younger persons may have initiated substance use during the past year. As a result, past year initiate estimates suffer from undercoverage if a user assumes that these estimates reflect all initial users instead of only for those above the age of 11. For earlier years, data can be obtained retrospectively based on the age at and date of first use. As an example, persons who were 12 years old on the date of their interview in the 2008 survey may report having initiated use of cigarettes between 1 and 2 years ago; these persons would have been past year initiates reported in the 2007 survey had persons who were 11 years old on the date of the 2007 interview been allowed to participate in the survey. Similarly, estimates of past year use by younger persons (age 10 or younger) can be derived from the current survey, but they apply to initiation in prior years and not the survey year.

To get an impression of the potential undercoverage in the current year, reports of substance use initiation reported by persons aged 12 or older were estimated for the years in which these persons would have been 1 to 11 years younger. These estimates do not necessarily reflect behavior by persons 1 to 11 years younger in the current survey. Instead, the data for the 11 year olds reflect initiation in the year prior to the current survey; the data for the 10 year olds reflect behavior between the 12th and 23rd months prior to this year's survey, and so on. A very rough way to adjust for the difference in the years that the estimate pertains to without considering changes in the population is to apply an adjustment factor to each age-based estimate of past year initiates. This adjustment factor can be based on a ratio of lifetime users aged 12 to 17 in the current survey year to the same estimate for the prior applicable survey year. To illustrate the calculation, consider past year use of alcohol. In the 2008 survey, 112,192 persons 12 years old in 2008 were estimated to have initiated use of alcohol between 1 and 2 years earlier. These persons would have been past year initiates in the 2007 survey conducted on the same dates had the 2007 survey covered younger persons. The estimated number of lifetime users currently aged 12 to 17 was 9,540,037 for 2008 and 9,949,469 for 2007, indicating fewer overall initiates of alcohol use among persons aged 17 or younger in 2008. Thus, an adjusted estimate of initiation of alcohol use by persons who were 11 years old in 2008 is given by

$$\left( \text{Estimated Past Year Initiates Aged 11} \right)_{2007} \times \frac{\left( \text{Estimated Lifetime Users Aged 12 to 17} \right)_{2008}}{\left( \text{Estimated Lifetime Users Aged 12 to 17} \right)_{2007}}$$

This yielded an adjusted estimate of 107,575 persons 11 years old on a 2008 survey date and initiating use of alcohol in the past year:

$$112,192 * \frac{9,540,037}{9,949,469} = 107,575.$$

A similar procedure was used to adjust the estimated number of past year initiates among persons who would have been 10 years old on the date of the interview in 2006 and for younger persons in earlier years. The overall adjusted estimate for past year initiates of alcohol use by persons 11 years of age or younger on the date of the interview was 248,533, or about 5.6 percent of the estimate based on past year initiation by persons 12 or older only ( $248,533 \div 4,466,102 = 0.0556$ ).

Based on similar analyses, the estimated undercoverage of past year initiates was 5.6 percent for cigarettes, 0.7 percent for marijuana, and 22.8 percent for inhalants. These 2008 results are comparable with undercoverage estimates presented in prior reports using data from the 2005 through 2007 surveys.

The undercoverage of past year initiates aged 11 or younger also affects the mean age at first use estimate. An adjusted estimate of the mean age at first use was calculated using a weighted estimate of the mean age at first use based on the current survey and the numbers of persons aged 11 or younger in the past year obtained in the aforementioned analysis for estimating undercoverage of past year initiates. Analysis results showed that the mean age at first use was changed from 17.0 to 16.6 (or a decrease of 2.6 percent) for alcohol, from 17.4 to 16.9 (or a decrease of 2.8 percent) for cigarettes, from 17.8 to 17.7 (or a decrease of 0.4 percent) for

marijuana, and from 15.9 to 14.6 (or a decrease of 8.0 percent) for inhalants. The percentage decreases reported above are comparable with results generated in prior survey years.

#### **B.4.2 Nicotine (Cigarette) Dependence**

The 2008 NSDUH's CAI instrumentation included questions designed to measure nicotine dependence among current cigarette smokers. Nicotine dependence is based on criteria derived from the Nicotine Dependence Syndrome Scale (NDSS) (Shiffman, Hickcox, Gnys, Paty, & Kassel, 1995; Shiffman, Waters, & Hickcox, 2004) and the Fagerstrom Test of Nicotine Dependence (FTND) (Fagerstrom, 1978; Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). The above-mentioned criteria were first used to measure nicotine dependence in NSDUH in 2003.

The conceptual roots of the NDSS (Edwards & Gross, 1976) are similar to those behind the American Psychiatric Association (APA) *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV), concept of dependence (APA, 1994). The 2008 NSDUH contained 19 NDSS questions that addressed five aspects of dependence:

1. Smoking drive (compulsion to smoke driven by nicotine craving and withdrawal)
  - a. After not smoking for a while, you need to smoke in order to feel less restless and irritable.
  - b. When you don't smoke for a few hours, you start to crave cigarettes.
  - c. You sometimes have strong cravings for a cigarette where it feels like you're in the grip of a force you can't control.
  - d. You feel a sense of control over your smoking - that is, you can "take it or leave it" at any time.
  - e. You sometimes worry that you will run out of cigarettes.
2. Nicotine tolerance
  - a. Since you started smoking, the amount you smoke has increased.
  - b. Compared to when you first started smoking, you need to smoke a lot more now in order to be satisfied.
  - c. Compared to when you first started smoking, you can smoke much, much more now before you start to feel anything.
3. Continuous smoking
  - a. You smoke cigarettes fairly regularly throughout the day.
  - b. You smoke about the same amount on weekends as on weekdays.
  - c. You smoke just about the same number of cigarettes from day to day.
  - d. It's hard to say how many cigarettes you smoke per day because the number often changes.

- e. It's normal for you to smoke several cigarettes in an hour, then not have another one until hours later.
4. Behavioral priority (preferring smoking over other reinforcing activities)
    - a. You tend to avoid places that don't allow smoking, even if you would otherwise enjoy them.
    - b. There are times when you choose not to be around your friends who don't smoke because they won't like it if you smoke.
    - c. Even if you're traveling a long distance, you'd rather not travel by airplane because you wouldn't be allowed to smoke.
  5. Stereotypy (fixed patterns of smoking)
    - a. Do you have any friends who do not smoke cigarettes?
    - b. The number of cigarettes you smoke per day is often influenced by other things - how you're feeling, or what you're doing, for example.
    - c. Your smoking is not affected much by other things. For example, you smoke about the same amount whether you're relaxing or working, happy or sad, alone or with others.

Each of the five domains listed above can be assessed by a separate measure, but an average score across all domains also can be obtained for overall nicotine dependence (Shiffman et al., 2004). The NDSS algorithm for calculating this average score was based on the respondent's answers to 17 of the 19 questions listed above. The two items regarding nonsmoking friends (4b and 5a) were excluded due to higher item nonresponse rates.

To optimize the number of respondents who could be classified for nicotine dependence, imputation was utilized for all respondents who answered all but 1 of the 17 nicotine dependence questions that were used in the NDSS algorithm. The imputation was based on weighted least square regressions using the other 16 NDSS items as covariates in the model (Ault et al., 2009).

Responses to items 1a-c, 1e, 2a-c, 3a-c, 4a, 4c, and 5c were coded from 1 to 5 where

- 1 = Not at all true of me
- 2 = Somewhat true of me
- 3 = Moderately true of me
- 4 = Very true of me
- 5 = Extremely true of me

Responses to items 1d, 3d, 3e, and 5b were reverse coded from 5 to 1 where

- 5 = Not at all true of me
- 4 = Somewhat true of me
- 3 = Moderately true of me
- 2 = Very true of me
- 1 = Extremely true of me

The NDSS score was calculated as the sum of the responses to the previous questions divided by 17. The NDSS score was only calculated for current cigarette smokers who had complete data (based on actual reporting and imputation) for all 17 questions.

A current cigarette smoker was defined as nicotine dependent if his or her NDSS score was greater than or equal to 2.75. If the NDSS score for a current cigarette smoker was less than 2.75 or the NDSS score was not defined, then the respondent was determined to be nondependent based on the NDSS. The threshold of 2.75 was derived by examining the distribution of scores in other samples of smokers administered the NDSS, including a contrast of scores obtained for nondependent smokers (chippers) versus heavy smokers (Shiffman, Paty, Kassel, Gnys, & Zettler-Segal, 1994).

The FTND is a multi-item measure of dependence, but much of its ability to discriminate dependent smokers derives from a single item that assesses how soon after waking that smokers have their first cigarette (Heatherton, Kozlowski, Frecker, Rickert, & Robinson, 1989). Because most nicotine is cleared from the bloodstream overnight, smokers typically wake in nicotine deprivation, and rapid movement to smoke is considered a sign of dependence. A current cigarette smoker was defined as nicotine dependent based on the FTND if the first cigarette smoked was within 30 minutes of waking up on the days that he or she smoked.

Using both the NDSS and the FTND measures described above, a current cigarette smoker was defined as having nicotine dependence in the past month if he or she met either the NDSS or FTND criteria for dependence.

### **B.4.3 Illicit Drug and Alcohol Dependence and Abuse**

The 2008 NSDUH CAI instrumentation included questions that were designed to measure dependence on and abuse of illicit drugs and alcohol. For these substances,<sup>12</sup> dependence and abuse questions were based on the criteria in the DSM-IV (APA, 1994).

Specifically, for marijuana, hallucinogens, inhalants, and tranquilizers, a respondent was defined as having dependence if he or she met three or more of the following six dependence criteria:

1. Spent a great deal of time over a period of a month getting, using, or getting over the effects of the substance.
2. Used the substance more often than intended or was unable to keep set limits on the substance use.
3. Needed to use the substance more than before to get desired effects or noticed that the same amount of substance use had less effect than before.
4. Inability to cut down or stop using the substance every time tried or wanted to.
5. Continued to use the substance even though it was causing problems with emotions, nerves, mental health, or physical problems.

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<sup>12</sup> Substances include alcohol, marijuana, cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, and sedatives.

6. The substance use reduced or eliminated involvement or participation in important activities.

For alcohol, cocaine, heroin, pain relievers, sedatives, and stimulants, a seventh withdrawal criterion was added. A respondent was defined as having dependence if he or she met three or more of seven dependence criteria. The seventh withdrawal criterion is defined by a respondent reporting having experienced a certain number of withdrawal symptoms that vary by substance (e.g., having trouble sleeping, cramps, hands tremble).

For each illicit drug and alcohol, a respondent was defined as having abused that substance if he or she met one or more of the following four abuse criteria and was determined not to be dependent on the respective substance in the past year:

1. Serious problems at home, work, or school caused by the substance, such as neglecting your children, missing work or school, doing a poor job at work or school, or losing a job or dropping out of school.
2. Used the substance regularly and then did something that might have put you in physical danger.
3. Use of the substance caused you to do things that repeatedly got you in trouble with the law.
4. Had problems with family or friends that were probably caused by using the substance and continued to use the substance even though you thought the substance use caused these problems.

Criteria used to determine whether a respondent was asked the dependence and abuse questions during the interview included responses from the core substance use questions and the frequency of substance use questions, as well as the noncore substance use questions. Missing or incomplete responses in the core substance use and frequency of substance use questions were imputed. However, the imputation process did not take into account reported data in the noncore (i.e., substance dependence and abuse) CAI modules. This may have resulted in responses to the dependence and abuse questions that were inconsistent with the imputed substance use or frequency of substance use.

For alcohol and marijuana, respondents were asked the dependence and abuse questions if they reported substance use on more than 5 days in the past year, or if they reported any substance use in the past year but did not report their frequency of past year use. Therefore, inconsistencies could have occurred where the imputed frequency of use response indicated less frequent use than required for respondents to be asked the dependence and abuse questions originally.

For cocaine, heroin, and stimulants, respondents were asked the dependence and abuse questions if they reported past year use in a core drug module or past year use in the noncore special drugs module. Thus, inconsistencies could have occurred when the response to a core substance use question indicated no use in the past year, but responses to dependence and abuse questions indicated substance dependence or abuse for the respective substance.

In 2005, two new questions were added to the noncore special drugs module about past year methamphetamine use: "Have you ever, even once, used methamphetamine?" and "Have you ever, even once, used a needle to inject methamphetamine?" In 2006, an additional follow-up question was added to the noncore special drugs module confirming prior responses about methamphetamine use: "Earlier, the computer recorded that you have never used methamphetamine. Which answer is correct?" The responses to these new questions were used in the skip logic for the stimulant dependence and abuse questions. Based on the decisions made during the methamphetamine analysis (see Section B.4.8), respondents who indicated past year methamphetamine use solely from these new special drug use questions (i.e., did not indicate methamphetamine use from the core drug module or other questions in the special drugs module) were categorized as NOT having past year stimulant dependence or abuse regardless of how they answered the dependence and abuse questions. Furthermore, if these same respondents were categorized as not having past year dependence on or abuse of any other substance (e.g., pain relievers, tranquilizers, or sedatives for the psychotherapeutic drug grouping), then they were categorized as NOT having past year dependence on or abuse of psychotherapeutics, illicit drugs, illicit drugs or alcohol, and illicit drugs and alcohol.

In 2008, questionnaire logic for determining hallucinogen, stimulant, and sedative dependence or abuse was modified. The revised skip logic used information collected in the noncore special drugs module in addition to that collected in questions from the core drug modules. Respondents were asked about hallucinogen dependence and abuse if they additionally reported in the special drugs module using Ketamine, DMT, AMT, Foxy, or *Salvia divinorum*; stimulant dependence and abuse if they reported additionally using Adderall<sup>®</sup>; and sedative dependence and abuse if they reported additionally using Ambien<sup>®</sup>. Complying with the previous decision to exclude respondents whose methamphetamine use was based solely on responses in a noncore module from being classified as having stimulant dependence or abuse, respondents who indicated past year hallucinogen, stimulant, or sedative use based solely on these special drug questions were categorized as NOT having past year dependence on or abuse of the relevant substance regardless of how they answered the dependence and abuse questions.

Respondents might have provided ambiguous information about past year use of any individual substance, in which case these respondents were not asked the dependence and abuse questions for that substance. Subsequently, these respondents could have been imputed to be past year users of the respective substance. In this situation, the dependence and abuse data were unknown; thus, these respondents were classified as not dependent on or abusing the respective substance. However, such a respondent never actually was asked the dependence and abuse questions.

#### **B.4.4 Effects of Questionnaire Changes on Mental Health Measures**

Several important changes were made to the adult mental health module in the 2008 NSDUH questionnaire. These changes not only provide valuable new data on mental health, but also affect some of the measures that have been collected in NSDUH since 2004. This section summarizes the questionnaire changes and their impact on NSDUH estimates.

***Description of Questionnaire Changes.*** From 2004 to 2007, the mental health module for adults consisted of two primary components. First, a 12-month K6 distress scale was



administered, then questions about lifetime and 12-month major depressive episode (MDE) were asked. In 2008, the K6 questions were modified to collect data on distress in the past 30 days and in the past 12 months (see Section B.4.5 for details). In addition, adult respondents were administered one of two impairment scales—an abbreviated World Health Organization Disability Assessment Schedule (WHODAS) (see Section B.4.6 for details) or the Sheehan Disability Scale (SDS)—and suicidal ideation questions. These new impairment and suicide questions were placed after the K6 questions, but before the MDE questions. A random split-sample design was implemented for adults where respondents in sample A were administered the WHODAS scale and respondents in sample B were administered the SDS. All adult respondents were administered the suicidal ideation questions after the impairment items, but before the MDE items.

Two changes in the mental health module for the 2008 NSDUH seemed to provide the potential for changes in estimates related to the reporting of past 12-month K6—and consequently, serious psychological distress (SPD) and major depressive episode (MDE) (see Section B.4.7 for details on MDE and Section B.4.5 for details on the K6 scale and SPD). In 2007, a single set of six K6 items asked adult respondents to report how often they experienced certain emotions or feelings *during the one month in the past 12 months that they were the most depressed, anxious, or stressed*. In 2008, adult respondents first were asked about these feelings in the past 30 days. If there was a month in the past 12 months when they felt more depressed, anxious, or emotionally stressed than they felt during the past 30 days, they then were asked the same K6 items about this month as well. Thus, the past year K6 score in 2008 was now created for each person based on responses to items regarding either the past 30 days (if they said they did not have any other month that was worse) or the worst month in the past 12 months. This change in questionnaire structure may have affected K6 scores and SPD prevalences for the worst month in the past year that was created from the K6 items.

The second major area of questionnaire changes involved the insertion of the two impairment scales through the split sample and suicidal ideation questions ahead of questions measuring adult depression. This introduced the potential for context effects on the suicide and MDE items. Context effects are those changes in the responses to a "target" question because of its placement after one or more context questions. In short, a context effect may be said to take place when the response to a question is affected by information that is not part of the question itself. For example, the content of a preceding question may affect the interpretation of a subsequent question. Or a respondent may answer a subsequent question in a manner that is consistent with responses to a preceding question if the two questions are closely related to each other. It was hypothesized that placement of the impairment and suicide questions, as well as the change in the K6 questions, ahead of the depression items may affect responses to the depression items. In addition, the split-sample testing of two different impairment scales raised the possibility that these two sets of impairment items may differentially affect responses in the suicide items and the depression section. It also was considered possible that the earlier items in the adult depression section could be differentially affected compared with the later items that were used to create variables related to MDE.

Even though the entire adult sample was split into two subsamples, and each adult respondent was eligible to be administered the WHODAS or SDS, some respondents were not administered either of the impairment scales. Respondents with a K6 score of zero (i.e., they

answered "none of the time" for all six of the past 30-day K6 items or "none of the time" for all six of the past 30-day and all six of the worst 12-month K6 items) were not administered either of the impairment scales. However, all adults were administered the suicidal ideation items, which followed the impairment scales, prior to answering the depression items. For analytic purposes, data from the two subsamples are compared, regardless of whether the impairment scale was actually administered, to get a sense of the overall effect of the administration of the two impairment scales on the MDE estimates.

***Examining Changes in 2008 SPD Estimates.*** For adults aged 18 or older, estimates of past year K6 scores and the percentage with SPD based on the entire 2008 sample, as well as the WHODAS and SDS subsamples, were compared with estimates based on 2007 data. There were significant differences in the mean past year K6 scores between 2008 and 2007 (4.9 vs. 5.2 percent, respectively), thus suggesting a lack of comparability between the 2 years (Table B.7). Across each of the six items forming the past year K6 score, a higher percentage of respondents selected "none of the time" as a response (e.g., "how often felt restless in worst month") (Table B.8).

No significant difference was detected in the overall percentage of adults with past year SPD between 2007 and 2008 (10.9 vs. 10.3 percent) (Table B.7). Unexpectedly, however, a significantly lower percentage of adults with past year SPD was estimated from the WHODAS subsample compared with the SDS subsample (9.7 vs. 10.8 percent) (Table B.7). These results are unexpected because the SDS and WHODAS impairment items follow the K6 items; therefore, differences in SPD scores were not expected between the two split samples.

***Examining Context Effects in 2008 MDE Estimates.*** For adults aged 18 or older, both past year and lifetime MDE estimates based on the entire sample were significantly lower than comparable estimates from 2007 (6.8 vs. 7.5 percent and 13.3 vs. 14.2 percent, respectively), suggesting the possibility of a presence of context effects (Table B.7). The three questions (ASC21 on "ever felt sad/empty," ASC22 on "ever felt discouraged," and ASC23 on "ever lost interest") that determine whether a respondent will be asked the depression items also showed a lower percentage of individuals answering with a "yes" for 2008 compared with 2007. These results also were compared with comparable youth items to see whether there was possibly a general downward trend in the overall population. Although the youth estimates in 2008 were lower than those in 2007, there were no significant differences in any of the five youth depression-related estimates between 2007 and 2008.

In addition, there appeared to be differences in the MDE estimates depending upon which impairment scale was used. Except for the first gate question (ASC21 on "ever felt sad/empty"), no statistically significant differences were detected between estimates based on the 2008 SDS subsample and the 2007 estimates. However, both past year and lifetime MDE estimates based on the WHODAS subsample were significantly lower than comparable estimates from 2007 (6.4 vs. 7.5 percent and 12.8 vs. 14.2 percent, respectively), suggesting the possibility of a presence of differential context effects based on the impairment scale used (Table B.7).

Differences in past year and lifetime MDE between 2008 and 2007 and between the WHODAS and SDS subsamples appear to be related to demographic variables, such as gender, age, race/ethnicity, education, marital status, and annual family income. MDE estimates based on

the WHODAS subsample appear to have more differences in estimates based on demographic characteristics compared with 2007 relative to estimates based on the SDS subsample (Table B.9).

It also should be pointed out that the lower MDE estimate in 2008 could in part be due to a real drop in MDE prevalence. However, the rates were relatively stable from 2005 to 2007, and a significant decline in overall lifetime MDE is illogical if no reporting anomalies occur.

***Examining Differences in Suicidal Ideation Estimates.*** Comparisons of suicidal ideation reporting between samples A and B revealed no significant differences. As shown in Table B.7, of respondents in the WHODAS sample, 3.6 percent reported seriously thinking about suicide in the past 12 months. In comparison, 3.8 percent of respondents in the SDS sample seriously considered suicide.

***Conclusions.*** Further analysis is needed to better understand the nature of the changes in the reporting of K6 and MDE associated with questionnaire differences (i.e., between 2007 and 2008 and between sample A and sample B in 2008). These analyses may lead to the development of statistical adjustments to provide comparable estimation and more complete trend measurement. The WHODAS versus SDS comparisons are important because the 2009 and subsequent NSDUHs will include only the WHODAS scale, so comparability between 2008 and later years may require dropping the SDS half sample. Based on the analysis completed so far, a conservative approach was taken for this report. Comparisons are not made between samples where context effects or questionnaire differences are suspected to have significantly affected responses. Thus, no trends are presented for SPD or adult MDE, and only the WHODAS half sample is used for 2008 adult MDE estimation to facilitate future trend analysis. The full sample has been used in the report for suicidal ideation estimation.

#### **B.4.5 Serious Psychological Distress**

For this 2008 NSDUH report, serious psychological distress (SPD) was measured using the K6 screening instrument for nonspecific psychological distress (Kessler et al., 2003a). However, the 2008 NSDUH employed a different module of K6 questions, which captured distress levels in the past month as well as during the worst month of the past 12 months.

In 2008, the K6 consisted of two sets of six questions that asked respondents how frequently they experienced symptoms of psychological distress during two different time periods: (1) during the past 30 days, and (2) the one month in the past year when they were at their worst emotionally. Respondents were asked only about the second time period if they indicated that there was a month in the past 12 months when they felt more depressed, anxious, or emotionally stressed than they felt during the past 30 days.

The six past month questions comprising the K6 scale are given as follows:

**NERVE30** During the past 30 days, how often did you feel nervous?

- 1 All of the time
- 2 Most of the time
- 3 Some of the time

- 4 A little of the time
- 5 None of the time
- DK/REF

Response categories are the same for the following questions:

- HOPE30** During the past 30 days, how often did you feel hopeless?
- FIDG30** During the past 30 days, how often did you feel restless or fidgety?
- NOCHR30** During the past 30 days, how often did you feel so sad or depressed that nothing could cheer you up?
- EFFORT30** During the past 30 days, how often did you feel that everything was an effort?
- DOWN30** During the past 30 days, how often did you feel down on yourself, no good, or worthless?

To create a score, the six items (NERV30, HOPE30, FIDG30, NOCHR30, EFFORT30, and DOWN30) on the K6 scale were coded from 0 to 4 so that "all of the time" was coded 4, "most of the time" 3, "some of the time" 2, "a little of the time" 1, and "none of the time" 0, with "don't know" and "refuse" also coded 0. Summing across the transformed responses resulted in a score with a range from 0 to 24. Respondents with a total score of 13 or greater were classified as having past month SPD as that cut point has been shown to be highly correlated with serious mental illness (SMI) (Colpe, Epstein, Barker, & Gfroerer, 2009).

The 12-month data are used in the models for SMI (see Section B.4.6 for details), while the 30-day data are used to estimate SPD for this report. See Section B.4.4 for a discussion of how the past year estimates from the new K6 questions compare with past year estimates based on the K6 questions in 2007 and earlier NSDUHs.

Note that the 2008 detailed tables (OAS, 2009) report past month SPD estimates; therefore, these estimates cannot be compared with past year SPD estimates reported in prior years.

#### **B.4.6 Serious Mental Illness**

In NSDUH reports prior to 2004, the K6 distress scale was used to measure serious mental illness (SMI). However, SAMHSA discontinued producing SMI estimates with the release of the 2004 data because of concerns about the validity of using only the K6 distress scale without an impairment scale; see Section B.4.4 of Appendix B in the 2004 NSDUH national findings report (OAS, 2005) for a discussion. The new SMI estimates presented in this 2008 report are not comparable with the SMI estimates previously produced from NSDUH.

On May 20, 1993, SAMHSA's Center for Mental Health Services (CMHS) published its definition of SMI in the *Federal Register*:

Pursuant to Section 1912(c) of the Public Health Services Act, as amended by Public Law 102-321, "adults with serious mental illness" are defined as the following:

- Persons aged 18 and over, who currently or at any time during the past year, have had diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet diagnostic criteria specified within DSM-III-R [sic] that has resulted in functional impairment, which substantially interferes with or limits one or more major life activities.
- These disorders include any mental disorders (including those of biological etiology) listed in DSM-III-R or their ICD-9-CM equivalent (and subsequent revisions), with the exception of DSM-III-R "V" codes, substance use disorders, and developmental disorders, which are excluded unless they co-occur with other diagnosable serious mental illness.
- All of these disorders have episodic, recurrent, or persistent features; however, they vary in terms of severity or disabling effects. Functional impairment is defined as difficulties that substantially interfere with or limit role functioning in one or more major life activities including basic daily living skills (e.g., eating, bathing, dressing); instrumental living skills (e.g., maintaining a household, managing money, getting around the community, taking prescribed medication); and functioning in social, family, and vocational/educational contexts.
- Adults who would have met functional impairment criteria during the referenced year without benefit of treatment or other support services are considered to have serious mental illness.

In December 2006, a technical advisory group (TAG) meeting of expert consultants was convened by CMHS to solicit recommendations for mental health surveillance data collection strategies among the U.S. population. The panel recommended that NSDUH should be used to make estimates of SMI among adults and that SAMHSA should conduct methodological studies to calibrate NSDUH's mental health items with a "gold standard" clinical psychiatric interview. In response, SAMHSA's OAS initiated a Mental Health Surveillance Study (MHSS) under its NSDUH contract to develop and implement the methods for SMI estimation. At the time, NSDUH contained a six-item scale (K6) with five response options in each item that captured information on psychological distress (Kessler et al., 2003a). However, the K6 scale does not capture information on functional impairment, which is needed to determine whether a respondent can be categorized as having SMI under SAMHSA's definition. In consultation with the TAG, two candidate impairment scales were selected by SAMHSA to be added to the 2008 NSDUH. They are an abridged version of the World Health Organization Disability Assessment Scale (WHODAS; Rehm et al., 1999) and the Sheehan Disability Scale (SDS; Leon, Olfson, Portera, Farber, & Sheehan, 1997). The MHSS study had two primary objectives:

- Determine which of the two impairment scales, used in combination with the K6 scale, provides the more accurate prediction of SMI in NSDUH and will therefore be administered to the entire sample of adults in the 2009 and later surveys.

- Develop algorithms that exhibit sound psychometric properties and will accurately classify NSDUH respondents as meeting or not meeting criteria for SMI. These algorithms will be used to determine the final models that will be used to produce 2008 estimates of SMI prevalence.

An initial step of the MHSS was to modify these scales for use in a general population survey, including minor changes to question wording and reducing the length. In particular, an analysis was conducted to examine the psychometric properties of the WHODAS scale items contained in the 2002-2004 NSDUH using item response theory (IRT) methods (Novak, 2007). First, an exploratory factor analysis of the original 16-item scale was conducted to determine whether or not the WHODAS was unidimensional, a required feature for IRT analysis. The exploratory factor analysis confirmed that the WHODAS tapped a dominant factor or construct of "impairment." Next, a series of two-parameter and polytomous IRT models were estimated to examine the discrimination and difficulty properties of each item. This provided insight into how well the items discriminated between adults with high and low levels of impairment and measured the underlying severity of impairment. Eight candidates emerged as the most informative and least redundant items. The reduced 8-item scale had a high correlation ( $r = .97, p < .001$ ) with the full 16-item WHODAS scale. Differential item functioning analyses across demographic categories (race/ethnicity, gender, and education) were conducted to test for item bias. No significantly large test item bias was observed across major demographic groupings. Thus, these findings document that the WHODAS scale is unidimensional and that the subset of 8 items capture the information represented in the full 16-item scale with no significant loss of information.

In 2008, the new impairment questions were added to the mental health module. To compare the efficacy of two alternative impairment scales, a random split-sample design was used in the mental health module, where all respondents received the K6, but each half of the sample received one of the two impairment scales. The respondents who were administered the WHODAS were designated as sample A, and the respondents who were administered the SDS were designated as sample B.

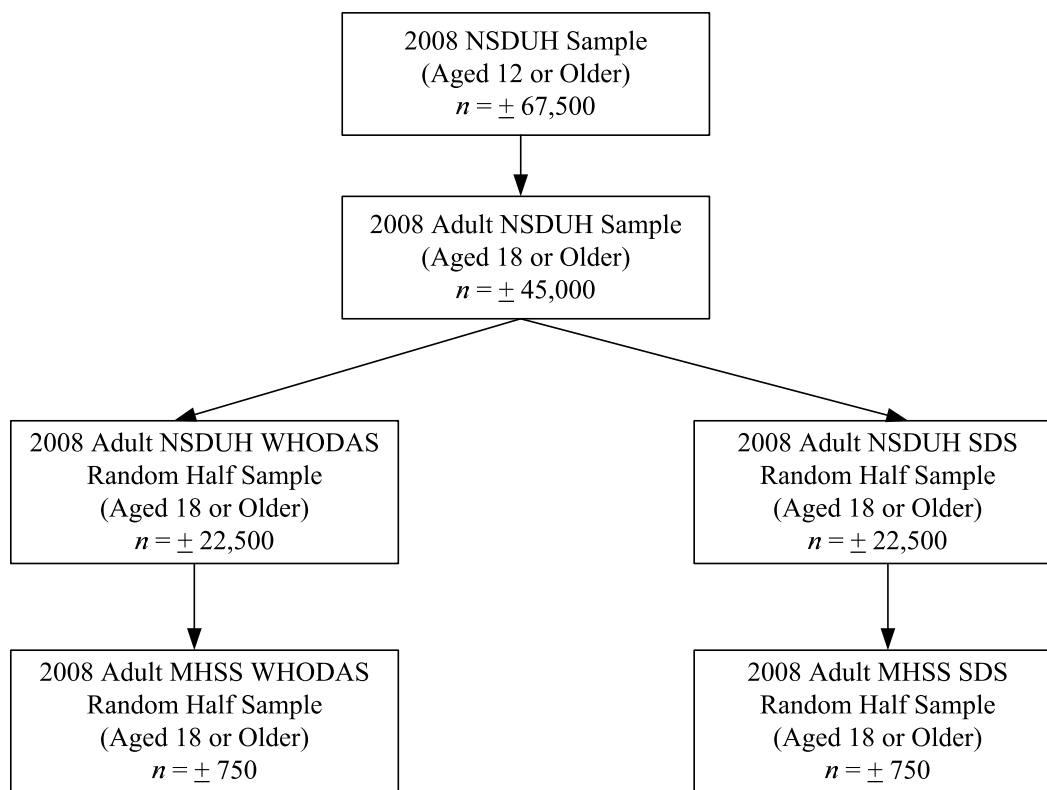
In addition, a subsample of approximately 1,500 adult NSDUH participants was recruited for a follow-up clinical interview to provide data for calibration of the NSDUH full-sample interview data on mental health status. The randomization of the impairment scales was maintained within this clinical interview subsample, which is referred to as the MHSS sample, so that about half of the MHSS sample participants (approximately 750) were administered the WHODAS and half were administered the SDS. A diagram illustrating the structure of the MHSS sampling design is given in Figure B.2.

The MHSS sample was stratified, based on respondents' K6 scores in 2008, to optimize the MHSS sample allocation for calibration modeling. Strata were constructed according to seven scoring bands described in Table B.10. Assumed SMI rates were estimated using K6 score distribution data from the 2006 NSDUH and raw K6 score and clinical case data from the National Comorbidity Survey Replication (NCS R) clinical calibration study.<sup>13</sup> Sampling rates

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<sup>13</sup> R. C. Kessler, "Scidsmi-table-073107 (2) (2).doc," personal communication via e-mail to L. J. Colpe, August 1, 2007.

**Figure B.2 Structure of Mental Health Surveillance Study Sampling Design**



Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

for the 2008 study are substantially lower for K6 scores 0 to 7 under the assumption that fewer clinical positives would occur in that scoring range. Table B.10 shows the expected sample distribution for the 1,500 clinical follow-up interviews and the expected number of those with positive SMI status. The design effect for a prevalence estimate of SMI due to this two-phase sample stratified by K6 scores is 0.2121 (i.e., the variance is reduced almost fivefold in comparison with a simple random sample). Because the usual design effect for adults in the main survey is approximately 3.0 (e.g., for the prevalence of SPD), the overall design effect for the MHSS sample is estimated to be 0.6363. Thus, the effective sample size is approximately 2,357, and the projected standard error and relative standard error of an estimate of SMI are 0.59 percent and 6.57 percent, respectively. The overall expected proportion of positive SMI counts is 0.305.

The probability sample of 1,500 clinical follow-up interviews was distributed across four calendar quarters, with a slightly larger sample in the first quarter (425 follow-up interviews) and the remaining sample equally divided among the remaining quarters (approximately 358 interviews in each of quarters 2 through 4 for a combined sample of 1,075 follow-up interviews). The intention of the larger sample in quarter 1 was to provide some cushion in case the clinical interview response rates were lower than anticipated and to generate an adequate sample size for a preliminary analysis using data collected from the first 6 months of 2008. It was expected that 85 percent of those subsampled for the MHSS would agree to participate in the clinical follow-

up interview, and the actual participation rate among those who agreed to complete the interview was projected to be 90 percent. As shown in Table B.11, the overall actual weighted agreement and completion rates were 76.5 and 76.3 percent, respectively (unweighted rates were 86.3 and 76.0 percent, respectively), and rates are provided for each of the seven K6 score categories.

The unweighted and weighted response rates for each of the seven K6 score categories are given in Table B.12. The unweighted response rates were fairly similar between the two half samples, but there appeared to be some differences in the weighted response rates across the K6 score categories, particularly in the "4 to 5" and "6 to 7" categories. A total of 1,506 respondents completed the clinical interview, but 4 cases were discarded because of unusual weights or because all mental health item scores were missing. The final usable MHSS dataset consisted of 1,502 records, with 761 belonging to the WHODAS half sample, and 741 belonging to the SDS half sample.

Within 2 to 4 weeks of the NSDUH main interview, each participant in the MHSS was administered standard clinical interview measures by mental health clinicians via paper-and-pencil interviewing (PAPI) over the telephone. The standard clinical interview administered to this subsample was the Structured Clinical Interview for DSM-IV-TR Axis I Disorder Non-Patient Edition (SCID) adapted for this study by Michael First, M.D. (First, Spitzer, Gibbon, & Williams, 1997). Functional impairment ratings were assigned by clinical interviewers using the Global Assessment of Function (GAF) scale. A respondent was coded positive for SMI if he or she was determined to have any of the mental disorders assessed in the adapted SCID and a GAF score of 50 or below, and this was assumed to be the "gold standard" assessment of SMI, corresponding with SAMHSA's official definition.

Using the combined clinical interview and standard NSDUH computer-assisted interview (CAI) data for the 1,500 MHSS respondents, statistical models were developed between the clinical "gold standard" assessment of SMI and survey-based scores derived from the K6 and WHODAS/SDS scales (depending on which half sample the respondent belonged to). For estimating SMI in the past year, the "past year K6 total score," defined as the higher of the past 30-day K6 total score and the worst month in past 12-month K6 total score, was used (see Section B.4.5 for details on the K6). A variety of models were evaluated to identify the single best model (one for each half sample) to use for the production of SMI estimates. Each model allowed the predicted probability of having SMI for each respondent to be calculated, and an optimal cut point was identified that equalized the weighted number of false positives and false negatives by comparing the "gold standard" SMI estimates with those based on the model and cut point (i.e., predicted probabilities at or above the cut point were coded as SMI positive).

Descriptive analyses examined the distribution of respondent characteristics in the clinical interview sample to check for imbalances between the two half samples. Model-based analyses were conducted to develop algorithms based on the K6 scale and each of the impairment scales in turn, and receiver operating characteristic (ROC) analyses were conducted on the algorithms to select the optimal cut point for determining SMI status. Models to determine SMI were evaluated based on three criteria: (1) model robustness (e.g., preference given to parsimonious models that could be generalized to data beyond that used in the modeling process); (2) minimization of misclassification errors in SMI prediction (i.e., exhibiting reasonable ROC statistics, such as sensitivity and AUC, defined as the area under the ROC curve



based on an optimal cut point [(sensitivity + specificity)/2]); and (3) reasonable SMI estimates based on the full 12-month dataset (i.e., balanced across several demographic subgroups and across the WHODAS and the SDS half samples). Initial modeling analysis, done with the first 6 months of data collected under the MHSS, showed that the WHODAS provides more accurate prediction of SMI in NSDUH. Consequently, this impairment scale was chosen for administration in the 2009 and subsequent surveys. Final models chosen for SMI estimation with the 2008 dataset are described below. More details can be obtained from Aldworth et al. (2009).

The process of selecting models began by developing separate weighted logistic regression prediction models for the K6 and each of the two impairment scales, respectively. With SMI status based on having a SCID diagnosis plus a GAF less than or equal to 50, the response variable  $Y$  was defined so that  $Y = 1$  when an SMI diagnosis is positive; otherwise,  $Y = 0$ . If  $\mathbf{X}$  is a vector of explanatory variables, then the response probability  $\pi = \Pr(Y = 1 | \mathbf{X})$  can be estimated using the following logistic regression models for the WHODAS and SDS half samples, respectively:

$$\text{logit}(\pi_w) \equiv \log[\pi_w / (1 - \pi_w)] = -4.7500 + 0.2098X_k + 0.3839X_w \quad (1)$$

$$\text{logit}(\pi_s) = -4.4924 + 0.2960X_k + 0.2242X_s \quad (2)$$

where the  $X_k$ ,  $X_w$ , and  $X_s$  terms refer to K6, WHODAS, and SDS terms, respectively, and are defined as follows:

- $X_k = \textit{Alternative Past Year K6 Score}$ : Past year K6 score less than 8 recoded as 0; past year K6 score 8 to 24 recoded as 1 to 17.
- $X_w = \textit{Alternative WHODAS Score}$ : WHODAS item scores less than 2 recoded as 0; WHODAS item scores 2 to 3 recoded as 1, then summed for a score ranging from 0 to 8.
- $X_s = \textit{Alternative SDS Score}$ : SDS item scores less than 7 recoded as 0; SDS item scores 7 to 10 recoded as 1, then summed for a score ranging from 0 to 4.

The reason behind the alternative past year K6 score was that SMI prevalence was typically extremely low for respondents with past year K6 scores less than 8, and the prevalence rates only started increasing once scores were 8 or greater. Alternative versions of the WHODAS and SDS scores were driven by the idea that a dichotomous measure dividing severely impaired from less severely impaired respondents might fit better than a linear continuous measure.

The modeling and ROC statistics of these models are given in Tables B.13, B.14, and B.15. ROC statistics are provided for subgroups of four demographic variables. Table B.16 shows the levels of WHODAS, SDS, and K6 that are necessary to classify a respondent as having SMI.

#### **B.4.7 Major Depressive Episode (Depression)**

Beginning in 2004, modules related to major depressive episode (MDE) derived from DSM-IV (APA, 1994) criteria for major depression, were included in the questionnaire. These questions permit estimates to be calculated for prevalence of MDE and treatment for MDE. Separate modules were administered to adults aged 18 or older and youths aged 12 to 17. The adult questions were adapted from the depression section of the National Comorbidity Survey–Replication (NCS-R; Harvard School of Medicine, 2005), and the questions for youths were adapted from the depression section of the National Comorbidity Survey–Adolescent (NCS-A; Harvard School of Medicine, 2005). To make the modules developmentally appropriate for youths, there are minor wording differences in a few questions between the adult and youth modules. Revisions to the questions in both modules were made primarily to reduce its length and to modify the NCS questions, which are interviewer-administered, to the ACASI format used in NSDUH. In addition, some revisions, based on cognitive testing, were made to improve comprehension. Furthermore, even though titles similar to those used in the NCS were used for the NSDUH modules, the results of these items may not be directly comparable. This is mainly due to differing modes of administration in each survey (ACASI in NSDUH vs. computer-assisted personal interviewing [CAPI] in NCS), revisions to wording necessary to maintain the logical processes of the ACASI environment, and possible context effects resulting from deleting questions not explicitly pertinent to severe depression.

Since 2004, the NSDUH questions that determine MDE have remained unchanged. However, because of the changes in other mental health items that precede the MDE questions (K6, suicide, and impairment) in the 2008 questionnaire, the reporting on MDE questions among adults appears to have been affected. Thus, MDE estimates for 2008 were not compared with prior NSDUH estimates for trend purposes in this report. See Section B.4.4 for a discussion.

According to DSM-IV, a person is defined as having had MDE in his or her lifetime if he or she has had at least five or more of the following nine symptoms nearly every day in the same 2-week period, where at least one of the symptoms is a depressed mood or loss of interest or pleasure in daily activities (APA, 1994): (1) depressed mood most of the day; (2) markedly diminished interest or pleasure in all or almost all activities most of the day; (3) significant weight loss when not sick or dieting, or weight gain when not pregnant or growing, or decrease or increase in appetite; (4) insomnia or hypersomnia; (5) psychomotor agitation or retardation; (6) fatigue or loss of energy; (7) feelings of worthlessness; (8) diminished ability to think or concentrate or indecisiveness; and (9) recurrent thoughts of death or suicidal ideation. Respondents who have had MDE in their lifetime are asked if, during the past 12 months, they had a period of depression lasting 2 weeks or longer while also having some of the other symptoms mentioned. Those reporting that they have are defined as having had MDE in the past year and then are asked questions from the SDS to measure the level of functional impairment in major life activities reported to be caused by the MDE in the past 12 months (Leon et al., 1997).

NSDUH measures the nine attributes associated with MDE as defined in DSM-IV with the following questions. Note that the questions shown are taken from the adult depression module. A few of the questions in the youth module were modified slightly to use wording more appropriate for youths aged 12 to 17. It should be noted that no exclusions were made for MDE caused by medical illness, bereavement, or substance use disorders.

### 1. Depressed mood most of the day

The following questions refer to the worst or most recent period of time when the respondent experienced any or all of the following: sadness, discouragement, or lack of interest in most things.

During that [worst/most recent] period of time...

- a. ... did you feel sad, empty, or depressed **most of the day nearly every day**?
- b. ... did you feel discouraged about how things were going in your life **most of the day nearly every day**?

### 2. Markedly diminished interest or pleasure in all or almost all activities most of the day

- a. ... did you lose interest in almost all things like work and hobbies and things you like to do for fun?
- b. ... did you lose the ability to take pleasure in having good things happen to you, like winning something or being praised or complimented?

### 3. Weight

In answering the next questions, think about the [worse/most recent] period of time.

- a. Did you have a much smaller appetite than usual nearly every day during that time?
- b. Did you have a much **larger** appetite than usual nearly every day?
- c. Did you gain weight without trying to during that [worst/most recent] period of time?
  - a. ... because you were growing?
  - b. ... because you were pregnant?
  - c. How many pounds did you gain?
- d. Did you lose weight without trying to?
  - a. ... because you were sick or on a diet?
  - b. How many pounds did you lose?

### 4. Insomnia or hypersomnia

- a. Did you have a lot more trouble than usual falling asleep, staying asleep, or waking too early nearly every night during that [worst/most recent] period of time?
- b. During that [worst/most recent] period of time, did you sleep a lot more than usual nearly every night?

### 5. Psychomotor agitation or retardation

- a. Did you talk or move more slowly than is normal for you nearly every day?
- b. Were you so restless or jittery nearly every day that you paced up and down or couldn't sit still?

## 6. Fatigue or loss of energy

- a. During that [worst/most recent] period of time, did you feel tired or low in energy nearly every day even when you had not been working very hard?

## 7. Feelings of worthlessness

- a. Did you feel that you were not as good as other people nearly every day?
- b. Did you feel totally worthless nearly every day?

## 8. Diminished ability to think or concentrate or indecisiveness

- a. During that [worst/most recent] time period, did your thoughts come much more slowly than usual or seem confused nearly every day?
- b. Did you have a lot more trouble concentrating than usual nearly every day?
- c. Were you unable to make decisions about things you ordinarily have no trouble deciding about?

## 9. Recurrent thoughts of death or recurrent suicidal ideation

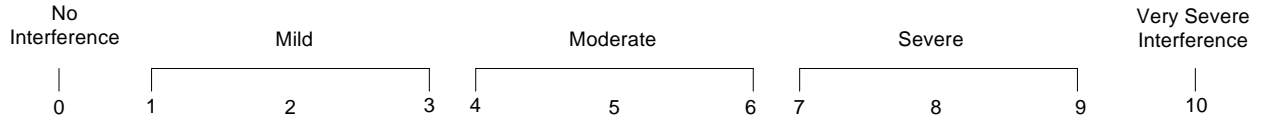
- a. Did you often think about death, either your own, someone else's, or death in general?
- b. During that period, did you ever think it would be better if you were dead?
- c. Did you think about committing suicide?

NSDUH also collects data on impairment using the SDS, which is a measure of mental health–related impairment in four major life activities or role domains. These four domains are defined separately for adults aged 18 or older and youths aged 12 to 17 to reflect the different roles associated with the two age groups. Each module consists of four questions, and each item uses an 11-point scale line, where 0 corresponds to no interference, 1 to 3 correspond to mild interference, 4 and 5 correspond to moderate interference, 7 to 9 correspond to severe interference, and 10 corresponds to very severe interference. Impairment score is defined as the single highest severity level of role impairment across the four SDS role domains. Ratings greater than or equal to 7 on the scale were considered severe impairment. In addition to past year MDE, NSDUH shows estimates for past year MDE with severe impairment. Estimates for severe impairment are calculated separately for youths and adults because the four domains are slightly different for the two groups. The questions pertaining to the four domains are listed below for both groups.

### *Adult Depression Module: Functional Impairment*

**ASDSHOME** Think about the time in the past 12 months when these problems with your mood were **most severe**.

Using the 0 to 10 scale shown below, where 0 means **no** interference and 10 means very **severe** interference, select the number that describes how much these problems interfered with **your ability to do** each of the following activities during that period. You can use any number between 0 and 10 to answer.



How much did your [depression symptoms] interfere with your **ability to do home management tasks**, like cleaning, shopping, and working around the house, apartment, or yard?

**ASDSWORK** During the time in the past 12 months when your [depression symptoms] were most severe, how much did this interfere with **your ability to work**?

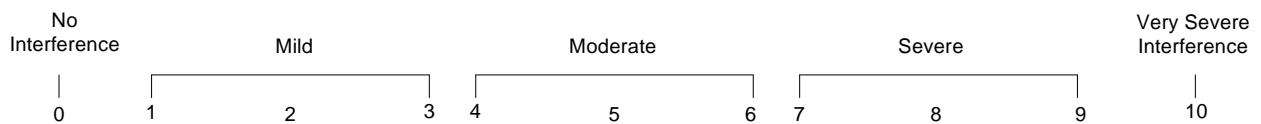
**ASDSREL** How much did your [depression symptoms] interfere with your **ability to form and maintain close relationships** with other people during that period of time?

**ADSSSOC** How much did [depression symptoms] interfere with your **ability to have a social life** during that period of time?

**Youth Depression Module: Functional Impairment**

**YSDSHOME** Think about the time in the past 12 months when these problems with your mood were the **worst**.

Using the 0 to 10 scale shown below, where 0 means **no** problems and 10 means very **severe** problems, select the number that describes how much your [depression symptoms] caused problems with **your ability to do** each of the following activities during that time. You can use any number between 0 and 10 to answer.



How much did your [depression symptoms] cause problems with your chores at home?

**YSDSWORK** During the time in the past 12 months when your [depression symptoms] were worst, how much did this cause problems with your **ability to do well at school or work**?

**YSDSREL** How much did your [depression symptoms] cause problems with your **ability to get along with your family** during that time?

**YDSSSOC** How much did your [depression symptoms] cause problems with your **ability to have a social life** during that time?

#### **B.4.8 Revised Estimates of Methamphetamine Use**

A challenge in measuring nonmedical use of prescription drugs comes when those drugs are produced illegally. Drugs that have been manufactured by legitimate pharmaceutical companies under government regulation may become popular drugs of abuse, stimulating illegal production. In particular, most methamphetamine that currently is used nonmedically in the United States is produced by clandestine laboratories within the United States or abroad rather than by the legitimate pharmaceutical industry. Questions on methamphetamine use in NSDUH are first asked in the stimulants module in the core section of the questionnaire in the context of questions about nonmedical use of prescription stimulants. Therefore, one concern in measuring methamphetamine use in NSDUH is that some methamphetamine users may fail to report use if they do not recognize the drug when it is presented in the prescription drug context.

To address this concern, questions were added to the special drugs module in the noncore section of the NSDUH questionnaire beginning in 2005 to capture information from respondents who may have used methamphetamine but did not recognize it as a prescription drug and therefore did not report use in the core stimulants module. Results of analyses for these added methamphetamine items are presented in Section B.4.6 in Appendix B of the 2007 national results report (OAS, 2008). Beginning in 2006, estimates of methamphetamine use, nonmedical use of stimulants, and nonmedical use of psychotherapeutic drugs were based on responses to the methamphetamine items in the core stimulants module as well as the methamphetamine items in the noncore special drugs module. The analyses showed that measures of use of methamphetamine, prescription psychotherapeutics, and stimulants were higher when data from the new methamphetamine use items were taken into account.

Section B.4.6 in the 2007 national results report also discusses the adjustment procedures that were used to create estimates of the use of methamphetamine, nonmedical use of stimulants, and nonmedical use of prescription drugs for 2002 through 2005<sup>14</sup> for comparability with estimates from 2006 onward. The estimates for the nonmedical use of stimulants and psychotherapeutic drugs in this report are not comparable with corresponding estimates in NSDUH reports prior to the 2007 data year, and the methamphetamine use estimates in this report also are not comparable with those in NSDUH reports for survey years prior to 2006.

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<sup>14</sup> Although additional methamphetamine use items were included in the special drugs module in 2005, the 2005 survey did not include additional follow-up questions that were added in 2006. Hence, data from 2005 needed to be included in the adjustment procedures.

**Table B.1 Demographic and Geographic Domains Forced to Match Their Respective U.S. Census Bureau Population Estimates through the Weight Calibration Process, 2008**

Main Effects	Two-Way Interactions
<p><b>Age Group</b>            12-17            18-25            26-34            35-49            50-64            65 or Older            All Combinations of Groups Listed Above<sup>1</sup></p>	
<p><b>Gender</b>            Male            Female</p>	<p><b>Age Group × Gender</b>            (e.g., Males Aged 12 to 17)</p>
<p><b>Hispanic Origin</b>            Hispanic or Latino            Not Hispanic or Latino</p>	<p><b>Age Group × Hispanic Origin</b>            (e.g., Hispanics or Latinos Aged 18 to 25)</p>
<p><b>Race</b>            White            Black or African American</p>	<p><b>Age Group × Race</b>            (e.g., Whites Aged 26 or Older)</p>
<p><b>Geographic Region</b>            Northeast            Midwest            South            West</p>	<p><b>Age Group × Geographic Region</b>            (e.g., Persons Aged 12 to 25 in the Northeast)</p>
<p><b>Geographic Division</b>            New England            Middle Atlantic            East North Central            West North Central            South Atlantic            East South Central            West South Central            Mountain            Pacific</p>	<p><b>Age Group × Geographic Division</b>            (e.g., Persons Aged 65 or Older in New England)</p> <p><b>Gender × Hispanic Origin</b>            (e.g., Not Hispanic or Latino Males)</p> <p><b>Hispanic Origin × Race</b>            (e.g., Not Hispanic or Latino Whites)</p>

<sup>1</sup> Combinations of the age groups (including but not limited to 12 or older, 18 or older, 26 or older, 35 or older, and 50 or older) also were forced to match their respective U.S. Census Bureau population estimates through the weight calibration process.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table B.2 Summary of 2008 NSDUH Suppression Rules**

Estimate	Suppress if:
Prevalence Rate, $\hat{p}$ , with Nominal Sample Size, $n$ , and Design Effect, $deff$	<p>(1) The estimated prevalence rate, <math>\hat{p}</math>, is <math>&lt; .00005</math> or <math>\geq .99995</math>, or</p> <p>(2) <math>\frac{SE(\hat{p}) / \hat{p}}{-\ln(\hat{p})} &gt; .175</math> when <math>\hat{p} \leq .5</math>, or</p> <p><math>\frac{SE(\hat{p}) / (1 - \hat{p})}{-\ln(1 - \hat{p})} &gt; .175</math> when <math>\hat{p} &gt; .5</math>, or</p> <p>(3) Effective <math>n &lt; 68</math>, where Effective <math>n = \frac{n}{deff}</math> or</p> <p>(4) <math>n &lt; 100</math>.</p> <p>Note: The rounding portion of this suppression rule for prevalence rates will produce some estimates that round at one decimal place to 0.0 or 100.0 percent but are not suppressed from the tables.</p>
Estimated Number (Numerator of $\hat{p}$ )	<p>The estimated prevalence rate, <math>\hat{p}</math>, is suppressed.</p> <p>Note: In some instances when <math>\hat{p}</math> is not suppressed, the estimated number may appear as a 0 in the tables. This means that the estimate is greater than 0 but less than 500 (estimated numbers are shown in thousands).</p>
Mean Age at First Use, $\bar{x}$ , with Nominal Sample Size, $n$	<p>(1) <math>RSE(\bar{x}) &gt; .5</math>, or</p> <p>(2) <math>n &lt; 10</math>.</p>

deff = design effect; RSE = relative standard error; SE = standard error.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.



**Table B.3 Weighted Percentages and Sample Sizes for 2007 and 2008 NSDUHs, by Final Screening Result Code**

<b>Final Screening Result Code</b>	<b>Sample Size 2007</b>	<b>Sample Size 2008</b>	<b>Weighted Percentage 2007</b>	<b>Weighted Percentage 2008</b>
<b>TOTAL SAMPLE</b>	192,092	194,815	100.00	100.00
Ineligible Cases	33,681	34,682	17.00	17.50
Eligible Cases	158,411	160,133	83.00	82.50
<b>INELIGIBLES</b>	33,681	34,682	17.00	17.50
10 - Vacant	18,585	19,308	55.98	56.04
13 - Not a Primary Residence	6,280	7,189	18.28	20.63
18 - Not a Dwelling Unit	2,595	2,582	7.55	7.32
22 - All Military Personnel	291	340	0.81	1.01
Other, Ineligible <sup>1</sup>	5,930	5,263	17.38	14.99
<b>ELIGIBLE CASES</b>	158,411	160,133	83.00	82.50
<b>Screening Complete</b>	141,487	142,938	89.45	89.04
30 - No One Selected	82,420	83,422	51.33	51.22
31 - One Selected	31,949	32,213	20.46	20.30
32 - Two Selected	27,118	27,303	17.66	17.52
<b>Screening Not Complete</b>	16,924	17,195	10.55	10.96
11 - No One Home	3,213	3,111	1.88	1.82
12 - Respondent Unavailable	434	401	0.25	0.26
14 - Physically or Mentally Incompetent	319	358	0.19	0.23
15 - Language Barrier—Hispanic	84	91	0.05	0.05
16 - Language Barrier—Other	439	468	0.28	0.33
17 - Refusal	11,164	11,611	7.00	7.47
21 - Other, Access Denied <sup>2</sup>	1,235	1,113	0.87	0.77
24 - Other, Eligible	9	14	0.00	0.01
27 - Segment Not Accessible	0	0	0.00	0.00
33 - Screener Not Returned	16	15	0.01	0.01
39 - Fraudulent Case	11	13	0.01	0.01
44 - Electronic Screening Problem	0	0	0.00	0.00

<sup>1</sup> Examples of "Other, Ineligible" cases are those in which all residents lived in the dwelling unit for less than half of the calendar quarter and dwelling units that were listed in error.

<sup>2</sup> Other, Access Denied" includes all dwelling units to which the field interviewer was denied access, including locked or guarded buildings, gated communities, and other controlled access situations.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table B.4 Weighted Percentages and Sample Sizes for 2007 and 2008 NSDUHs, by Final Interview Code**

Final Interview Code	12+ Sample Size 2007	12+ Sample Size 2008	12+ Weighted Percentage 2007	12+ Weighted Percentage 2008	12-17 Sample Size 2007	12-17 Sample Size 2008	12-17 Weighted Percentage 2007	12-17 Weighted Percentage 2008	18+ Sample Size 2007	18+ Sample Size 2008	18+ Weighted Percentage 2007	18+ Weighted Percentage 2008
<b>TOTAL</b>	85,774	86,435	100.00	100.00	26,191	26,501	100.00	100.00	59,583	59,934	100.00	100.00
70 - Interview Complete	67,870	68,736	73.94	74.45	22,475	22,559	85.35	84.73	45,395	46,177	72.65	73.29
71 - No One at Dwelling Unit	1,565	1,366	1.79	1.46	242	230	0.93	0.78	1,323	1,136	1.89	1.54
72 - Respondent Unavailable	2,111	1,940	2.35	2.23	403	363	1.50	1.38	1,708	1,577	2.45	2.33
73 - Break-Off	103	68	0.16	0.11	14	10	0.05	0.04	89	58	0.17	0.12
74 - Physically/ Mentally Incompetent	839	876	1.93	1.88	178	205	0.66	0.77	661	671	2.08	2.01
75 - Language Barrier – Hispanic	185	199	0.21	0.23	9	7	0.07	0.03	176	192	0.22	0.25
76 -Language Barrier – Other	437	383	1.16	1.00	27	39	0.14	0.18	410	344	1.27	1.10
77 - Refusal	9,896	9,883	16.76	16.87	739	765	2.73	2.77	9,157	9,118	18.35	18.46
78 - Parental Refusal	1,985	2,192	0.82	0.88	1,985	2,192	8.06	8.71	0	0	0.00	0.00
91 – Fraudulent Case	27	10	0.03	0.01	5	0	0.02	0	22	10	0.03	0.01
Other <sup>1</sup>	756	782	0.84	0.86	114	131	0.50	0.61	642	651	0.88	0.89

<sup>1</sup> "Other" includes eligible person moved, data not received from field, too dangerous to interview, access to building denied, computer problem, and interviewed wrong household member.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table B.5 Response Rates and Sample Sizes for 2007 and 2008 NSDUHs, by Demographic Characteristics**

<b>Demographic Characteristic</b>	<b>Selected Persons 2007</b>	<b>Selected Persons 2008</b>	<b>Completed Interviews 2007</b>	<b>Completed Interviews 2008</b>	<b>Weighted Response Rate 2007</b>	<b>Weighted Response Rate 2008</b>
<b>TOTAL</b>	85,774	86,435	67,870	68,736	73.94%	74.45%
<b>AGE IN YEARS</b>						
12-17	26,191	26,501	22,475	22,559	85.35%	84.73%
18-25	28,085	29,091	22,409	23,468	79.76%	80.67%
26 or Older	31,498	30,843	22,986	22,709	71.42%	72.00%
<b>GENDER</b>						
Male	42,280	42,460	32,802	33,120	72.06%	72.39%
Female	43,494	43,975	35,068	35,616	75.69%	76.37%
<b>RACE/ETHNICITY</b>						
Hispanic	12,501	13,079	10,011	10,395	76.11%	74.61%
White	57,200	56,842	44,870	45,003	73.29%	74.43%
Black	9,660	9,947	8,087	8,327	79.97%	78.75%
All Other Races	6,413	6,567	4,902	5,011	65.50%	66.66%
<b>REGION</b>						
Northeast	17,486	17,336	13,642	13,594	71.65%	72.48%
Midwest	24,150	24,383	19,110	19,314	74.34%	74.93%
South	25,737	25,641	20,683	20,877	75.75%	76.59%
West	18,401	19,075	14,435	14,951	72.52%	72.24%
<b>COUNTY TYPE</b>						
Large Metropolitan	38,758	38,682	29,837	30,133	72.04%	72.46%
Small Metropolitan	28,633	29,254	23,074	23,478	75.42%	76.40%
Nonmetropolitan	18,383	18,499	14,959	15,125	77.41%	77.19%

Note: Estimates are based on demographic information obtained from screener data and are not consistent with estimates on demographic characteristics presented in the 2007 and 2008 sets of detailed tables.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table B.6 Kappa Statistics for Selected Substance Use, Substance Use Treatment, and Mental Health Variables: 2006 NSDUH Reliability Study**

Variable	Lifetime	Past Year
<b>AGED 12 OR OLDER</b>		
Cigarette Use	0.92	0.93
Alcohol Use	0.83	0.90
Marijuana Use	0.93	0.82
Substance Dependence or Abuse <sup>1</sup>	--	0.67
Substance Use Treatment <sup>2</sup>	0.89	0.87
<b>AGED 18 OR OLDER</b>		
Major Depressive Episode (MDE) <sup>3</sup>	0.67	0.52
Outpatient Mental Health Treatment <sup>4</sup>	--	0.85
Prescription Medication Mental Health Treatment	--	0.85

-- Not available.

<sup>1</sup> Substance dependence or abuse is dependence on or abuse of illicit drugs or alcohol and is based on definitions in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. Dependence or abuse estimates presented in the Reliability Study are among past year users only, which differ from estimates in the NSDUH detailed tables for the total population. Also, unlike the standard definition of abuse used in the NSDUH detailed tables, abuse was defined independently from dependence in the Reliability Study, meaning that a respondent could be classified as having dependence and as having abused.

<sup>2</sup> Received Substance Use Treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use, or for medical problems associated with illicit drug or alcohol use. It includes treatment received at any location, such as a hospital, rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail. Substance Use Treatment questions were asked only of respondents who previously indicated ever using alcohol or drugs and having ever received treatment for alcohol or drug use.

<sup>3</sup> MDE is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. Lifetime MDE is based on multiple questions comprising nine MDE criteria as well as multiple gatekeeper questions. Past year MDE was asked only of respondents who had lifetime MDE or met the suicidal ideation criterion.

<sup>4</sup> Outpatient mental health treatment/counseling is defined as having received treatment at any of the following locations for problems with emotions, nerves, or mental health: outpatient mental health clinic or center or office of a private therapist, psychologist, psychiatrist, social worker, or counselor that was not part of a clinic.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006 Reliability Study ( $n = 3,136$ ).

**Table B.7 Selected Mental Health Measures among Persons Aged 18 or Older, by Survey Year and Scale: Percentages**

<b>Adult Mental Health Measure</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2008 WHODAS<sup>3</sup></b>	<b>2008 SDS<sup>3</sup></b>
MDE in Lifetime <sup>1</sup>	14.23	13.87	14.16	13.27 <sup>†</sup>	12.76 <sup>†</sup>	13.74
MDE in Past Year <sup>1</sup>	7.29	7.21	7.46	6.80 <sup>†</sup>	6.40 <sup>†</sup>	7.19 <sup>^</sup>
Felt Sad/Empty	36.96	35.92	35.96	31.46 <sup>†</sup>	31.04 <sup>†</sup>	31.87 <sup>†</sup>
Felt Discouraged	9.36	9.29	8.91	8.65	8.36	8.95
Lost Interest	3.06	3.26	2.83	2.62	2.61	2.60
SPD in Past Year <sup>2</sup>	11.30	11.29	10.92	10.31 <sup>†</sup>	9.73 <sup>†</sup>	10.84 <sup>^</sup>
Mean K6 Score in Past Year <sup>4</sup>	5.27	5.24	5.18	4.89 <sup>†</sup>	4.82 <sup>†</sup>	4.95 <sup>†</sup>
SPD in Past 30 Days <sup>2</sup>	--	--	--	4.52	4.28	4.73
Mean K6 Score in Past 30 Days <sup>4</sup>	--	--	--	3.75	3.73	3.78
Seriously Thought about Suicide	--	--	--	3.69	3.64	3.75
Made Suicide Plans	--	--	--	1.02	.98	1.06
Attempted Suicide	--	--	--	.49	.47	.49
Received Medical Attention for Suicide Attempt	--	--	--	.30	.29	.31
Stayed Overnight in Hospital for Suicide Attempt	--	--	--	.22	.22	.21

-- Not available.

<sup>†</sup> Difference between this estimate and the 2007 estimate is statistically significant at the .05 level. <sup>^</sup> Difference between the 2008 Sheehan Disability Scale (SDS) estimate and the 2008 World Health Organization Disability Assessment Schedule (WHODAS) estimate is statistically significant at the .05 level.

<sup>1</sup> Major depressive episode (MDE) is defined as in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. Respondents with unknown MDE data have been excluded.

<sup>2</sup> Serious psychological distress (SPD) is defined as having a score of 13 or higher on the K6 scale. See Section B.4.5 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>3</sup> Half of the adult sample received the WHODAS, while the other half of the adult sample received the SDS.

<sup>4</sup> The K6 scale consists of six questions that gather information on how frequently a respondent experienced symptoms of psychological distress during the 1 month in the past year when he or she was at his or her worst emotionally. Responses to these six questions are combined to produce a score ranging from 0 to 24.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005, 2006, 2007, and 2008.

**Table B.8 Past Year K6 Item Response Distributions, by Survey Year and Scale: Percentages**

K6 Item Response in Past Year	2005	2006	2007	2008	2008 (WHODAS)	2008 (SDS)
<b>How Often Felt Nervous</b>						
DK/RF (RECODED)	0.65	0.82	0.81	0.37 <sup>†</sup>	0.40	0.35
All of the Time	2.73	2.77	2.77	3.37 <sup>†</sup>	3.22	3.50
Most of the Time	7.58	7.68	7.35	8.26 <sup>†</sup>	8.34	8.17
Some of the Time	21.55	21.09	21.05	19.42 <sup>†</sup>	19.68	19.23
A Little of the Time	35.79	34.99	34.73	32.20 <sup>†</sup>	32.11	32.35
None of the Time	31.71	32.65	33.29	36.38 <sup>†</sup>	36.25	36.40
<b>How Often Felt Hopeless</b>						
DK/RF (RECODED)	0.60	0.75	0.74	0.34 <sup>†</sup>	0.38	0.32
All of the Time	2.31	2.58	2.75	2.62	2.49	2.74
Most of the Time	5.38	5.30	4.94	5.06	4.66	5.42 <sup>^</sup>
Some of the Time	12.57	12.22	12.18	10.45 <sup>†</sup>	10.17	10.71
A Little of the Time	19.96	19.49	19.57	16.74 <sup>†</sup>	17.17	16.33
None of the Time	59.17	59.66	59.82	64.80 <sup>†</sup>	65.13	64.48
<b>How Often Felt Restless</b>						
DK/RF (RECODED)	0.67	0.76	0.85	0.42 <sup>†</sup>	0.42	0.44
All of the Time	2.63	2.77	2.89	2.52 <sup>†</sup>	2.48	2.53
Most of the Time	6.90	6.65	6.67	5.78 <sup>†</sup>	5.62	5.95
Some of the Time	18.74	18.45	18.13	16.61 <sup>†</sup>	16.48	16.72
A Little of the Time	29.94	29.58	29.16	29.33	28.87	29.86
None of the Time	41.13	41.79	42.29	45.35 <sup>†</sup>	46.14	44.50 <sup>^</sup>
<b>How Often Could Not Be Cheered Up</b>						
DK/RF (RECODED)	0.57	0.66	0.77	0.35 <sup>†</sup>	0.41	0.31
All of the Time	2.34	2.43	2.57	2.45	2.30	2.62
Most of the Time	5.80	5.48	5.22	5.06	4.87	5.27
Some of the Time	12.16	12.20	12.12	9.81 <sup>†</sup>	9.57	10.07
A Little of the Time	20.56	20.40	20.57	17.22 <sup>†</sup>	17.46	16.91
None of the Time	58.57	58.83	58.74	65.10 <sup>†</sup>	65.38	64.82
<b>How Often Felt Everything Was an Effort</b>						
DK/RF (RECODED)	0.83	0.86	0.93	0.69 <sup>†</sup>	0.66	0.72
All of the Time	4.22	4.58	4.43	4.50	4.32	4.68
Most of the Time	7.91	7.61	7.52	7.53	7.57	7.53
Some of the Time	16.38	16.74	16.03	14.69 <sup>†</sup>	14.50	14.80
A Little of the Time	27.30	26.42	26.23	25.76	25.55	25.97
None of the Time	43.36	43.79	44.87	46.83 <sup>†</sup>	47.40	46.30
<b>How Often Felt No Good</b>						
DK/RF (RECODED)	0.66	0.64	0.81	0.37 <sup>†</sup>	0.35	0.39
All of the Time	2.72	3.02	2.95	2.29 <sup>†</sup>	2.22	2.39
Most of the Time	5.70	5.58	5.53	4.36 <sup>†</sup>	4.29	4.43
Some of the Time	11.92	11.84	12.04	9.29 <sup>†</sup>	9.34	9.27
A little of the Time	21.10	20.71	20.09	16.99 <sup>†</sup>	16.98	16.97
None of the Time	57.91	58.21	58.59	66.70 <sup>†</sup>	66.82	66.54

<sup>†</sup> Difference between this estimate and the 2007 estimate is statistically significant at the .05 level. <sup>^</sup> Difference between the 2008 Sheehan Disability Scale (SDS) estimate and the 2008 World Health Organization Disability Assessment Schedule (WHODAS) estimate is statistically significant at the .05 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2005, 2006, 2007, and 2008.

**Table B.9 Major Depressive Episode Status among Persons Aged 18 or Older, by Key Demographics and Survey Year and Scale: Percentages**

<b>Demographic Characteristic</b>	<b>Had Past Year MDE<sup>1</sup>: 2007</b>	<b>Had Past Year MDE<sup>1</sup>: 2008</b>	<b>Had Past Year MDE<sup>1</sup>: 2008 (WHODAS)</b>	<b>Had Past Year MDE<sup>1</sup>: 2008 (SDS)</b>	<b>Had Lifetime MDE<sup>1</sup>: 2007</b>	<b>Had Lifetime MDE<sup>1</sup>: 2008</b>	<b>Had Lifetime MDE<sup>1</sup>: 2008 (WHODAS)</b>	<b>Had Lifetime MDE<sup>1</sup>: 2008 (SDS)</b>
<b>Total</b>	7.46	6.80 <sup>†</sup>	6.40	7.19 <sup>^</sup>	14.16	13.27 <sup>†</sup>	12.76	13.74
<b>Gender</b>								
Male	5.26	4.78	4.59	4.96	10.30	9.79	9.15	10.38
Female	9.52	8.69	8.09	9.27 <sup>^</sup>	17.77	16.51 <sup>†</sup>	16.12	16.88
<b>Age in Years</b>								
18-25	8.92	8.62	8.74	8.59	14.65	13.87	13.86	14.07
26-49	8.48	7.81	7.36	8.23	16.16	14.86 <sup>†</sup>	14.30	15.43
50 or Older	5.80	5.06	4.52	5.56	11.74	11.33	10.69	11.80
<b>Race/Ethnicity</b>								
Not Hispanic or Latino	7.64	7.14	6.59	7.66 <sup>^</sup>	14.70	13.89 <sup>†</sup>	13.27	14.46 <sup>^</sup>
White	8.08	7.46	6.96	7.92 <sup>^</sup>	15.97	15.01	14.28	15.66 <sup>^</sup>
Black or African American	6.06	6.31	4.93	7.55 <sup>^</sup>	9.90	9.65	8.90	10.32
American Indian or Alaska Native	9.19	5.66	4.94	6.55	14.42	9.98	10.08	9.56
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*	*	*
Asian	2.92	3.12	3.58	2.66	5.12	6.95	7.77	6.03
Two or More Races	12.11	11.11	12.75	11.59	20.27	17.56	19.49	17.99
Hispanic or Latino	6.32	4.66 <sup>†</sup>	5.19	4.15	10.66	9.29	9.48	9.15
<b>Education</b>								
<High School	8.61	6.11 <sup>†</sup>	5.54	6.76	13.11	9.09 <sup>†</sup>	8.46	9.75
High School Graduate	7.07	6.78	6.81	6.76	11.99	12.26	12.02	12.50
Some College	8.22	8.11	7.40	8.89	16.65	15.59	14.57	16.67
College Graduate	6.50	6.01	5.50	6.37	14.86	14.59	14.26	14.71
<b>Marital Status</b>								
Married	5.26	5.00	4.51	5.49 <sup>^</sup>	11.67	10.99	10.35	11.65
Widowed	7.91	4.88 <sup>†</sup>	3.87	5.73	13.80	10.32	9.56	10.71
Divorced/Separated	13.09	11.73	11.43	12.07	21.62	21.80	21.44	21.99
Never Married	9.23	8.65	8.56	8.69	15.80	14.56 <sup>†</sup>	14.36	14.75
<b>Family Income</b>								
<\$20,000	10.15	10.53	10.07	11.18	15.97	15.47	15.11	15.88
\$20,000-\$49,999	7.77	7.03	6.99	6.95	14.16	13.00	12.90	13.00
\$50,000-\$74,999	7.45	6.59	6.18	7.01	14.44	13.72	12.80	14.67
\$75,000 or More	5.53	4.75	4.01	5.43 <sup>^</sup>	12.92	12.13	11.35	12.84

\* Low precision; no estimate reported. <sup>†</sup> Difference between the 2008 estimate and the 2007 estimate is statistically significant at the .05 level. <sup>^</sup> Difference between the 2008 Sheehan Disability Scale (SDS) estimate and the 2008 World Health Organization Disability Assessment Schedule (WHODAS) estimate is statistically significant at the .05 level.

NOTE: Major depressive episode (MDE) is defined as in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*, which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table B.10 Mental Health Surveillance Study Sample Allocation (*n* = 1,500)**

<b>K6 Score</b>	<b>Percent of Population<sup>1</sup></b>	<b>Assumed SMI Rate (Percent)</b>	<b>Sampling Rate (Percent)</b>	<b>Expected Sample Size</b>	<b>Expected SMI Count</b>
0 to 3	48.04	0.03	0.0084	96	0
4 to 5	13.98	0.30	0.0228	88	0
6 to 7	11.16	0.30	0.0345	110	0
8 to 9	6.95	10.00	0.1026	200	20
10 to 11	5.53	13.00	0.1190	214	28
12 to 15	8.00	40.00	0.1689	450	180
16 or Higher	6.34	67.00	0.1349	343	230
<b>TOTAL</b>	100.00	8.95		1,501	458

K6 = Six-item psychological distress scale, SMI = serious mental illness.

<sup>1</sup>Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.



**Table B.11 Mental Health Surveillance Study Agreement and Completion Response Rates, by K6 Score (Unweighted and Weighted)**

<b>K6 Score</b>	<b>Number Selected</b>	<b>Number Agreed to Participate</b>	<b>Number Completed</b>	<b>Agreed to Participate (Percent) URR</b>	<b>Agreed to Participate (Percent) WRR</b>	<b>Completed (Percent) URR</b>	<b>Completed (Percent) WRR</b>
0 to 3	163	121	97	74.2	70.9	80.2	72.0
4 to 5	146	125	101	85.6	85.1	80.8	83.0
6 to 7	158	131	108	82.9	80.9	82.4	84.3
8 to 9	324	272	211	84.0	70.1	77.6	82.2
10 to 11	296	257	208	86.8	80.7	80.9	87.3
12 to 15	672	583	443	86.8	86.1	76.0	72.2
16 or Higher	532	488	334	91.7	87.1	68.4	66.5
<b>TOTAL</b>	2,291	1,977	1,502	86.3	76.5	76.0	76.3

URR = unweighted response rate, WRR = weighted response rate.

NOTE: This table excludes four cases from the Mental Health Surveillance Study (MHSS) sample because of unusual weights or because all mental health item scores were missing.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table B.12 Response Rates (Unweighted and Weighted), by K6 Score Category**

<b>K6 Score</b>	<b>Sample A (WHODAS) Number Selected</b>	<b>Sample A (WHODAS) Number Completed</b>	<b>Sample A (WHODAS) URR (Percent)</b>	<b>Sample A (WHODAS) WRR (Percent)</b>	<b>Sample B (SDS) Number Selected</b>	<b>Sample B (SDS) Number Completed</b>	<b>Sample B (SDS) URR (Percent)</b>	<b>Sample B (SDS) WRR (Percent)</b>
0 to 3	83	51	61.5	55.2	80	46	57.5	46.9
4 to 5	77	54	70.1	62.0	69	47	68.1	78.0
6 to 7	77	49	63.6	59.3	81	59	72.8	77.4
8 to 9	161	103	64.0	61.8	163	108	66.3	53.8
10 to 11	156	106	68.0	67.1	140	102	72.9	76.3
12 to 15	331	225	68.0	64.2	341	218	63.9	60.3
16 or Higher	289	173	59.9	58.0	243	161	66.3	58.0
<b>TOTAL</b>	1,174	761	64.8	58.5	1,117	741	66.3	58.3

K6 = Six-item psychological distress scale, SDS = Sheehan Disability Scale, URR = unweighted response rate, WHODAS = Eight-item World Health Organization Disability Assessment Schedule, WRR = weighted response rate.

NOTE: This table excludes four cases from the Mental Health Surveillance Study (MHSS) sample because of unusual weights or because all mental health item scores were missing.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table B.13 Final WHODAS and SDS Models**

<b>WHODAS Model</b>	<b>Beta</b>	<b>Beta SE</b>	<b>T Statistic</b>	<b>P Value</b>	<b>DF</b>	<b>Wald P Value</b>
Intercept	-4.7500	0.3517	-13.5072	0.0000		
Alt PY K6	0.2098	0.0755	2.7769	0.0060	1	0.0060
Alt WHODAS	0.3839	0.1248	3.0750	0.0024	1	0.0024
<b>SDS Model</b>						
Intercept	-4.4924	0.5223	-8.6011	0.0000		
Alt PY K6	0.2960	0.0956	3.0957	0.0023	1	0.0023
Alt SDS	0.2242	0.3918	0.5721	0.5679	1	0.5679

Alt = alternative, DF = degrees of freedom, K6 = Six-item psychological distress scale, PY = past year, SDS = Four-item Sheehan Disability Scale, SE = standard error, WHODAS = Eight-item World Health Organization Disability Assessment Schedule.

NOTE: Alternative past year K6 score: past year K6 score < 8 recoded as 0; past year K6 score 8-24 recoded as 1-17.

NOTE: Alternative WHODAS score: WHODAS item scores < 2 recoded as 0; WHODAS item scores 2-3 recoded as 1, then summed for a score ranging from 0 to 8.

NOTE: Alternative SDS Score: SDS item scores < 7 recoded as 0; SDS item scores 7-10 recoded as 1, then summed for a score ranging from 0 to 4.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table B.14 Final ROC Statistics of Final WHODAS Model: Weighted Numbers in Thousands**

<b>Demographic Subset for Final WHODAS Model: Alternative Past Year K6 Score + Alternative WHODAS Score</b>	<b>Cut Point</b>	<b>P</b>	<b>N</b>	<b>Pred_P</b>	<b>Pred_N</b>	<b>TP</b>	<b>TN</b>	<b>FP</b>	<b>FN</b>	<b>Sens</b>	<b>Spec</b>	<b>AUC</b>	<b>PPV</b>	<b>NPV</b>
<b>TOTAL</b>	0.26972	4,977	108,453	5,116	108,314	2,516	105,853	2,600	2,461	0.506	0.976	0.741	0.492	0.977
<b>GENDER</b>														
Male	0.26972	1,724	56,524	1,759	56,490	814	55,579	945	911	0.472	0.983	0.728	0.463	0.984
Female	0.26972	3,253	51,928	3,358	51,824	1,703	50,273	1,655	1,551	0.523	0.968	0.746	0.507	0.970
<b>AGE</b>														
18-25	0.26972	881	15,652	1,466	15,068	496	14,682	970	386	0.562	0.938	0.750	0.338	0.974
26-49	0.26972	2,375	44,385	2,459	44,301	1,162	43,088	1,298	1,213	0.489	0.971	0.730	0.472	0.973
50+	0.26972	1,721	48,415	1,191	48,945	859	48,082	333	863	0.499	0.993	0.746	0.721	0.982
<b>RACE/ETHNICITY</b>														
White, Not Hispanic	0.26972	4,538	68,714	4,384	68,868	2,228	66,558	2,156	2,310	0.491	0.969	0.730	0.508	0.966
Black, Not Hispanic	0.26972	286	13,860	483	13,663	230	13,606	253	56	0.804	0.982	0.893	0.476	0.996
Other, Not Hispanic	0.26972	33	11,163	153	11,043	23	11,032	130	10	0.686	0.988	0.837	0.148	0.999
Hispanic	0.26972	120	14,716	96	14,740	35	14,655	60	85	0.293	0.996	0.644	0.368	0.994
<b>EDUCATION</b>														
< High School	0.26972	693	8,876	737	8,833	455	8,594	282	239	0.656	0.968	0.812	0.618	0.973
High School Graduate	0.26972	2,028	32,772	1,506	33,294	812	32,079	694	1,216	0.401	0.979	0.690	0.539	0.963
Some College	0.26972	1,251	33,258	1,772	32,737	651	32,137	1,121	600	0.520	0.966	0.743	0.367	0.982
College Graduate	0.26972	1,005	33,546	1,102	33,450	598	33,043	504	407	0.595	0.985	0.790	0.543	0.988

AUC = area under receiver operating characteristic (ROC) curve based on optimal cut point  $[(\text{sensitivity} + \text{specificity})/2]$ , FN = number of false negatives based on prediction, FP = number of false positives based on prediction, N = number of negative SMI cases, NPV = negative predictive value (TN/Pred\_N), P = number of positive SMI cases, PPV = positive predictive value (TP/Pred\_P), Pred\_N = number of predicted negative cases, Pred\_P = number of predicted positive cases, Sens = sensitivity (TP/P), Spec = specificity (TN/N), TN = number of true negatives based on prediction, TP = number of true positives based on prediction, WHODAS = Eight-item World Health Organization Disability Assessment Schedule.

NOTE: Alternative past year K6 score: past year K6 score < 8 recoded as 0; past year K6 score 8-24 recoded as 1-17.

NOTE: Alternative WHODAS score: WHODAS item scores < 2 recoded as 0; WHODAS item scores 2-3 recoded as 1, then summed for a score ranging from 0 to 8.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table B.15 Final ROC Statistics of Final SDS Model: Weighted Numbers in Thousands**

<b>Demographic Subset for Final SDS Model: Alternative Past Year K6 Score + Alternative SDS Score</b>	<b>Cut Point</b>	<b>P</b>	<b>N</b>	<b>Pred_P</b>	<b>Pred_N</b>	<b>TP</b>	<b>TN</b>	<b>FP</b>	<b>FN</b>	<b>Sens</b>	<b>Spec</b>	<b>AUC</b>	<b>PPV</b>	<b>NPV</b>
<b>TOTAL</b>	0.26657	4,744	106,748	4,837	106,655	1,782	103,693	3,055	2,963	0.376	0.971	0.673	0.368	0.972
<b>GENDER</b>														
Male	0.26657	2,636	47,669	1,801	48,504	895	46,763	906	1,741	0.340	0.981	0.660	0.497	0.964
Female	0.26657	2,109	59,079	3,036	58,152	887	56,930	2,150	1,222	0.421	0.964	0.692	0.292	0.979
<b>AGE</b>														
18-25	0.26657	787	15,618	1,331	15,074	596	14,883	735	191	0.758	0.953	0.855	0.448	0.987
26-49	0.26657	1,737	51,335	2,507	50,565	879	49,707	1,628	858	0.506	0.968	0.737	0.351	0.983
50+	0.26657	2,220	39,795	999	41,017	306	39,102	693	1,914	0.138	0.983	0.560	0.307	0.953
<b>RACE/ETHNICITY</b>														
White, Not Hispanic	0.26657	2,740	78,741	2,925	78,556	1,325	77,141	1,600	1,415	0.484	0.980	0.732	0.453	0.982
Black, Not Hispanic	0.26657	1,373	9,847	531	10,688	33	9,349	498	1,339	0.024	0.949	0.487	0.063	0.875
Other, Not Hispanic	0.26657	539	2,753	1,211	2,081	394	1,935	818	145	0.731	0.703	0.717	0.325	0.930
Hispanic	0.26657	92	15,408	170	15,330	30	15,268	140	63	0.323	0.991	0.657	0.176	0.996
<b>EDUCATION</b>														
< High School	0.26657	1,690	9,137	424	10,403	197	8,909	227	1,493	0.116	0.975	0.546	0.464	0.856
High School Graduate	0.26657	627	39,117	1,147	38,597	430	38,400	717	197	0.686	0.982	0.834	0.375	0.995
Some College	0.26657	1,454	27,081	1,803	26,731	527	25,804	1,276	927	0.363	0.953	0.658	0.292	0.965
College Graduate	0.26657	973	31,414	1,463	30,924	628	30,579	835	345	0.645	0.973	0.809	0.429	0.989

AUC = area under receiver operating characteristic (ROC) curve based on optimal cutpoint  $[(\text{sensitivity} + \text{specificity})/2]$ , FN = number of false negatives based on prediction, FP = number of false positives based on prediction, N = number of negative SMI cases, NPV = negative predictive value (TN/Pred\_N), P = number of positive SMI cases, PPV = positive predictive value (TP/Pred\_P), Pred\_N = number of predicted negative cases, Pred\_P = number of predicted positive cases, Sens = sensitivity (TP/P), Spec = specificity (TN/N), TN = number of true negatives based on prediction, TP = number of true positives based on prediction, SDS = Four-item Sheehan Disability Scale.

NOTE: Alternative past year K6 score: past year K6 score < 8 recoded as 0; past year K6 score 8-24 recoded as 1-17.

NOTE: Alternative SDS Score: SDS item scores < 7 recoded as 0; SDS item scores 7-10 recoded as 1, then summed for a score ranging from 0 to 4.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table B.16 K6 Cut Points for Each WHODAS and SDS Total Score**

<b>Alternative WHODAS Total Score</b>	<b>Alternative Worst K6 SMI Cut Point</b>	<b>Worst K6 SMI Cut Point</b>
0	17	24
1	17	24
2	15	22
3	13	20
4	11	18
5	9	16
6	7	14
7	6	13
8	4	11
<b>Alternative SDS Total Score</b>	<b>Alternative Worst K6 SMI Cut Point</b>	<b>Worst K6 SMI Cut Point</b>
0	12	19
1	11	18
2	11	18
3	10	17
4	9	16

K6 = Six-item psychological distress scale, SDS = four-item Sheehan Disability Scale, SMI = serious mental illness, WHODAS = eight-item World Health Organization Disability Assessment Schedule.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

## Appendix C: Key Definitions, 2008

This appendix provides definitions for many of the measures and terms used in this report on the 2008 National Survey on Drug Use and Health (NSDUH). Where relevant, cross-references also are provided. For some key terms, specific question wording, including "feeder questions" that precede the question(s), is provided for clarity.

### **Abuse**

Abuse of a substance was defined as meeting one or more of the four criteria for abuse included in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association [APA], 1994) and if the definition for dependence was not met for that substance. Additional criteria for alcohol and marijuana abuse include the use of these substances on 6 or more days in the past 12 months. These questions have been included in the survey since 2000. Responses to the dependence or abuse questions based only on the past year use of methamphetamine, Ambien<sup>®</sup>, Adderall<sup>®</sup>, or specific hallucinogens from the routing patterns added between 2005 and 2008 were not included in these measures. See Section B.4.3 of Appendix B for additional details.

SEE: "Dependence," "Need for Illicit Drug or Alcohol Use Treatment," and "Prevalence."

### **Adult Education**

SEE: "Education."

### **Age**

Age of the respondent was defined as "age at time of interview." The interview program calculated the respondent's age from the date of birth and interview date. The interview program prompts the interviewer to confirm the respondent's age after it has been calculated.

### **Alcohol Use**

Measures of use of alcohol in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last drank an alcoholic beverage?"

Feeder question: "The next questions are about alcoholic beverages, such as, beer, wine, brandy, and mixed drinks. Listed on the next screen are examples of the types of beverages we are interested in. Please review this list carefully before you answer these questions. These questions are about drinks of alcoholic beverages. Throughout these questions, by a 'drink,' we mean a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. We are not asking about times when you only had a sip or two from a drink. Have you ever, even

once, had a drink of any type of alcoholic beverage? Please do not include times when you only had a sip or two from a drink."

SEE: "Binge Use of Alcohol," "Current Use," "Heavy Use of Alcohol," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

**Alcohol Use in  
Combination with  
Illicit Drug Use**

Respondents aged 12 to 20 who reported drinking at least one alcoholic beverage within the past 30 days were asked what other drugs were used while they were drinking or were used within a couple of hours of drinking. Respondents were presented a list of 10 possible drugs, depending on which drugs they previously reported using in the past month. The 10 possible drugs were marijuana or hashish, cocaine or crack, heroin, hallucinogens, inhalants, prescription pain relievers, prescription tranquilizers, prescription stimulants, methamphetamine, and prescription sedatives. A respondent was defined as having Alcohol Use in Combination with Illicit Drug Use if he or she reported using any 1 of the 10 drugs above with his or her last alcohol use or within a couple of hours of drinking.

NOTE: Respondents were defined as having used methamphetamine with their most recent use of alcohol in the past month if they reported use in the core stimulants module. They also were included if they reported use in the noncore special drugs module and said they had not reported methamphetamine use in the core module because they did not think of it as a prescription drug.

SEE: "Alcohol Use," "Core," "Illicit Drugs," and "Noncore."

**American Indian or  
Alaska Native**

American Indian or Alaska Native only, not of Hispanic, Latino, or Spanish origin (including North American, Central American, or South American Indian); does not include respondents reporting two or more races. (Respondents reporting that they were American Indians or Alaska Natives and of Hispanic, Latino, or Spanish origin were classified as Hispanic.)

SEE: "Hispanic" and "Race/Ethnicity."

**Asian**

Asian only, not of Hispanic, Latino, or Spanish origin; does not include respondents reporting two or more races. (Respondents reporting that they were Asian and of Hispanic, Latino, or Spanish



origin were classified as Hispanic.) Specific Asian groups that were asked about were Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, and "Other Asian."

SEE: "Hispanic" and "Race/Ethnicity."

**Baby Boom Cohort**

The baby boom cohort refers to persons born in the United States after World War II between 1946 and 1964 (Light, 1988).

SEE: "Age."

**Binge Use of Alcohol**

Binge use of alcohol was defined as 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.

Feeder question: "How long has it been since you last drank an alcoholic beverage?"

SEE: "Alcohol Use" and "Heavy Use of Alcohol."

**Black**

Black/African American only, not of Hispanic, Latino, or Spanish origin; does not include respondents reporting two or more races. (Respondents reporting that they were black or African American and of Hispanic, Latino, or Spanish origin were classified as Hispanic.)

SEE: "Hispanic" and "Race/Ethnicity."

**Blunts**

Blunts were defined as cigars with marijuana in them. Measures of the use of blunts in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last smoked part or all of a cigar with marijuana in it?"

Feeder question: "Sometimes people take tobacco out of a cigar and replace it with marijuana. This is sometimes called a 'blunt.' Have you ever smoked part or all of a cigar with marijuana in it?"

SEE: "Cigar Use," "Current Use," "Lifetime Use," "Marijuana Use," "Past Month Use," "Past Year Use," "Prevalence," "Recency of Use," and "Tobacco Product Use."

**Cash Assistance**

Cash assistance was defined as receipt of direct monetary payments due to low income, such as Temporary Assistance for Needy Families (TANF), welfare, or other public assistance. In 2006 and 2007, a majority of respondents received two questions

regarding cash assistance: (a) their personal receipt of cash assistance, and (b) whether another family member living in the household received cash assistance. The remaining respondents received a reduced set of income questions, including a single question about whether the respondent or another family member in the household received cash assistance. In 2008, all respondents received the reduced set of income questions, including a single question about cash assistance.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Welfare Assistance."

### **Cigar Use**

Measures of use of cigars (including cigarillos and little cigars) in the respondent's lifetime, the past year, and the past month were developed from responses to the questions about cigar use in the past 30 days and the recency of use (if not in the past 30 days): "Now think about the past 30 days—that is, from [DATEFILL] up to and including today. During the past 30 days, have you smoked part or all of any type of cigar?" and "How long has it been since you last smoked part or all of any type of cigar?" Responses to questions about use of cigars with marijuana in them (blunts) were not included in these measures.

Feeder question: "The next questions are about smoking cigars. By cigars we mean any kind, including big cigars, cigarillos, and even little cigars that look like cigarettes. Have you ever smoked part or all of any type of cigar?"

SEE: "Blunts," "Cigarette Use," "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," "Recency of Use," "Smokeless Tobacco Use," and "Tobacco Product Use."

### **Cigarette Use**

Measures of use of cigarettes in the respondent's lifetime, the past year, and the past month were developed from responses to the questions about cigarette use in the past 30 days and the recency of use (if not in the past 30 days): "Now think about the past 30 days—that is, from [DATEFILL] up to and including today. During the past 30 days, have you smoked part or all of a cigarette?" and "How long has it been since you last smoked part or all of a cigarette?"

Feeder question: "These questions are about your use of tobacco products. This includes cigarettes, chewing tobacco, snuff, cigars, and pipe tobacco. The first questions are about cigarettes only. Have you ever smoked part or all of a cigarette?"

SEE: "Cigar Use," "Current Use," "Lifetime Daily Cigarette Use," "Lifetime Use," "Nicotine (Cigarette) Dependence," "Past Month Daily Cigarette Use," "Past Month Use," "Past Year Use," "Prevalence," "Recency of Use," "Smokeless Tobacco Use," and "Tobacco Product Use."

### **Cocaine Use**

Measures of use of cocaine in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used any form of cocaine?"

Feeder question: "These questions are about cocaine, including all the different forms of cocaine such as powder, crack, free base, and coca paste. Have you ever, even once, used any form of cocaine?"

SEE: "Crack Use," "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

### **College Enrollment Status**

This measure was computed only for college-aged respondents (i.e., respondents aged 18 to 22). Respondents in this age group were classified as full-time college students or as some other status (including part-time students, students in other grades, or nonstudents). Respondents were classified as full-time college students if they reported that they were attending (or will be attending) their first through fifth or higher year of college or university and that they were (or will be) a full-time student. Respondents whose current enrollment status was unknown were excluded from this variable.

### **Core**

A core set of questions critical for basic trend measurement of prevalence estimates remains in the survey every year and comprises the first part of the interview. Supplemental or "noncore" questions, or modules, can be revised, dropped, or added from year to year and make up the latter part of the interview. The core consists of initial demographic items (which are interviewer-administered) and self-administered questions pertaining to the use of tobacco, alcohol, marijuana, cocaine, crack cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, and sedatives.

SEE: "Noncore."

### **County Type**

Counties were grouped based on the "Rural/Urban Continuum Codes" developed by the U.S. Department of Agriculture (2003). Each county is in either a metropolitan statistical area (MSA) or outside of an MSA (also see Butler & Beale, 1994). Large metropolitan (large metro) areas have a population of 1 million or more. Small metropolitan (small metro) areas have a population of fewer than 1 million. Nonmetropolitan (nonmetro) areas are outside of MSAs and include urbanized counties with a population of 20,000 or more in urbanized areas, less urbanized counties with a population of at least 2,500 but fewer than 20,000 in urbanized areas, and completely rural counties with a population of fewer than 2,500 in urbanized areas. Estimates based on county-type information presented in this report use the 2003 revised definition of an MSA; estimates for 2002 in this report, therefore, are not directly comparable with those presented in the 2002 NSDUH report (Office of Applied Studies [OAS], 2003).

### **Crack Use**

Measures of use of crack cocaine in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used *crack*?"

Feeder questions: "These questions are about cocaine, including all the different forms of cocaine such as powder, *crack*, free base, and coca paste. Have you ever, even once, used any form of cocaine?"

"The next questions are about *crack*, that is cocaine in rock or chunk form, and not the other forms of cocaine. Have you ever, even once, used *crack*?"

SEE: "Cocaine Use," "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

### **Current Use**

Any reported use of a specific substance in the past 30 days.

SEE: "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

### **Delinquent Behavior**

Youths aged 12 to 17 were asked a series of six questions: "During the past 12 months, how many times have you . . . stolen or tried to steal anything worth more than \$50?" "sold illegal drugs?"

"attacked someone with the intent to seriously hurt them?" "gotten into a serious fight at school or work?" "taken part in a fight where a group of your friends fought against another group?" and "carried a handgun?"

SEE: "Gang Fighting," "Prevalence," and "Stealing."

## **Dependence**

Dependence on illicit drugs or alcohol was defined as meeting three out of seven dependence criteria (for substances that included questions to measure a withdrawal criterion) or three out of six dependence criteria (for substances that did not include withdrawal questions) for that substance, based on criteria included in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) (APA, 1994). Additional criteria for alcohol and marijuana dependence since 2000 included the use of these substances on 6 or more days in the past 12 months. These criteria were not used to define Nicotine (Cigarette) Dependence, which used a different series of items. Responses to the dependence or abuse questions based only on the past year use of methamphetamine, Ambien<sup>®</sup>, Adderall<sup>®</sup>, or specific hallucinogens from the routing patterns added between 2005 and 2008 were not included in these measures. See Section B.4.3 in Appendix B for additional details.

SEE: "Abuse," "Need for Alcohol Use Treatment," "Need for Illicit Drug or Alcohol Use Treatment," "Need for Illicit Drug Use Treatment," "Nicotine (Cigarette) Dependence," and "Prevalence."

## **Depression**

SEE: "Major Depressive Episode."

## **Driving Under the Influence**

Respondents were asked whether in the past 12 months they had driven a vehicle while under the influence of alcohol and illegal drugs used together, alcohol only, or illegal drugs only.

SEE: "Prevalence."

## **Ecstasy Use**

Measures of use of Ecstasy or MDMA (methylenedioxy-methamphetamine) in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used *Ecstasy*, also known as MDMA?"

SEE: "Current Use," "Hallucinogen Use," "Lifetime Use," "LSD Use," "Past Month Use," "Past Year Use," "PCP Use," "Prevalence," and "Recency of Use."

## **Education**

This is the measure of educational attainment among respondents who are aged 18 or older. It is based on respondents' reports of their highest grade or year of school that they completed. Response alternatives were presented in terms of single years of education, ranging from 0 if respondents never attended school to 17 if respondents completed 5 or more years at the college or university level. Respondents were classified into four categories based on their answers: less than high school, high school graduate, some college, and college graduate. Persons indicating having completed the 12th grade were classified as high school graduates, and persons who indicated completing 4 or more years at the college or university level were defined as being college graduates.

## **Employment**

Respondents were asked to report whether they worked in the week prior to the interview, and if not, whether they had a job despite not working in the past week. Respondents who worked in the past week or who reported having a job despite not working were asked whether they usually work 35 or more hours per week. Respondents who did not work in the past week but had a job were asked to look at a card that described why they did not work in the past week despite having a job. Respondents who did not have a job in the past week were asked to look at a different card that described why they did not have a job in the past week.

**Full-time** "Full-time" in the tables includes respondents who usually work 35 or more hours per week and who worked in the past week or had a job despite not working in the past week.

**Part-time** "Part-time" in the tables includes respondents who usually work fewer than 35 hours per week and who worked in the past week or had a job despite not working in the past week.

**Unemployed** "Unemployed" in the tables refers to respondents who did not have a job, were on layoff, and were looking for work. For consistency with the Current Population Survey definition of unemployment, respondents who reported that they did not have a job but were looking for work needed to report making specific efforts to find work in the past 30

days, such as sending out resumes or applications, placing ads, or answering ads.

**Other** "Other" includes all other responses, including being a student, keeping house or caring for children full time, retired, disabled, or other miscellaneous work statuses that were defined as not being in the labor force. Respondents who reported that they did not have a job or were on layoff, but were not looking for work, were classified as not being in the labor force. Similarly, respondents who reported not having a job and looking for work also were classified as not being in the labor force if they did not report making specific efforts to find work in the past 30 days.

**Ethnicity** SEE: "Race/Ethnicity."

**Ever Use** SEE: "Lifetime Use."

**Exposure to Drug Education and Prevention** Youths aged 12 to 17 who reported they attended any type of school at any time in the past 12 months were asked:  
"During the past 12 months . . . Have you had a special class about drugs or alcohol in school? Have you had films, lectures, discussions, or printed information about drugs or alcohol in one of your regular classes, such as health or physical education? Have you had films, lectures, discussions, or printed information about drugs or alcohol outside of one of your regular classes, such as in a special assembly?"

(Youths who reported that they were home schooled in the past 12 months also were asked these questions. Youths who reported that they were home schooled were instructed to think about their home schooling as "school.")

Youths also were asked: "During the past 12 months, have you seen or heard any alcohol or drug prevention messages from sources outside school, such as in posters, pamphlets, and radio or TV ads?"

**Family Income** Family income was ascertained by asking respondents about their total personal income and total family income, based on the following questions: "Of these income groups, which category best represents (your /SAMPLE MEMBER's) total personal income during [the previous calendar year]?" and "Of these income

groups, which category best represents (your/SAMPLE MEMBER's) total combined family income during [the previous calendar year]?" Family is defined as any related member in the household, including all foster relationships and unmarried partners (including same-sex partners.) It excludes roommates, boarders, and other nonrelatives.

NOTE: If no other family members were living with the respondent, total family income was based on information about the respondent's total personal income. For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income. In 2006 and 2007, respondents were subdivided into two groups. One group received the same version of the income questions as in 2005 (long version), and the second received a reduced set of questions (short version). Respondents in both groups were asked about total personal income and total combined family income, but the respondents who received the short version were asked fewer questions about specific sources of income. In addition, the introductions to these total income questions differed between the two versions. In 2008, all respondents received the reduced set of income questions.

SEE: "Poverty Level (% of U.S. Census Bureau Poverty Threshold)."

## **Food Stamps**

Food stamps are government-issued coupons that can be used to purchase food. Instead of coupons, some States issue a special card that can be used like a credit card to purchase food in grocery stores. In 2006 and 2007, a majority of respondents received two questions regarding food stamps: (a) their personal receipt of food stamps, and (b) whether another family member living in the household received food stamps. The remaining respondents received a reduced set of income questions, including a single question about whether the respondent or another family member in the household received food stamps. In 2008, all respondents received the reduced set of income questions, including a single question about food stamps.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member



identified as being better able to give the correct information about insurance and income.

SEE: "Welfare Assistance."

### **Gang Fighting**

Youths aged 12 to 17 were asked how many times during the past 12 months they had taken part in a fight where a group of their friends fought against another group. Response alternatives were (1) 0 times, (2) 1 or 2 times, (3) 3 to 5 times, (4) 6 to 9 times, or (5) 10 or more times.

SEE: "Delinquent Behavior" and "Stealing."

### **Geographic Division**

Data are presented for nine geographic divisions within the four geographic regions. Within the **Northeast Region** are the *New England Division* (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont) and the *Middle Atlantic Division* (New Jersey, New York, Pennsylvania). Within the **Midwest Region** are the *East North Central Division* (Illinois, Indiana, Michigan, Ohio, Wisconsin) and the *West North Central Division* (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota). Within the **South Region** are the *South Atlantic Division* (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia), the *East South Central Division* (Alabama, Kentucky, Mississippi, Tennessee), and the *West South Central Division* (Arkansas, Louisiana, Oklahoma, Texas). Within the **West Region** are the *Mountain Division* (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming) and the *Pacific Division* (Alaska, California, Hawaii, Oregon, Washington).

SEE: "Region."

### **Hallucinogen Use**

Measures of use of hallucinogens in the respondent's lifetime, the past year, and the past month were developed from responses to the core question about recency of use: "How long has it been since you last used any hallucinogen?" Responses to noncore questions about the use of the following drugs, which were added to the survey in 2006, were not included in these measures: ketamine, DMT (dimethyltryptamine), AMT (alpha-methyltryptamine), 5-MeO-DIPT (5-methoxy-diisopropyltryptamine, also known as "Foxy"), and *Salvia divinorum*.

Feeder questions: "The next questions are about substances called hallucinogens. These drugs often cause people to see or experience

things that are not real... Have you ever, even once, used LSD, also called *acid*? Have you ever, even once, used PCP, also called *angel dust* or phencyclidine? Have you ever, even once, used peyote? Have you ever, even once, used mescaline? Have you ever, even once, used psilocybin, found in mushrooms? Have you ever, even once, used *Ecstasy*, also known as MDMA? Have you ever, even once used any other hallucinogen besides the ones that have been listed?"

SEE: "Core," "Current Use," "Ecstasy Use," "Lifetime Use," "LSD Use," "Noncore," "Past Month Use," "Past Year Use," "PCP Use," "Prevalence," and "Recency of Use."

### **Health Insurance Status**

A series of questions was asked to identify whether respondents currently were covered by Medicare, Medicaid, the State Children's Health Insurance Program (SCHIP), military health care (such as TRICARE or CHAMPUS), private health insurance, or any kind of health insurance (if respondents reported not being covered by any of the above). If respondents did not currently have health insurance coverage, questions were asked to determine the length of time they were without coverage and the reasons for not being covered.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Medicaid" and "Medicare."

### **Heavy Use of Alcohol**

Heavy use of alcohol was defined as 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 each of 5 or more days in the past 30 days. Heavy alcohol users also were defined as binge users of alcohol.

Feeder question: "How long has it been since you last drank an alcoholic beverage?"

SEE: "Alcohol Use" and "Binge Use of Alcohol."

### **Heroin Use**

Measures of use of heroin in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used heroin?"

Feeder question: "These next questions are about heroin. Have you ever, even once, used heroin?"

SEE: "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

### **Hispanic**

Hispanic was defined as anyone of Hispanic, Latino, or Spanish origin. Respondents were classified as Hispanic in the race/ethnicity measure regardless of race.

SEE: "American Indian or Alaska Native," "Asian," "Black," "Race/Ethnicity," "Two or More Races," and "White."

### **Illicit Drugs**

Illicit drugs include marijuana or hashish, cocaine (including crack), inhalants, hallucinogens (including phencyclidine [PCP], lysergic acid diethylamide [LSD], and Ecstasy [MDMA]), heroin, or prescription-type psychotherapeutics used nonmedically, which include stimulants, sedatives, tranquilizers, and pain relievers.

Illicit drug use refers to use of any of these drugs based on responses to questions only in the core sections and does not include data from the noncore methamphetamine items that were added in 2005 and 2006. Responses to questions about the use of the following drugs, which were added to the survey beginning in 2006, were not included in these measures: GHB (gamma hydroxybutyrate), Adderall<sup>®</sup>, Ambien<sup>®</sup>, nonprescription cough or cold medicines, ketamine, DMT (dimethyltryptamine), AMT (alpha-methyltryptamine), 5-MeO-DIPT (5-methoxy-diisopropyltryptamine, also known as "Foxy"), and *Salvia divinorum*.

SEE: "Core," "Current Use," "Lifetime Use," "Noncore," "Past Month Use," "Past Year Use," "Prevalence," "Psychotherapeutic Drugs," and "Recency of Use."

### **Illicit Drugs Other Than Marijuana**

These drugs include cocaine (including crack), inhalants, hallucinogens (including phencyclidine [PCP], lysergic acid diethylamide [LSD], and Ecstasy [MDMA]), heroin, or prescription-type psychotherapeutics used nonmedically, which include stimulants, sedatives, tranquilizers, and pain relievers. This measure includes marijuana users who used any of the above drugs in addition to using marijuana, as well as users of those drugs who have not used marijuana. Illicit drugs other than marijuana is defined based on responses to questions only in the core sections and does not include responses based on the noncore methamphetamine items that were added in 2005 and 2006.

Responses to questions about the use of the following drugs, which were added to the survey beginning in 2006, were not included in these measures: GHB (gamma hydroxybutyrate), Adderall<sup>®</sup>, Ambien<sup>®</sup>, nonprescription cough or cold medicines, ketamine, DMT (dimethyltryptamine), AMT (alpha-methyltryptamine), and 5-MeO-DIPT (5-methoxy-diisopropyltryptamine, also known as "Foxy"), and *Salvia divinorum*.

SEE: "Core," "Current Use," "Lifetime Use," "Noncore," "Past Month Use," "Past Year Use," "Prevalence," "Psychotherapeutic Drugs," and "Recency of Use."

## **Incidence**

Substance use incidence refers to the use of a substance for the first time (new use). Incidence estimates are based on questions about age at first use of substances, year and month of first use for recent initiates, the respondent's date of birth, and the interview date.

Incidence statistics in this report reflect first use occurring within the 12 months prior to the interview. This is referred to as past year incidence. For these statistics, respondents who are immigrants are included regardless of whether their first use occurred inside or outside the United States. See Section B.4.1 in Appendix B for additional details.

## **Income**

SEE: "Family Income."

## **Inhalant Use**

Measures of use of inhalants in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used any inhalant for kicks or to get high?"

Feeder questions: "These next questions are about liquids, sprays, and gases that people sniff or inhale to get high or to make them feel good... Have you ever, even once, inhaled [INHALANT NAME] for kicks or to get high?" Respondents were asked about the following inhalants: (a) amyl nitrite, "poppers," locker room odorizers, or "rush"; (b) correction fluid, degreaser, or cleaning fluid; (c) gasoline or lighter fluid; (d) glue, shoe polish, or toluene; (e) halothane, ether, or other anesthetics; (f) lacquer thinner or other paint solvents; (g) lighter gases, such as butane or propane; (h) nitrous oxide or whippits; (i) spray paints; (j) some other aerosol spray; and (k) any other inhalants besides the ones that have been listed.

SEE: "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

**Large Metro**

SEE: "County Type."

**Lifetime Daily Cigarette Use**

A respondent was defined as being a lifetime daily cigarette user if he or she ever had a period in his or her life of smoking part or all of a cigarette every day for at least 30 days.

SEE: "Cigarette Use" and "Past Month Daily Cigarette Use."

**Lifetime Use**

Lifetime use indicates use of a specific substance at least once in the respondent's lifetime. This measure includes respondents who also reported last using the substance in the past 30 days or past 12 months.

SEE: "Current Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

**Location of Most Recent Underage Alcohol Use**

Respondents aged 12 to 20 who reported drinking at least one alcoholic beverage within the past 30 days were asked to indicate where they drank alcoholic beverages the last time they drank. The possible locations were (1) in a car or other vehicle; (2) at the respondent's home; (3) at someone else's home; (4) at a park, on a beach, or in a parking lot; (5) in a restaurant, bar, or club; (6) at a concert or sports game; (7) at school; or (8) some other place. Those who reported "some other place" were asked to write in a response indicating the specific location.

SEE: "Alcohol Use."

**Low Precision**

Prevalence estimates based on only a few respondents or with relatively large standard errors were not shown in the tables, but have been replaced with an asterisk (\*) and noted as "low precision." These estimates have been omitted because one cannot place a high degree of confidence in their accuracy. See Table B.2 in Appendix B for a complete list of the rules used to determine low precision.

**LSD Use**

Measures of use of lysergic acid diethylamide (LSD) in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used LSD?"

SEE: "Current Use," "Ecstasy Use," "Hallucinogen Use," "Lifetime Use," "Past Month Use," "Past Year Use," "PCP Use," "Prevalence," and "Recency of Use."

## Major Depressive Episode

A person was defined as having had a lifetime major depressive episode (MDE) if he or she had at least five or more of the following nine symptoms in the same 2-week period in his or her lifetime, in which at least one of the symptoms was a depressed mood or loss of interest or pleasure in daily activities: (1) depressed mood most of the day, nearly every day; (2) markedly diminished interest or pleasure in all or almost all activities most of the day, nearly every day; (3) significant weight loss when not dieting or weight gain or decrease or increase in appetite nearly every day; (4) insomnia or hypersomnia nearly every day; (5) psychomotor agitation or retardation nearly every day; (6) fatigue or loss of energy nearly every day; (7) feelings of worthlessness nearly every day; (8) diminished ability to think or concentrate or indecisiveness nearly every day; and (9) recurrent thoughts of death or recurrent suicide ideation. This definition is based on the definition found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (APA, 1994). A person was defined as having an MDE in the past year if he or she had a lifetime MDE and a period of time in the past 12 months when he or she felt depressed or lost interest or pleasure in daily activities for 2 weeks or longer, while also having at least four of the other symptoms defined above for a lifetime MDE. See Section B.4.7 of Appendix B for additional details regarding the changes in the measurement of MDE in 2008.

SEE: "Severe Impairment Due to Major Depressive Episode."

## Marijuana Use

Measures of use of marijuana in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used marijuana or hashish?" Responses to questions about use of cigars with marijuana in them (blunts) were not included in these measures.

Feeder question: "The next questions are about marijuana and hashish. Marijuana is also called pot or grass. Marijuana is usually smoked, either in cigarettes called joints, or in a pipe. It is sometimes cooked in food. Hashish is a form of marijuana that is also called *hash*. It is usually smoked in a pipe. Another form of hashish is hash oil. Have you ever, even once, used marijuana or hashish?"

SEE: "Blunts," "Current Use," "Illicit Drugs," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," "Prior Year Marijuana Use," and "Recency of Use."

## **Medicaid**

Medicaid is a public assistance program that pays for medical care for low-income and disabled persons. Respondents were asked specifically about the Medicaid program in the State where they lived. Respondents aged 12 to 19 were asked specifically about the State Children's Health Insurance Program (SCHIP) in their State. Respondents aged 12 to 19 who reported that they were covered by the SCHIP in their State also were classified as being covered by Medicaid. Respondents aged 65 or older who reported that they were covered by Medicaid were asked to verify that their answer was correct.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Health Insurance Status" and "Medicare."

## **Medicare**

Medicare is a health insurance program for persons aged 65 or older and for certain disabled persons. Respondents under the age of 65 who reported that they were covered by Medicare were asked to verify that their answer was correct.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Health Insurance Status" and "Medicaid."

## **Mental Health Service Utilization**

For adults aged 18 or older, mental health service utilization is defined as receiving treatment or counseling for any problem with emotions, nerves, or mental health in the 12 months prior to the interview in any inpatient or outpatient setting, or the use of prescription medication for treatment of any mental or emotional condition. Estimates for adults are based only on responses to items in the module on adult mental health service utilization.

For youths aged 12 to 17, mental health service utilization is defined as receiving within the 12 months prior to the interview treatment or counseling for any emotional or behavioral problem in the specialty mental health setting (inpatient or outpatient

services); the education setting (school-based services); or the general medical setting (pediatrician or family physician services).

Treatment for only a substance use problem is not included for adults or youths.

SEE: "Prevalence" and "Unmet Need for Mental Health Services."

**Mental Health Treatment** SEE: "Mental Health Service Utilization" and "Treatment for Major Depressive Episode."

**Methamphetamine Use** Measures of use of methamphetamine (also known as crank, crystal, ice, or speed), Desoxyn<sup>®</sup>, or Methedrine<sup>®</sup> in the respondent's lifetime, the past year, and the past month were developed from responses to the core question about recency of use: "How long has it been since you last used methamphetamine, Desoxyn, or Methedrine?" In this report, estimates for the methamphetamine use measures from 2006 onward also include responses based on the noncore methamphetamine use items that were added in 2005 and 2006; estimates for 2002 through 2005 have been adjusted to make them comparable with estimates from 2006 onward that include responses to the noncore methamphetamine items. See Section B.4.8 of Appendix B for additional details.

SEE: "Core," "Current Use," "Lifetime Use," "Noncore," "Past Month Use," "Past Year Use," "Prevalence," "Recency of Use," "Source of Psychotherapeutic Drugs," and "Stimulant Use."

**Midwest Region** The States included are those in the East North Central Division—Illinois, Indiana, Michigan, Ohio, and Wisconsin—and the West North Central Division—Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

SEE: "Geographic Division" and "Region."

**Native Hawaiian or Other Pacific Islander** Native Hawaiian or Other Pacific Islander, not of Hispanic, Latino, or Spanish origin; does not include respondents reporting two or more races. (Respondents reporting that they were Native Hawaiian or Other Pacific Islander and of Hispanic, Latino, or Spanish origin were classified as Hispanic.)

SEE: "Hispanic" and "Race/Ethnicity."



**Need for Alcohol Use Treatment**

Respondents were classified as needing treatment for an alcohol use problem if they met at least one of three criteria during the past year: (1) dependence on alcohol; (2) abuse of alcohol; or (3) received treatment for alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center).

SEE: "Abuse," "Dependence," "Prevalence," "Specialty Substance Use Treatment Facility," and "Treatment for a Substance Use Problem."

**Need for Illicit Drug or Alcohol Use Treatment**

Respondents were classified as needing treatment for an illicit drug or alcohol use problem if they met at least one of three criteria during the past year: (1) dependence on illicit drugs or alcohol; (2) abuse of illicit drugs or alcohol; or (3) received treatment for illicit drug or alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center).

SEE: "Abuse," "Dependence," "Prevalence," "Specialty Substance Use Treatment Facility," and "Treatment for a Substance Use Problem."

**Need for Illicit Drug Use Treatment**

Respondents were classified as needing treatment for an illicit drug use problem if they met at least one of three criteria during the past year: (1) dependence on illicit drugs; (2) abuse of illicit drugs; or (3) received treatment for illicit drug use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center).

SEE: "Abuse," "Dependence," "Prevalence," "Specialty Substance Use Treatment Facility," and "Treatment for a Substance Use Problem."

**Nicotine (Cigarette) Dependence**

A respondent was defined as having nicotine (cigarette) dependence if he or she met either the dependence criteria derived from the Nicotine Dependence Syndrome Scale (NDSS) or the Fagerstrom Test of Nicotine Dependence (FTND). See Section B.4.2 of Appendix B for additional details.

SEE: "Cigarette Use," "Dependence," and "Prevalence."

## **Noncash Assistance**

Noncash assistance refers to assistance that is not in the form of direct monetary payments due to low income, such as help getting a job, placement in an education or job training program, or help with transportation, child care, or housing. In 2006 and 2007, a majority of respondents received two questions regarding noncash assistance: (a) their personal receipt of noncash assistance, and (b) whether another family member living in the household received noncash assistance. The remaining respondents received a reduced set of income questions where the latter question was excluded. In 2008, all respondents received the reduced set of income questions, including a single question about noncash assistance.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Cash Assistance" and "Welfare Assistance."

## **Noncore**

A core set of unaltered questions (consisting of demographic items and modules on the use of tobacco, alcohol, marijuana, cocaine, crack cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, and sedatives) is critical for basic trend measurement of prevalence estimates. This core set remains in the survey every year and comprises the first part of the interview. Supplemental or "noncore" questions, or modules, can be revised, dropped, or added from year to year and make up the latter part of the interview. Supplemental topics in the remaining self-administered sections include (but are not limited to) injection drug use, perceived risks of substance use, substance dependence or abuse, arrests, treatment for substance use problems, pregnancy and health care issues, and mental health issues. Supplemental demographic questions (which are interviewer-administered and follow the audio computer-assisted self-interviewing [ACASI] questions) address such topics as immigration, current school enrollment, employment and workplace issues, health insurance coverage, and income. It should be noted that some of the supplemental portions of the interview have remained in the survey, relatively unchanged, from year to year (e.g., current health insurance coverage, employment).

SEE: "Core."

## **Nonmedical Use of Psychotherapeutics**

A core section of the interview instrument deals with nonmedical use of four classes of prescription-type psychotherapeutics: pain relievers, sedatives, stimulants, and tranquilizers. Nonmedical use is defined as use of at least one of these medications without a prescription belonging to the respondent or use that occurred simply for the experience or feeling the drug caused. In this report, estimates for the measures of nonmedical use of psychotherapeutics from 2006 onward also include responses based on the noncore methamphetamine use items that were added in 2005 and 2006; estimates for 2002 through 2005 have been adjusted to make them comparable with estimates from 2006 onward that include responses to the noncore methamphetamine items. Responses to questions about the nonmedical use of Adderall<sup>®</sup> (a stimulant) and Ambien<sup>®</sup> (a sedative), which were added to the survey in 2006, were not included in these measures.

Measures of use of nonmedical psychotherapeutic agents in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used any prescription [pain reliever, sedative, stimulant, or tranquilizer] that was not prescribed for you or that you took only for the experience or feeling it caused?"

Feeder question: "Now we have some questions about drugs that people are supposed to take only if they have a prescription from a doctor. We are only interested in your use of a drug if the drug was not prescribed for you, or if you took the drug only for the experience or feeling it caused."

NOTE: The pill card contains pictures and names of specific drugs within each psychotherapeutic category. For example, pictures and the names of Valium<sup>®</sup>, Librium<sup>®</sup>, and other tranquilizers are shown when the section on tranquilizers is introduced.

SEE: "Core," "Current Use," "Lifetime Use," "Methamphetamine Use," "Noncore," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Pill Cards," "Prevalence," "Psychotherapeutic Drugs," "Recency of Use," "Sedative Use," "Source of Psychotherapeutic Drugs," "Stimulant Use," and "Tranquilizer Use."

## **Nonmetro**

SEE: "County Type."

## **Northeast Region**

The States included are those in the New England Division—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont—and the Middle Atlantic Division—New Jersey, New York, and Pennsylvania.

SEE: "Geographic Division" and "Region."

## **OxyContin<sup>®</sup> Use**

Measures of use of the prescription pain reliever OxyContin<sup>®</sup> in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used OxyContin that was not prescribed for you or that you took only for the experience or feeling it caused?" For additional details, see Section B.5.1 of Appendix B of the 2004 NSDUH's national results report (OAS, 2005).

SEE: "Current Use," "Lifetime Use," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

## **Pain Reliever Use**

Measures of the nonmedical use of prescription-type pain relievers in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used any prescription pain reliever that was not prescribed for you, or that you took only for the experience or feeling it caused?"

Feeder question: "These questions are about the use of pain relievers. We are not interested in your use of *over-the-counter* pain relievers such as aspirin, Tylenol, or Advil that can be bought in drug stores or grocery stores without a doctor's prescription. Card A shows pictures of some different types of prescription pain relievers and lists the names of some others. These pictures show only pills, but we are interested in your use of any form of prescription pain relievers that were not prescribed for you or that you took only for the experience or feeling they caused."

The following prescription pain relievers were listed on Pill Card A (Pain Relievers): (1) Darvocet<sup>®</sup>, Darvon<sup>®</sup>, or Tylenol<sup>®</sup> with Codeine; (2) Percocet<sup>®</sup>, Percodan<sup>®</sup>, or Tylox<sup>®</sup>; (3) Vicodin<sup>®</sup>, Lortab<sup>®</sup>, or Lorcet<sup>®</sup>/Lorcet Plus<sup>®</sup>; (4) Codeine; (5) Demerol<sup>®</sup>; (6) Dilaudid<sup>®</sup>; (7) Fioricet<sup>®</sup>; (8) Fiorinal<sup>®</sup>; (9) Hydrocodone; (10) Methadone; (11) Morphine; (12) OxyContin<sup>®</sup>; (13) Phenaphen<sup>®</sup> with Codeine; (14) Propoxyphene; (15) SK-65<sup>®</sup>; (16) Stadol<sup>®</sup> (no

picture); (17) Talacen<sup>®</sup>; (18) Talwin<sup>®</sup>; (19) Talwin NX<sup>®</sup>; (20) Tramadol (no picture); and (21) Ultram<sup>®</sup>.

SEE: "Current Use," "Lifetime Use," "Nonmedical Use of Psychotherapeutics," "OxyContin<sup>®</sup> Use," "Past Month Use," "Past Year Use," "Pill Cards," "Prevalence," "Psychotherapeutic Drugs," "Recency of Use," "Sedative Use," "Source of Psychotherapeutic Drugs," "Stimulant Use," and "Tranquilizer Use."

**Past Month Daily Cigarette Use**

A respondent was defined as being a past month daily cigarette user if he or she smoked part or all of a cigarette on each of the past 30 days.

Feeder question: "Now think about the past 30 days – that is, from [DATEFILL] up to and including today. During the past 30 days, have you smoked part or all of a cigarette?"

SEE: "Cigarette Use" and "Lifetime Daily Cigarette Use."

**Past Month Use**

This measure indicates use of a specific substance in the 30 days prior to the interview. Respondents who indicated past month use of a specific substance also were classified as lifetime and past year users.

SEE: "Current Use," "Lifetime Use," "Past Year Use," "Prevalence," and "Recency of Use."

**Past Year Incidence**

SEE: "Incidence."

**Past Year Use**

This measure indicates use of a specific substance in the 12 months prior to the interview. This definition includes those respondents who last used the substance in the 30 days prior to the interview. Respondents who indicated past year use of a specific substance also were classified as lifetime users.

SEE: "Current Use," "Lifetime Use," "Past Month Use," "Prevalence," and "Recency of Use."

**PCP Use**

Measures of use of phencyclidine (PCP) in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used PCP?"

SEE: "Current Use," "Ecstasy Use," "Hallucinogen Use," "Lifetime Use," "LSD Use," "Past Month Use," "Past Year Use," "Prevalence," and "Recency of Use."

**Perceived Availability**

Respondents were asked to assess how difficult or easy it would be for them to get various illicit drugs if they wanted these drugs. Response alternatives were (1) probably impossible, (2) very difficult, (3) fairly difficult, (4) fairly easy, and (5) very easy.

**Perceived Need for Alcohol Use Treatment**

Respondents were classified as perceiving a need for alcohol use treatment if they reported feeling a need for alcohol use treatment when asked, "During the past 12 months, did you need treatment or counseling for your alcohol use?" or if they indicated feeling a need for additional treatment specifically for alcohol use when asked, "During the past 12 months, for which of the following drugs did you need additional treatment or counseling?"

SEE: "Prevalence" and "Treatment for a Substance Use Problem."

**Perceived Need for Illicit Drug or Alcohol Use Treatment**

Respondents were classified as perceiving a need for illicit drug or alcohol use treatment if they were classified as either perceiving a need for illicit drug use treatment or perceiving a need for alcohol use treatment.

SEE: "Perceived Need for Alcohol Use Treatment" and "Perceived Need for Illicit Drug Use Treatment."

**Perceived Need for Illicit Drug Use Treatment**

Respondents were classified as perceiving a need for illicit drug use treatment if they reported feeling a need for treatment for the use of one or more drugs when asked specifically about each of the individual drugs they had indicated using, "During the past 12 months, did you need treatment or counseling for your use of (drug)?" They also were classified as perceiving a need for illicit drug use treatment if they indicated feeling a need for additional treatment specifically for the use of one or more drugs when asked, "During the past 12 months, for which of the following drugs did you need additional treatment or counseling?" The response list of drugs included marijuana/hashish, cocaine or crack, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, sedatives, or some other drug.

SEE: "Prevalence" and "Treatment for a Substance Use Problem."

**Perceived Risk/  
Harmfulness**

Respondents were asked to assess the extent to which people risk harming themselves physically and in other ways when they use various illicit drugs, alcohol, and cigarettes, with various levels of frequency. Response alternatives were (1) no risk, (2) slight risk, (3) moderate risk, and (4) great risk.

**Percentages**

In this report, all of the tables contain percentages based on weighted data.

SEE: "Rounding."

**Pill Cards**

The pill cards contain pictures and names of specific drugs within each psychotherapeutic category. For example, pictures and the names of Valium<sup>®</sup>, Librium<sup>®</sup>, and other tranquilizers are shown when the questionnaire section on tranquilizers is introduced.

SEE: "Current Use," "Lifetime Use," "Nonmedical Use of Psychotherapeutics," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Prevalence," "Psychotherapeutic Drugs," "Recency of Use," "Sedative Use," "Stimulant Use," and "Tranquilizer Use."

**Poverty Level (% of  
U.S. Census Bureau  
Poverty Threshold)**

This measure is a comparison of a respondent's total family income with the U.S. Census Bureau's poverty thresholds (both measured in dollar amounts) in order to determine the poverty status of the respondent and his or her family. Information on family income, size, and composition (i.e., number of children) and the respondent's age is used to determine the respondent's poverty level. The poverty level is calculated as a percentage of the poverty threshold by dividing the respondent's reported total family income by the appropriate poverty threshold amount. Thus, if a family's total income is less than the family's poverty threshold, then that family and every individual in it is considered to be in poverty (i.e., less than 100 percent of the U.S. census poverty threshold). Accordingly, if a family's total income is greater than the poverty threshold but less than twice the poverty threshold, then that family and every individual in it is classified as being 100 to 199 percent of the U.S. census poverty threshold. Because of changes in the creation of the poverty-level measure in 2006, estimates are not

comparable with similar estimates published in NSDUH reports prior to 2006.

SEE: "Family Income."

### **Prevalence**

Prevalence is a general term used to describe the estimates for lifetime, past year, and past month substance use, dependence or abuse, or other behaviors of interest within a given period (e.g., the past 12 months). Other behaviors of interest include delinquent behavior, driving under the influence of alcohol or drugs, mental health service utilization, perceived need for alcohol or illicit drug use treatment, serious psychological distress, treatment for a substance use problem, and unmet need for mental health services.

SEE: "Abuse," "Current Use," "Delinquent Behavior," "Dependence," "Driving Under the Influence," "Mental Health Service Utilization," "Need for Illicit Drug or Alcohol Use Treatment," "Nicotine (Cigarette) Dependence," "Perceived Need for Alcohol Use Treatment," "Perceived Need for Illicit Drug or Alcohol Use Treatment," "Perceived Need for Illicit Drug Use Treatment," "Recency of Use," "Serious Mental Illness," "Serious Psychological Distress," "Treatment for a Substance Use Problem," and "Unmet Need for Mental Health Services."

### **Prior Year Marijuana Use**

A respondent was defined as engaging in prior year marijuana use if he or she used marijuana or hashish 12 to 23 months prior to the interview date. Prior Year Marijuana Use is different from Past Year Marijuana Use because Past Year Marijuana Use indicates use in the past 12 calendar months prior to the interview date, whereas Prior Year Marijuana Use is defined as using marijuana in the year prior to the past year (12 calendar months prior to the interview date) or within 12 to 23 months prior to the interview date.

SEE: "Marijuana Use."

### **Psychotherapeutic Drugs**

Psychotherapeutic drugs are prescription-type medications with legitimate medical uses as pain relievers, tranquilizers, stimulants, and sedatives. The interview instrument covers nonmedical use of these drugs, which involves use without a prescription belonging to the respondent or use that occurred simply for the experience or feeling the drug caused. In this report, estimates for psychotherapeutic drug measures from 2006 onward include responses based on the core questions about nonmedical use of



psychotherapeutics and the noncore methamphetamine use items that were added in 2005 and 2006; estimates for 2002 through 2005 have been adjusted to make them comparable with estimates from 2006 onward that include responses to the noncore methamphetamine items.

SEE: "Core," "Current Use," "Lifetime Use," "Methamphetamine Use," "Noncore," "Nonmedical Use of Psychotherapeutics," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Pill Cards," "Prevalence," "Recency of Use," "Sedative Use," "Source of Psychotherapeutic Drugs," "Stimulant Use," and "Tranquilizer Use."

### **Race/Ethnicity**

Race/ethnicity is used to refer to the respondent's self-classification of racial and ethnic origin and identification. For Hispanic origin, respondents were asked, "Are you of Hispanic, Latino, or Spanish origin or descent?" For race, respondents were asked, "Which of these groups best describes you?" Response alternatives were (1) white, (2) black/African American, (3) American Indian or Alaska Native, (4) Native Hawaiian, (5) Other Pacific Islander, (6) Asian, and (7) Other. Categories for a combined race/ethnicity variable included Hispanic; non-Hispanic groups where respondents indicated only one race (white, black, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Asian); and non-Hispanic groups where respondents reported two or more races. These categories are based on classifications developed by the U.S. Census Bureau.

SEE: "American Indian or Alaska Native," "Asian," "Black," "Hispanic," "Native Hawaiian or Other Pacific Islander," "Two or More Races," and "White."

### **Recency of Use**

The recency question for each substance was the source for the lifetime, past year, and past month prevalence estimates.

The question was essentially the same for all classes of substances. The question was: "How long has it been since you last used [substance name]?" For the four classes of psychotherapeutics, the phrase "that was not prescribed for you or only for the experience or feeling it caused" was added after the name of the drug.

For tobacco products (cigarettes, snuff, chewing tobacco, or cigars), a question first was asked about use in the past 30 days. If the respondent did not use the product in the past 30 days, the recency question was asked as above, with the response

alternatives (1) more than 30 days ago but within the past 12 months; (2) more than 12 months ago but within the past 3 years; and (3) more than 3 years ago. For the remaining substances, the response alternatives were (1) within the past 30 days; (2) more than 30 days ago but within the past 12 months; and (3) more than 12 months ago.

SEE: "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," and "Prevalence."

## **Region**

Four regions, Northeast, Midwest, South, and West, are based on classifications developed by the U.S. Census Bureau.

SEE: "Geographic Division," "Midwest Region," "Northeast Region," "South Region," and "West Region."

## **Rounding**

The decision rules for the rounding of percentages were as follows. If the second number to the right of the decimal point was greater than or equal to 5, the first number to the right of the decimal point was rounded up to the next higher number. If the second number to the right of the decimal point was less than 5, the first number to the right of the decimal point remained the same. Thus, a prevalence estimate of 16.55 percent would be rounded to 16.6 percent, while an estimate of 16.44 percent would be rounded to 16.4 percent. Although the percentages in the tables generally total 100 percent, the use of rounding sometimes produces a total of slightly less than or more than 100 percent.

SEE: "Percentages."

## **Sedative Use**

Measures of the nonmedical use of prescription-type sedatives in the respondent's lifetime, the past year, and the past month were developed from responses to the core question about recency of use: "How long has it been since you last used any prescription sedative that was not prescribed for you, or that you took only for the experience or feeling it caused?" Responses to noncore questions about use of the prescription sedative Ambien<sup>®</sup>, which were added to the survey in 2006, were not included in these measures.

Feeder question: "These next questions ask about the use of sedatives or barbiturates. These drugs are also called *downers* or *sleeping pills*. People take these drugs to help them relax or to help them sleep. We are not interested in the use of *over-the-counter* sedatives such as Sominex, Unisom, Nytol, or Benadryl that can be bought in drug stores or grocery stores without a doctor's

prescription. Card D shows pictures of different kinds of prescription sedatives and lists the names of some others. These pictures show only pills, but we are interested in your use of any form of prescription sedatives that were not prescribed for you or that you took only for the experience or feeling they caused."

The following prescription sedatives were listed on Pill Card D (Sedatives): (1) Methaqualone (includes Sopor<sup>®</sup>, Quaalude<sup>®</sup>) (no picture); (2) Nembutal<sup>®</sup>, Pentobarbital (no picture), Seconal<sup>®</sup>, Secobarbital (no picture), or Butalbital (no picture); (3) Restoril<sup>®</sup> or Temazepam; (4) Amytal<sup>®</sup>; (5) Butisol<sup>®</sup>; (6) Chloral Hydrate (no picture); (7) Dalmane<sup>®</sup>; (8) Halcion<sup>®</sup>; (9) Phenobarbital; (10) Placidyl<sup>®</sup>; and (11) Tuinal<sup>®</sup>.

SEE: "Core," "Current Use," "Lifetime Use," "Noncore," "Nonmedical Use of Psychotherapeutics," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Pill Cards," "Prevalence," "Psychotherapeutic Drugs," "Recency of Use," "Source of Psychotherapeutic Drugs," "Stimulant Use," and "Tranquilizer Use."

### **Self-Help Group**

NSDUH has collected data on self-help groups because they may be potential locations of treatment for a substance use problem. Respondents who reported that they received treatment for their use of alcohol or drugs in the past 12 months were asked whether they received treatment in a self-help group, such as Alcoholics Anonymous or Narcotics Anonymous; these groups were not considered specialty substance use treatment facilities. Beginning with the 2006 survey, respondents also were asked whether they attended self-help groups in the past 12 months to receive help for their alcohol or drug use, regardless of whether they previously reported receiving any treatment in the past 12 months.

SEE: "Specialty Substance Use Treatment Facility" and "Treatment for a Substance Use Problem."

### **Serious Mental Illness**

SMI among adults is defined in Public Law 102-321 as persons aged 18 or older who currently or at any time in the past year have had diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified within DSM-IV that has resulted in functional impairment, which substantially interferes with or limits one or more major life activities. NSDUH respondents' SMI status was determined based on modeling their responses to questions on distress (K6 scale) and impairment (truncated version of the World Health Organization

Disability Assessment Schedule [WHODAS] for half the sample and the Sheehan Disability Scale [SDS] for the other half). See Section B.4.6 in Appendix B for additional details on model specification and how this variable was defined.

SEE: "Prevalence," "Serious Psychological Distress," "Severe Impairment Due to Major Depressive Episode," "Sheehan Disability Scale (SDS)," and "World Health Organization Disability Assessment Schedule (WHODAS)."

### **Serious Psychological Distress**

Serious psychological distress (SPD) is defined as having a score of 13 or higher on the 30-day K6 scale. Starting in 2008, respondents aged 18 or older were first asked six questions about how they have been feeling during the past 30 days. Following the 30-day distress questions, respondents were asked whether there was a month in the past 12 months when they felt worse emotionally than they felt in the past 30 days. If there was such a month, the K6 items were asked about that worst month. With the availability of the new 30-day questions, past month SPD is being reported instead of past year SPD. Because of this difference, SPD estimates presented in this report are not comparable with SPD estimates in earlier reports. See Section B.4.5 of Appendix B for additional details.

SEE: "Prevalence" and "Serious Mental Illness."

### **Severe Impairment Due to Major Depressive Episode**

Severe impairment in adults is defined by the level of role interference reported to be caused by major depressive episode (MDE) in the past 12 months. The Sheehan Disability Scale (SDS) role domains are assessed on a 0 to 10 visual analog scale with impairment categories of "none" (0), "mild" (1-3), "moderate" (4-6), "severe" (7-9), and "very severe" (10). For adults aged 18 or older, the SDS role domains are (1) home management, (2) work, (3) close relationships with others, and (4) social life. For youths aged 12 to 17, the SDS role domains are (1) chores at home, (2) school or work, (3) close relationships with family, and (4) social life. Ratings of 7 or greater in one or more role domains are classified as severe impairment. See Section B.4.7 of Appendix B for additional details.

SEE: "Major Depressive Episode," "Sheehan Disability Scale (SDS)," and "Serious Mental Illness."

**Sheehan Disability Scale (SDS)**

The Sheehan Disability Scale (SDS) consists of a series of four questions that are used to measure impairment in a person's daily functioning. The SDS role domains are assessed on a 0 to 10 visual analog scale with impairment categories of "none" (0), "mild" (1-3), "moderate" (4-6), "severe" (7-9), and "very severe" (10). For adults aged 18 or older, the SDS role domains are (1) home management, (2) work, (3) close relationships with others, and (4) social life. For youths aged 12 to 17, the SDS role domains are (1) chores at home, (2) school or work, (3) close relationships with family, and (4) social life. Ratings of 7 or greater are classified as severe impairment. Adult respondents were asked about interference caused by major depressive episode (MDE) and also about interference due to their emotions, nerves, or mental health. Respondents aged 12 to 17 were asked about interference caused by MDE. Summing across the four responses resulted in a total score with a range from 0 to 40.

SEE: "Prevalence," "Serious Mental Illness," "Serious Psychological Distress," "Severe Impairment Due to Major Depressive Episode," and "World Health Organization Disability Assessment Schedule (WHODAS)."

**Significance**

For tables in which trends over time were shown, statistically significant differences between estimates from two different time points (e.g., 2007 and 2008) were identified at two levels: 0.05 and 0.01. Thus, estimates with different values that did not meet the criteria for statistical significance were not considered to be different from one another. In the text of this report, a significance level of 0.05 was used to determine whether estimates from different demographic subgroups were statistically different.

**Small Metro**

SEE: "County Type."

**Smokeless Tobacco Use**

Measures of use of smokeless tobacco in the respondent's lifetime, the past year, and the past month were developed from responses to the questions about snuff and chewing tobacco use in the past 30 days and the recency of use (if not in the past 30 days): "Now think about the past 30 days—that is, from [DATEFILL] up to and including today. During the past 30 days, have you used snuff, even once?" "How long has it been since you last used snuff?" "Now think about the past 30 days—that is, from [DATEFILL] up to and including today. During the past 30 days, have you used chewing tobacco, even once?" and "How long has it been since you last used chewing tobacco?"

Feeder questions: "These next questions are about your use of snuff, sometimes called dip... Have you ever used snuff, even once?" and "These next questions are only about chewing tobacco... Have you ever used chewing tobacco, even once?"

SEE: "Cigar Use," "Cigarette Use," "Current Use," "Lifetime Use," "Past Month Use," "Past Year Use," "Prevalence," "Recency of Use," and "Tobacco Product Use."

**Social Context of Most Recent Alcohol Use**

Respondents aged 12 to 20 who reported drinking at least one alcoholic beverage within the past 30 days were asked if they were alone, with one other person, or with more than one person the last time they drank.

SEE: "Alcohol Use."

**Source of Alcohol for Most Recent Underage Alcohol Use**

Respondents aged 12 to 20 who reported drinking at least one alcoholic beverage within the past 30 days were asked questions pertaining to the source of the alcohol for their most recent alcohol use. The sources were (1) purchased it himself or herself; (2) it was purchased by someone else; (3) received it from a parent or guardian; (4) received it from another family member aged 21 or older; (5) received it from an unrelated person aged 21 or older; (6) received it from someone under age 21; (7) took it from own home; (8) took it from someone else's home; or (9) got it some other way.

The questions on the source of last alcohol use are presented in two categories: (a) respondent paid (he or she purchased the alcohol or gave someone else money to purchase the alcohol), and (b) respondent did not pay (he or she received the alcohol for free from someone or took the alcohol from his or her own or someone else's home).

SEE: "Alcohol Use."

**Source of Psychotherapeutic Drugs**

There are two measures of the source of psychotherapeutic drugs (prescription pain relievers, prescription tranquilizers, prescription stimulants, methamphetamine, and prescription sedatives) used nonmedically: (a) how respondents obtained these drugs the last time they used them nonmedically and (b) how respondents obtained these drugs for any nonmedical use in the past month.

Beginning in 2006, respondents who reported that they obtained these drugs from a friend or relative for free were asked how the friend or relative obtained them. For all of these drugs except methamphetamine, response options for the source of the medications were as follows: (a) got a prescription from just one doctor; (b) got prescriptions from more than one doctor; (c) wrote a fake prescription; (d) stole from a doctor's office, clinic, hospital, or pharmacy; (e) got from a friend or relative for free; (f) bought from a friend or relative; (g) took from a friend or relative without asking; (h) bought from a drug dealer or other stranger; (i) bought on the Internet; and (j) got in some other way (includes other sources specified by respondents). Methamphetamine users were presented with options (e) through (j) only.

If respondents last used a psychotherapeutic drug nonmedically in the past 30 days and reported getting that drug from only one source, the source of the psychotherapeutic drug for the most recent use measure was based on that answer. For respondents who reported getting a psychotherapeutic drug from multiple sources in the past 30 days or who last misused that drug more than 30 days ago but in the past 12 months, the source of the psychotherapeutic drug for the most recent use measure was based on their answer to a question about how they got that drug the last time they used it nonmedically. The source of the psychotherapeutic drug for any use in the past month was based only on the answer to the question about sources in the past 30 days.

Measures of the source of methamphetamine differ from all other measures regarding the source of psychotherapeutic drugs in that they include respondents who reported methamphetamine use in the stimulants module and respondents who reported methamphetamine use in the special drugs module who did not initially report methamphetamine use in the stimulants module because they did not consider it to be a prescription drug. All other measures of the source of psychotherapeutic drugs only include respondents who reported psychotherapeutic drug use in their respective core drug modules.

Feeder questions from the drug modules: "Earlier, the computer recorded that, during the past 30 days, you used [prescription pain relievers, prescription tranquilizers, prescription stimulants, methamphetamine, prescription sedatives] that were not prescribed for you or that you took only for the experience or feeling it caused. How did you get these [fill in relevant drug name from above]? Please enter all the ways that you got the [fill in relevant drug name from above] you used in the past 30 days."

"Now think about the last time you used [a prescription pain reliever, a prescription tranquilizer, a prescription stimulant, methamphetamine, a prescription sedative] that was not prescribed for you or that you took only for the experience or feeling it caused. How did you get this [fill in relevant drug name from above]?"

Feeder questions from the special drugs module: "Earlier, the computer recorded that you have never used Methamphetamine, Desoxyn, or Methedrine."

"Why did you report earlier that you had never used Methamphetamine?"

SEE: "Core," "Methamphetamine Use," "Noncore," "Nonmedical Use of Psychotherapeutics," "Pain Reliever Use," "Psychotherapeutic Drugs," "Sedative Use," "Stimulant Use," and "Tranquilizer Use."

### **South Region**

The States included are those in the South Atlantic Division—Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; the East South Central Division—Alabama, Kentucky, Mississippi, and Tennessee; and the West South Central Division—Arkansas, Louisiana, Oklahoma, and Texas.

SEE: "Geographic Division" and "Region."

### **Specialty Substance Use Treatment Facility**

Defined as a drug or alcohol rehabilitation facility (inpatient or outpatient), a hospital (inpatient services only), and a mental health center.

SEE: "Need for Illicit Drug or Alcohol Use Treatment," "Self-Help Group," and "Treatment for a Substance Use Problem."

### **Stealing**

Respondents were asked how many times during the past 12 months they had stolen or tried to steal anything worth more than \$50. Response alternatives were (1) 0 times, (2) 1 or 2 times, (3) 3 to 5 times, (4) 6 to 9 times, or (5) 10 or more times.

This item was asked of the 12 to 17 age group and of those aged 18 or older.



SEE: "Delinquent Behavior" and "Gang Fighting."

## Stimulant Use

Measures of nonmedical use of prescription-type stimulants in the respondent's lifetime, the past year, and the past month were developed from responses to the core questions about recency of use: "How long has it been since you last used any prescription stimulant that was not prescribed for you or that you took only for the experience or feeling it caused?" and "How long has it been since you last used Methamphetamine, Desoxyn, or Methedrine?" In this report, estimates for the stimulant use measures from 2006 onward included responses based on the noncore methamphetamine use items that were added in 2005 and 2006; estimates for 2002 through 2005 have been adjusted to make them comparable with estimates from 2006 onward that include responses to the noncore methamphetamine items. However, measures of stimulant use do not include data from noncore questions added to the survey in 2006 about the use of the prescription stimulant Adderall<sup>®</sup>.

Feeder question: "These next questions are about the use of drugs such as amphetamines that are known as stimulants, *uppers*, or *speed*. People sometimes take these drugs to lose weight, to stay awake, or for attention deficit disorders. We are not interested in the use of *over-the-counter* stimulants such as Dexatrim or No-Doz that can be bought in drug stores or grocery stores without a doctor's prescription. Card C shows pictures of some different kinds of prescription stimulants and lists the names of some others. These pictures show only pills, but we are interested in your use of any form of prescription stimulants that were not prescribed for you or that you took only for the experience or feeling it caused."

The following prescription stimulants were listed on Pill Card C (Stimulants): (1) Methamphetamine (crank, crystal, ice, or speed) (no picture), Desoxyn<sup>®</sup>, or Methedrine<sup>®</sup> (no picture); (2) Amphetamines (no picture), Benzedrine<sup>®</sup>, Biphetamine<sup>®</sup>, Fastin<sup>®</sup>, or Phentermine; (3) Ritalin<sup>®</sup> or Methylphenidate; (4) Cylert<sup>®</sup>; (5) Dexedrine<sup>®</sup>; (6) Dextroamphetamine (no picture); (7) Didrex<sup>®</sup>; (8) Eskatrol<sup>®</sup>; (9) Ionamin<sup>®</sup>; (10); Mazanor<sup>®</sup>; (11) Obedrin-LA<sup>®</sup> (no picture); (12) Plegine<sup>®</sup>; (13) Preludin<sup>®</sup>; (14) Sanorex<sup>®</sup>; and (15) Tenuate<sup>®</sup>.

SEE: "Core," "Current Use," "Lifetime Use," "Methamphetamine Use," "Noncore," "Nonmedical Use of Psychotherapeutics," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Pill Cards," "Prevalence," "Psychotherapeutic Drugs," "Recency of Use," "Sedative

Use," "Source of Psychotherapeutic Drugs," and "Tranquilizer Use."

**Substance Use Treatment** SEE: "Treatment for a Substance Use Problem."

**Suicide** Adults aged 18 or older were asked whether they had seriously thought about, made any plans, or attempted to kill themselves at any time during the past 12 months, or if they had received medical attention from a health professional or stayed overnight in a hospital in the past 12 months because of a suicide attempt.

SEE: "Prevalence."

**Supplemental Security Income (SSI)**

Supplemental Security Income (SSI) is a governmental program that makes assistance payments to low-income, aged, blind, and disabled persons. In 2006 and 2007, a majority of respondents received two questions regarding SSI: (a) their personal receipt of SSI, and (b) whether another family member living in the household received cash assistance. The remaining respondents received a reduced set of income questions, including a single question about whether the respondent or another family member in the household received SSI. In 2008, all respondents received the reduced set of income questions, including a single question about SSI.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Welfare Assistance."

**Tobacco Product Use**

This measure indicates use of any tobacco product: cigarettes, chewing tobacco, snuff, cigars, and pipe tobacco. Tobacco product use in the past year includes past month pipe tobacco use. Tobacco product use in the past year does not include use of pipe tobacco more than 30 days ago but within 12 months of the interview because the survey did not capture this information. Measures of tobacco product use in the respondent's lifetime, the past year, or the past month also do not include use of cigars with marijuana in them (blunts).

SEE: "Blunts," "Cigar Use," "Cigarette Use," and "Smokeless Tobacco Use."

**Total Family Income**

SEE: "Family Income."

**Tranquilizer Use**

Measures of the nonmedical use of prescription-type tranquilizers in the respondent's lifetime, the past year, and the past month were developed from responses to the question about recency of use: "How long has it been since you last used any prescription tranquilizer that was not prescribed for you, or that you took only for the experience or feeling it caused?"

Feeder question: "These next questions ask about the use of tranquilizers. Tranquilizers are usually prescribed to relax people, to calm people down, to relieve anxiety, or to relax muscle spasms. Some people call tranquilizers *nerve pills*. Card B shows pictures of some different kinds of prescription tranquilizers. These pictures show only pills, but we are interested in your use of any form of prescription tranquilizers that were not prescribed for you, or that you took only for the experience or feeling it caused."

The following prescription tranquilizers were listed on Pill Card B (Tranquilizers): (1) Klonopin<sup>®</sup> or Clonazepam; (2) Xanax<sup>®</sup>, Alprazolam, Ativan<sup>®</sup>, or Lorazepam; (3) Valium<sup>®</sup> or Diazepam; (4) Atarax<sup>®</sup>; (5) BuSpar<sup>®</sup>; (6) Equanil<sup>®</sup>; (7) Flexeril<sup>®</sup>; (8) Librium<sup>®</sup>; (9) Limbitrol<sup>®</sup>; (10) Meproamate; (11) Miltown<sup>®</sup>; (12) Rohypnol<sup>®</sup>; (13) Serax<sup>®</sup>; (14) Soma<sup>®</sup>; (15) Tranxene<sup>®</sup>; and (16) Vistaril<sup>®</sup>.

SEE: "Current Use," "Lifetime Use," "Nonmedical Use of Psychotherapeutics," "Pain Reliever Use," "Past Month Use," "Past Year Use," "Pill Cards," "Prevalence," "Psychotherapeutic Drugs," "Recency of Use," "Sedative Use," "Source of Psychotherapeutic Drugs," and "Stimulant Use."

**Treatment for Depression**

Treatment for depression is defined as seeing or talking to a medical doctor or other professional or using prescription medication in the past year for depression.

**Treatment for Major Depressive Episode**

Treatment for major depressive episode (MDE) is the same as treatment for depression. In this report, treatment for depression refers to treatment among those classified with past year MDE.

SEE: "Major Depressive Episode" and "Treatment for Depression."

**Treatment for a Substance Use Problem**

Respondents were asked whether they had received treatment for illicit drug use, alcohol use, or both illicit drug and alcohol use in the past 12 months in any of the following locations: a hospital overnight as an inpatient, a residential drug or alcohol rehabilitation facility where they stayed overnight, a drug or alcohol rehabilitation facility as an outpatient, a mental health facility as an outpatient, an emergency room, a private doctor's office, a prison or jail, a self-help group, or some other place.

SEE: "Alcohol Use," "Illicit Drugs," "Need for Illicit Drug or Alcohol Use Treatment," "Prevalence," "Self-Help Group," and "Specialty Substance Use Treatment Facility."

**Two or More Races**

Respondents were asked to report which racial group describes them. Response alternatives were (1) white, (2) black or African American, (3) American Indian or Alaska Native, (4) Native Hawaiian, (5) Other Pacific Islander, (6) Asian, and (7) Other. Respondents were allowed to choose more than one of these groups. Persons who chose both the "Native Hawaiian" and "Other Pacific Islander" categories (and no additional categories) were classified in a single category: Native Hawaiian or Other Pacific Islander. Otherwise, persons reporting two or more of the above groups and that they were not of Hispanic, Latino, or Spanish origin were included in a "Two or More Races" category. This category does not include respondents who reported more than one Asian subgroup but who reported "Asian" as their only race. Respondents reporting two or more races and reporting that they were of Hispanic, Latino, or Spanish origin were classified as Hispanic.

SEE: "Hispanic" and "Race/Ethnicity."

**Unmet Need for Mental Health Services**

Unmet need for mental health services is defined as a perceived need for mental health treatment in the past 12 months that was not received. This measure also includes persons who received some type of mental health service in the past 12 months, but reported a perceived need for additional services they did not receive.

Feeder question: "During the past 12 months, was there any time when you needed mental health treatment or counseling for yourself but didn't get it?"

SEE: "Mental Health Service Utilization" and "Prevalence."

**Welfare Assistance**

Household participation in one or more government (welfare) assistance programs during the prior calendar year was defined as one or more family members receiving Supplemental Security Income (SSI), food stamps, cash, or noncash assistance. SSI provides payments to low-income, aged, blind, and disabled persons. Food stamps are government-issued coupons used to purchase food. Cash assistance refers to cash payments through Temporary Assistance for Needy Families (TANF), welfare, or other public assistance. Noncash assistance refers to services, such as help getting a job, placement in an education or job-training program, or help with transportation, child care, or housing.

In 2006 and 2007, a majority of respondents received multiple questions for each of these forms of government assistance: (a) their personal receipt of these forms of assistance, and (b) whether another family member living in the household received these forms of assistance. The remaining respondents received a reduced set of income questions, including single questions for each of these forms of assistance that applied to the respondent or any other family members in the household. In 2008, all respondents received the reduced set of income questions, including the single version of the welfare assistance questions.

NOTE: For youths aged 12 to 17 and those respondents who were unable to respond to the insurance or income questions, proxy responses were accepted from a household member identified as being better able to give the correct information about insurance and income.

SEE: "Cash Assistance," "Food Stamps," "Noncash Assistance," and "Supplemental Security Income (SSI)."

**West Region**

The States included are those in the Mountain Division—Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and the Pacific Division—Alaska, California, Hawaii, Oregon, and Washington.

SEE: "Geographic Division" and "Region."

**White**

White, not of Hispanic, Spanish, or Latino origin; does not include respondents reporting two or more races. (Respondents reporting that they were white and of Hispanic, Latino, or Spanish origin were classified as Hispanic.)

SEE: "Hispanic" and "Race/Ethnicity."

**World Health Organization  
Disability Assessment  
Schedule (WHODAS)**

The World Health Organization Disability Assessment Schedule (WHODAS) consists of a series of questions that are used for assessing disturbances in social adjustment and behavior. A reduced set of WHODAS items was used in NSDUH (Rehm et al., 1999). Respondents were asked if they had difficulty doing any of the following eight activities during the 1 month when their emotions, nerves, or mental health interfered most with their daily activities: (1) remembering to do things they needed to do; (2) concentrating on doing something important when other things were going on around them; (3) going out of the house and getting around on their own; (4) dealing with people they did not know well; (5) participating in social activities; (6) taking care of household responsibilities; (7) taking care of daily responsibilities at work or school; and (8) getting daily work done as quickly as needed. These eight items were assessed on a 0 to 3 scale with categories of "no difficulty," "don't know," and "refuse" (0); "mild difficulty" (1); "moderate difficulty" (2); and "severe difficulty" (3). Some items had a fifth category to deal with "not applicable" responses. Summing across the eight responses resulted in a total score with a range from 0 to 24.

SEE: "Prevalence," "Serious Mental Illness," "Serious Psychological Distress," "Severe Impairment Due to Major Depressive Episode," and "Sheehan Disability Scale (SDS)."

# Appendix D: Other Sources of Data

A variety of surveys and data systems other than the National Survey on Drug Use and Health (NSDUH) collect data on substance use and mental health problems. It is useful to consider the results of these other studies when discussing NSDUH data. This appendix briefly describes several of these other data systems and presents selected comparisons with NSDUH results. In addition, this appendix describes surveys on substance use and mental health problems of populations not covered by NSDUH. Descriptions of these surveys are presented in alphabetical order.

When considering the information presented here, it is important to understand the methodological differences between the different surveys and the impact that these differences could have on estimates of the presence of substance use and mental health problems. Several studies have compared NSDUH estimates with estimates from other studies and have evaluated how differences may have been affected by differences in survey methodology (Gfroerer, Wright, & Kopstein, 1997b; Grucza, Abbacchi, Przybeck, & Gfroerer, 2007; Hennessy & Ginsberg, 2001; Miller et al., 2004). These comparisons suggest that the goals and approaches of surveys are often different, making comparisons between them difficult. Some methodological differences that have been identified as affecting comparisons include populations covered, sampling methods, modes of data collection, questionnaires, and estimation methods.

## D.1 Other National Surveys of Substance Use and Mental Health

### Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is a State-based system of health surveys that collect information on health risk behaviors, clinical preventive practices, and health care access and use primarily related to chronic diseases and injury. The BRFSS surveys are cross-sectional telephone surveys conducted by State health departments with technical and methodological assistance from the Centers for Disease Control and Prevention (CDC). Every year, States conduct monthly telephone surveys of noninstitutionalized adults (aged 18 or older) using random-digit-dialing methods. Since 1994, BRFSS has collected data from all 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam using a computer-assisted telephone interviewing (CATI) design. More than 350,000 adults are interviewed each year. National data are calculated using a median score across States.

NSDUH and BRFSS rates of current alcohol use have been generally similar, but NSDUH has shown consistently higher rates of binge drinking than BRFSS. The use of audio computer-assisted self-interviewing (ACASI) in NSDUH, which is considered to be more anonymous and yields higher reporting of sensitive behaviors, was offered as an explanation for the lower binge rates in BRFSS (Miller et al., 2004).

BRFSS allows States the flexibility to add questions specific to their needs. Starting in 2007, one optional BRFSS module is the Mental Illness and Stigma Module, which includes the 30-day K6 scale of psychological distress and questions on attitudes toward persons with mental illness. In 2007, 35 States along with the District of Columbia and Puerto Rico administered this

module. Using a K6 cut point identical to that used in NSDUH ( $\geq 13$ ), BRFSS reported that 4.0 percent (95 percent confidence interval [CI]: 3.8 to 4.1 percent) of persons in these 35 States, the District of Columbia, and Puerto Rico met the criteria for serious psychological distress (SPD) (Strine et al., 2009). Although the 2008 NSDUH (4.3 percent) and 2007 BRFSS (4.0 percent) estimates of SPD are similar, methodological differences in the two surveys make the estimates not directly comparable. Because BRFSS uses CATI, it may yield lower reports of sensitive behaviors or emotions than NSDUH, which employs face-to-face data collection. Response rates also are substantially higher in NSDUH than BRFSS (76.2 vs. 50.6 percent for the unweighted adult response rate in 2007), which could have resulted in differential nonresponse bias patterns in the two surveys. In addition, the BRFSS K6 items are included in an optional module used by a subset of States, so the SPD estimate is not nationally representative.

For further details, see the CDC website at <http://www.cdc.gov/brfss/> (CDC, 2009a).

### **Harvard School of Public Health's College Alcohol Study (CAS)**

The Harvard School of Public Health's College Alcohol Study (CAS) is a survey of students at 4-year colleges and universities in 40 States. The study surveyed a random sample of students at the same colleges in 1993, 1997, 1999, and 2001. The schools and students were selected to provide nationally representative samples of schools and students. In 1993, a national sample of 195 colleges was selected from the American Council on Education's list of accredited 4-year colleges by using probability proportionate to size of enrollment; of the 195 colleges, 140 agreed to participate, for a school-level response rate of 72 percent (Wechsler, Dowdall, Davenport, & Castillo, 1995). Of these 140 colleges, 130 participated in 1997, 128 in 1999, and 120 in 2001. Student-level response rates to the two-stage mail survey were 70 percent in 1993, 59 percent in 1997 and 1999, and 52 percent in 2001. The researchers provided a short survey to nonrespondents in order to better weight the data (Wechsler et al., 2002). In 2005, sampled colleges with high levels of heavy alcohol use were surveyed again.

For further details, see the CAS website at <http://www.hsph.harvard.edu/cas/> (Harvard School of Public Health, 2005).

### **Monitoring the Future (MTF)**

The Monitoring the Future (MTF) study is an ongoing study of substance use trends and related attitudes among America's secondary school students, college students, and adults through age 50. The study is conducted annually by the Institute for Social Research at the University of Michigan through grants awarded by the National Institute on Drug Abuse (NIDA). The MTF and NSDUH are the Federal Government's largest and primary tools for tracking youth substance use. The MTF is composed of three substudies: (a) an annual survey of high school seniors initiated in 1975; (b) ongoing panel studies of representative samples from each graduating class that have been conducted by mail since 1976; and (c) annual surveys of 8th and 10th graders initiated in 1991. In the spring, students complete a self-administered, machine-readable questionnaire during a regular class period. An average of about 400 public and private schools and about 50,000 students are sampled annually. The latest MTF was conducted in 2008 (Johnston, O'Malley, Bachman, & Schulenberg, 2009a).



Comparisons between the MTF estimates and estimates based on students sampled in NSDUH generally have shown NSDUH substance use prevalence levels to be lower than MTF estimates (Table D.1).<sup>15</sup> The lower prevalences in NSDUH may be due to more underreporting in the household setting as compared with the MTF school setting. However, MTF does not survey dropouts, a group that NSDUH has shown to have higher rates of illicit drug use (Gfroerer et al., 1997b). Both surveys showed that rates of substance use were generally stable between 2007 and 2008.

For further details, see the MTF website at <http://www.monitoringthefuture.org/> (University of Michigan, 2009).

### **National Comorbidity Survey (NCS)**

The National Comorbidity Survey (NCS) was sponsored by NIMH, NIDA, and the W.T. Grant Foundation. It was designed to measure the prevalence of the illnesses in DSM-III-R (APA, 1987) in the general population. The first wave of the NCS was a household survey collecting data from 8,098 respondents aged 15 to 54 in a face-to-face interview using pencil and paper interviewing (PAPI). These responses were weighted to produce nationally representative estimates. A random sample of 4,414 respondents also were administered an additional module that captured information on nicotine dependence. The interviews took place between 1990 and 1992. The NCS used a modified version of the Composite International Diagnostic Interview (the UM-CIDI) to generate DSM-III-R diagnoses.

There have been several recent follow-ups to and replications of the original NCS, including a 10-year follow-up of the baseline sample (NCS-2), a replication study conducted in 2001 and 2002 with a newly recruited nationally representative sample of 9,282 respondents aged 18 or older (NCS-R), and an adolescent sample with a targeted recruitment of more than 10,000 adolescents aged 13 to 17 (NCS-A) along with their parents.

The NCS-R used an updated version of the CIDI that was designed to capture diagnoses of substance abuse or dependence using current DSM-IV criteria (APA, 1994). Interviews were conducted using computer-assisted personal interviewing (CAPI). It should be noted that in several recent NCS-R studies (Kessler et al., 2005a; Kessler, Chiu, Demler, Merikangas, & Walters, 2005b), the diagnosis for abuse also includes those who meet the diagnosis for dependence. In contrast, NSDUH follows DSM-IV guidelines and measures abuse and dependence separately. To make the NCS definition of abuse comparable with that of NSDUH, the rate for dependence must be subtracted from the rate for abuse. Rates of alcohol dependence or abuse and rates of illicit drug dependence or abuse were generally lower in NCS-R than NSDUH. The NCS also produces nationally representative data on psychiatric conditions (Kessler et al., 2003a, 2003b).

The NCS and NCS-R define serious mental illness (SMI) to include respondents with at least one 12-month mental disorder (including substance dependence) and conditions classified as "serious" (including a history of suicide attempts) based upon indicators of functional impairment equal to a Global Assessment of Functioning (GAF) score of 59 or below. In the

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<sup>15</sup> To examine estimates that are comparable with MTF data, NSDUH estimates presented in Table D.1 are based on data collected in the first 6 months of the survey year and are subset to ages 12 to 20.

NCS-R study, 5.8 percent of U.S. adults met the criteria for SMI (Kessler et al., 2006). The NCS-R's SMI estimate of 5.8 percent is not comparable with the SMI estimate from the 2008 NSDUH (4.4 percent) because of differences in the conditions included, the mode of survey administration, the GAF cut point, and the time frame.

The NCS and NCS-R data cannot be used to provide estimates of SPD comparable with the SPD estimate in the 2008 NSDUH. The K6 items in the NCS and NCS-R only asked respondents about psychological distress during the worst month in the past year, not psychological distress in the past 30 days.

For further details, see the NCS website at <http://www.hcp.med.harvard.edu/ncs/> (Harvard School of Medicine, 2005).

### **National Health Interview Survey (NHIS)**

The National Health Interview Survey (NHIS) is a continuous nationwide sample survey that collects data using personal household interviews through an interviewer-administered CAPI system. The survey is sponsored by the National Center for Health Statistics (NCHS) and provides national estimates of selected health measures, including cigarette smoking and alcohol use among persons aged 18 or older. NHIS data have been collected since 1957. In 2007, data were derived from three core components of the survey: the Family Core, which collects information from all family members aged 18 or older in each household; the Sample Adult Core, which collects information from one adult aged 18 or older in each family; and the Sample Child Core, which collects information on youths under age 18 from a knowledgeable family member in households with a child, usually a parent. In 2007, NHIS data were based on 75,764 persons in the Family Core, 23,393 adults in the Sample Adult Core, and 9,417 children in the Sample Child Core (NCHS, Division of Health Interview Statistics, 2008).

The NHIS has included the past 30-day K6 scale since 1997. The NSDUH K6 questions closely parallel those used in the NHIS. Using the same definition as the NSDUH definition of SPD (K6 score  $\geq 13$ ), NHIS data from 2001-2004 indicate a 30-day prevalence rate of adult SPD to be 3.1 percent over the 4 years (Pratt, Dey, & Cohen, 2007). This is lower than the 2008 NSDUH rate (4.3 percent). The rates are not directly comparable because of differences in survey mode (interviewer-administered vs. ACASI) and time frame.

For further details, see the NCHS website at <http://www.cdc.gov/nchs/nhis.htm> (CDC, 2009b).

### **National Longitudinal Alcohol Epidemiologic Survey (NLAES) and National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)**

The National Longitudinal Alcohol Epidemiologic Survey (NLAES) was conducted in 1991 and 1992 by the U.S. Bureau of the Census for the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Face-to-face, interviewer-administered interviews were conducted with 42,862 respondents aged 18 or older in the contiguous United States. Despite the survey name, the design was cross-sectional.

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) was conducted in 2001 and 2002, also by the U.S. Bureau of the Census for NIAAA, using a computerized interviewer-administered interview. The NESARC sample was designed to make inferences for persons aged 18 or older in the civilian, noninstitutionalized population of the United States, including Alaska, Hawaii, and the District of Columbia, and including persons living in noninstitutional group quarters. NESARC was designed to be a longitudinal survey. The first wave was conducted in 2001 and 2002, with a final sample size of 43,093 respondents aged 18 or older. The second wave was conducted in 2004 and 2005 (Grant & Dawson, 2006).

The study contains comprehensive assessments of drug use, dependence, and abuse and associated mental disorders. NESARC included an extensive set of questions, based on DSM-IV criteria (APA, 1994), designed to assess the presence of symptoms of alcohol and drug dependence and abuse in persons' lifetimes and during the prior 12 months. In addition, DSM-IV diagnoses of major mental disorders were generated using the Alcohol Use Disorder and Associated Disabilities Interview Schedule-version 4 (AUDADIS-IV), which is a structured diagnostic interview that captures major DSM-IV axis I and axis II disorders.

Recent research indicates that (a) prevalence estimates for substance use were generally higher in NSDUH than in NESARC; (b) rates of past year substance use disorder (SUD) for cocaine and heroin use were higher in NSDUH than in NESARC; (c) rates of past year SUD for use of alcohol, marijuana, and hallucinogens were similar between NSDUH and NESARC; and (d) prevalence estimates for past year SUD conditional on past year use were substantially lower in NSDUH for the use of marijuana, hallucinogens, and cocaine (Gruca et al., 2007). A number of methodological variables might have contributed to such discrepancies, including factors related to privacy and anonymity (NSDUH is self-administered, while NESARC is interviewer administered, which may have resulted in higher use estimates in NSDUH) and differences in SUD diagnostic instrumentation (which may have resulted in higher SUD prevalence among past year substance users in NESARC).

For further details about NLAES, see NIAAA (2007); for an overview of NESARC findings, see Caetano (2006).

### **National Longitudinal Study of Adolescent Health (Add Health)**

The National Longitudinal Study of Adolescent Health (Add Health) was conducted to measure the effects of family, peer group, school, neighborhood, religious institution, and community influences on health risks, such as tobacco, drug, and alcohol use. Initiated in 1994 and supported by grants from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) with cofunding from 21 other Federal agencies and foundations, Add Health is the largest, most comprehensive survey of adolescents ever undertaken. The study began with an in-school questionnaire administered to a nationally representative sample of students in grades 7 to 12 and followed up with a series of in-home interviews in 1994-1995, 2001-2002, and 2007-2008. In Wave I, conducted in 1994-1995, about 90,000 students were surveyed at 144 schools around the United States using brief, machine-readable questionnaires during a regular class period. Interviews also were conducted with about 20,000 students and their parents in the students' homes using a combined CAPI and ACASI design. In Wave 2, conducted in 1996, about 15,000 students were interviewed a second time in their homes. In

Wave III in 2001 and 2002, about 15,000 of the original Add Health respondents, then aged 18 to 26, were reinterviewed to investigate how adolescent experiences and behaviors are related to outcomes during the transition to adulthood. Wave IV was conducted in 2007-2008 when respondents were aged 24 to 32.

For further details, see the Add Health website at <http://www.cpc.unc.edu/projects/addhealth> (University of North Carolina, Carolina Population Center, n.d.).

### **National Survey of Parents and Youth (NSPY)**

The National Survey of Parents and Youth (NSPY) was sponsored by NIDA to evaluate the Office of National Drug Control Policy's (ONDCP's) National Youth Anti-Drug Media Campaign. NSPY was a national, household-based survey of youths aged 9 to 18 years old and their parents. Data were collected using a combination of computer-assisted interviewing technologies, including CAPI for nonsensitive portions of the survey and ACASI for the sensitive portions.

NSPY employed a panel survey design with nine waves of data collection for youths between November 1999 and June 2004. Wave 1 included 3,298 youths and 3,106 of their parents, who were interviewed between November 1999 and May 2000. Wave 9 was conducted between January and June 2004 with 3,143 youths and 2,381 parents.

Data from NSPY and NSDUH produced similar estimates of marijuana use for youths. For example, Wave 9 of NSPY data indicated that 16.7 percent of youths aged 12 to 18 had used marijuana in the past year, and the 2004 NSDUH yielded an estimate of 17.1 percent among this age group for this time period (Orwin et al., 2006). One explanation for the similarity in estimates is that both surveys used ACASI.

For further details, see the NSPY Center website at <https://www.nspycenter.com/default.asp> (AMSAQ, Inc., & Westat, n.d.).

### **Partnership Attitude Tracking Study (PATS)**

The Partnership Attitude Tracking Study (PATS), an annual national research study that tracks attitudes about illegal drugs, is sponsored by the Partnership for a Drug-Free America (PDFA). PATS consists of two nationally representative samples—a teenage sample for students in grades 7 through 12 and a parent sample. Adolescents complete self-administered, machine-readable questionnaires during a regular class period with their teacher remaining in the room. In 2002, PATS included questions on prescription drug abuse, and in 2005, it included questions on use of over-the-counter cough medicine to get high. The teenage sample is administered to approximately 7,000 youths annually. The latest PATS surveys of teenagers and parents were conducted in 2008. In 2008, 6,518 teenagers were surveyed nationwide in the 20th wave of the survey conducted since 1987, and 1,004 caregivers of children in grades 4 to 12 were surveyed (PDFA, 2009b; PDFA & MetLife Foundation, 2009).

In general, NSDUH estimates of prevalence for youths aged 12 to 17 are lower than PATS estimates for youths in grades 7 through 12. The differences in prevalence estimates are

likely to be due to the different study designs. The youth portion of PATS is a school-based survey, which may elicit more reporting of sensitive behaviors than the home-based NSDUH. In addition, the PATS survey is conducted with a sample of students in the 7th through 12th grades, which is a slightly older sample than that of the NSDUH 12- to 17-year-old sample (PDFA, 2009b).

For further details, see the PDFA website at <http://www.drugfree.org/Portal/#> (PDFA, 2009a).

### **Youth Risk Behavior Survey (YRBS)**

The Youth Risk Behavior Survey (YRBS) is a component of the CDC's Youth Risk Behavior Surveillance System (YRBSS), which measures the prevalence of six priority health risk behavior categories: (a) behaviors that contribute to unintentional injuries and violence; (b) tobacco use; (c) alcohol and other drug use; (d) sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases (STDs), including human immunodeficiency virus (HIV) infection; (e) unhealthy dietary behaviors; and (f) physical inactivity. The YRBSS includes national, State, territorial, and local school-based surveys of high school students conducted every 2 years. The national school-based survey uses a three-stage cluster sample design to produce a nationally representative sample of students in grades 9 through 12 who attend public and private schools. The State and local surveys use a two-stage cluster sample design to produce representative samples of public school students in grades 9 through 12 in their jurisdictions. The YRBS is conducted during the spring, with students completing a self-administered, machine-readable questionnaire during a regular class period. The latest YRBS was conducted in 2007 (Eaton et al., 2008).

In general, the YRBS school-based survey has found higher rates of substance use for youths than those found in NSDUH (Table D.2).<sup>16</sup> The lower prevalence rates in NSDUH are likely due to the differences in study design; specifically, the YRBS is school-based, which likely has resulted in higher rates of reported use as compared with the home-based NSDUH.

For further details, see the CDC website at <http://www.cdc.gov/HealthyYouth/yrbs/> (CDC, 2009c).

## **D.2 Surveys of Populations Not Covered by NSDUH**

### **Department of Defense (DoD) Survey of Health Related Behaviors Among Active Duty Military Personnel**

The 2005 Department of Defense (DoD) Survey of Health Related Behaviors Among Active Duty Military Personnel was the 9th in a series of studies conducted since 1980. The sample consisted of 16,146 active-duty Armed Forces personnel worldwide who anonymously completed self-administered questionnaires that assessed substance use and other health behaviors (Bray et al., 2006). In recent administrations of this survey, comparisons with NSDUH data have consistently shown that, even after accounting for demographic differences between

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<sup>16</sup> To examine estimates that are comparable with YRBS data, NSDUH estimates presented in Table D.2 are based on data collected in the first 6 months of the survey year and are subset to ages 12 to 20.

the military and civilian populations, the military personnel had higher rates of heavy alcohol use than their civilian counterparts, similar rates of cigarette use, and lower rates of illicit drug use.

For further details, see the DoD Lifestyle Assessment Program (DLAP) website at <http://dodwws.rti.org/index.cfm> (DoD & RTI International, 2008).

### **Survey of Inmates in State and Federal Correctional Facilities (SISCF, SIFCF)**

The Survey of Inmates in State Correctional Facilities (SISCF) and the Survey of Inmates in Federal Correctional Facilities (SIFCF) are conducted every 5 years using the same data collection instrument. The two surveys provide nationally representative data on State prison inmates and sentenced Federal inmates held in federally owned and operated facilities. The Survey of State Inmates was conducted in 1974, 1979, 1986, 1991, 1997, and 2004, and the Survey of Federal Inmates in 1991, 1997, and 2004. The SISCF is conducted for the Bureau of Justice Statistics (BJS) by the U.S. Bureau of the Census, which also conducts the SIFCF for the BJS and the Federal Bureau of Prisons (FBOP). Both surveys provide information about current offense and criminal history, family background and personal characteristics, prior drug and alcohol use and treatment, gun possession, and prison treatment, programs, and services. The surveys are the only national source of detailed information on criminal offenders, particularly special populations such as drug and alcohol users and offenders who have mental health problems. Systematic random sampling was used to select the inmates, and the survey was administered through CAPI. In 2004, 14,499 State prisoners in 287 State prisons and 3,686 Federal prisoners in 39 Federal prisons were interviewed.

Prior drug use among State prisoners remained stable on all measures between 1997 and 2004, while the percentage of Federal inmates who reported prior drug use rose on most measures (Mumola & Karberg, 2006). For the first time, half of Federal inmates reported drug use in the month before their offense. In 2004, measures of drug dependence and abuse based on criteria in DSM-IV (APA, 1994) were introduced, and 53 percent of the State and 45 percent of Federal prisoners met the DSM-IV criteria for drug abuse or dependence. The survey results indicate substantially higher rates of drug use among State and Federal prisoners as compared with NSDUH's rates for the general household population.

For further details, see <http://www.icpsr.umich.edu/NACJD/sisfcf/> (BJS, n.d.).

**Table D.1 Use of Specific Substances in Lifetime, Past Year, and Past Month among 8th, 10th, and 12th Graders in NSDUH and MTF: Percentages, 2007 and 2008**

<b>Drug/Current Grade Level</b>	<b>MTF Lifetime (2007)</b>	<b>MTF Lifetime (2008)</b>	<b>MTF Past Year (2007)</b>	<b>MTF Past Year (2008)</b>	<b>MTF Past Month (2007)</b>	<b>MTF Past Month (2008)</b>	<b>NSDUH Lifetime (2007)</b>	<b>NSDUH Lifetime (2008)</b>	<b>NSDUH Past Year (2007)</b>	<b>NSDUH Past Year (2008)</b>	<b>NSDUH Past Month (2007)</b>	<b>NSDUH Past Month (2008)</b>
<b>Marijuana</b>												
8th grade	14.2	14.6	10.3	10.9	5.7	5.8	8.9	7.4	6.9	6.4	3.6	2.3
10th grade	31.0	29.9	24.6	23.9	14.2	13.8	22.5	24.4	18.3	19.2	10.5	8.6
12th grade	41.8	42.6	31.7	32.4	18.8	19.4	36.3	35.4	25.3	27.8	14.5	13.6
<b>Cocaine</b>												
8th grade	3.1	3.0	2.0	1.8	0.9	0.8	0.8	0.8	0.7	0.4	0.2	0.3
10th grade	5.3	4.5	3.4	3.0	1.3	1.2	2.6	2.5	2.1	1.9	0.5	0.7
12th grade	7.8	7.2	5.2	4.4	2.0	1.9	5.7	6.5	3.9	4.2	0.9	1.4
<b>Inhalants</b>												
8th grade	15.6	15.7	8.3	8.9	3.9	4.1	12.0	11.8	6.0	5.2	2.1	1.2
10th grade	13.6	12.8	6.6	5.9	2.5	2.1	10.7	9.8	4.3	3.0	1.4	0.7
12th grade	10.5	9.9	3.7	3.8	1.2	1.4	8.2	8.0	2.3	1.7	0.3	0.3
<b>Cigarettes</b>												
8th grade	22.1	20.5	--	--	7.1	6.8	17.1	15.2	10.0	8.0	5.4	4.4
10th grade	34.6 <sup>b</sup>	31.7	--	--	14.0 <sup>a</sup>	12.3	33.9	32.5	22.1	21.6	13.5	12.7
12th grade	46.2	44.7	--	--	21.6	20.4	43.3	45.2	30.8 <sup>a</sup>	35.3	21.0	23.4
<b>Alcohol</b>												
8th grade	38.9	38.9	31.8	32.1	15.9	15.9	28.2	27.8	20.9	17.8	8.7	7.7
10th grade	61.7 <sup>b</sup>	58.3	56.3 <sup>b</sup>	52.5	33.4 <sup>b</sup>	28.8	54.4	55.3	45.4	45.7	21.9	20.8
12th grade	72.2	71.9	66.4	65.5	44.4	43.1	70.0	69.5	61.2	60.1	38.1	36.6

-- Not available.

NOTE: NSDUH data have been drawn from January to June of each survey year and subset to persons aged 12 to 20 to be more comparable with MTF data.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the .05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the .01 level.

MTF = Monitoring the Future.

Sources: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008 (January-June).

The Monitoring the Future Study, University of Michigan, 2007 and 2008.

**Table D.2 Lifetime and Past Month Substance Use among Students in Grades 9 to 12 in YRBS and NSDUH: Percentages, 2005 and 2007**

<b>Substance/ Period of Use</b>	<b>YRBS (2005)</b>	<b>YRBS (2007)</b>	<b>NSDUH (2005)</b>	<b>NSDUH (2007)</b>
<b>Marijuana</b>				
Lifetime Use	38.4	38.1	28.1	26.3
Past Month Use	20.2	19.7	11.2	10.9
<b>Cocaine</b>				
Lifetime Use	7.6	7.2	3.8	3.8
Past Month Use	3.4	3.3	0.8	0.6
<b>Inhalants</b>				
Lifetime Use	12.4	13.3	12.0	10.7
Past Month Use	--	--	1.1	1.1
<b>Cigarettes</b>				
Lifetime Use	54.3	50.3	39.0	35.1
Past Month Use	23.0	20.0	17.0	15.4
<b>Alcohol</b>				
Lifetime Use	74.3	75.0	57.5	57.5
Past Month Use	43.3	44.7	26.0	26.3

YRBS = Youth Risk Behavior Survey.

-- Not available.

NOTE: NSDUH data have been drawn from January to June of each survey year and subset to persons aged 12 to 20 to be more comparable with YRBS data.

Sources: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, January-June for 2005 and 2007. Centers for Disease Control and Prevention, Youth Risk Behavior Survey, 2005 and 2007.



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## **Appendix F: Sample Size and Population Tables**

**Table F.1 Survey Sample Size for Respondents Aged 12 or Older, by Gender and Detailed Age Category: 2007 and 2008**

<b>Age Category</b>	<b>Total (2007)</b>	<b>Total (2008)</b>	<b>Male (2007)</b>	<b>Male (2008)</b>	<b>Female (2007)</b>	<b>Female (2008)</b>
<b>TOTAL</b>	67,870	68,736	32,796	33,119	35,074	35,617
12	3,540	3,486	1,785	1,747	1,755	1,739
13	3,766	3,677	1,933	1,871	1,833	1,806
14	3,716	3,788	1,950	2,018	1,766	1,770
15	3,829	3,820	1,958	1,962	1,871	1,858
16	3,868	3,945	2,001	2,013	1,867	1,932
17	3,714	3,830	1,897	1,906	1,817	1,924
18	3,178	3,364	1,632	1,644	1,546	1,720
19	2,850	3,009	1,399	1,495	1,451	1,514
20	2,714	2,762	1,296	1,371	1,418	1,391
21	2,711	2,867	1,291	1,374	1,420	1,493
22	2,642	2,823	1,273	1,356	1,369	1,467
23	2,721	2,877	1,243	1,349	1,478	1,528
24	2,719	2,779	1,279	1,304	1,440	1,475
25	2,652	2,724	1,232	1,273	1,420	1,451
26-29	3,308	3,232	1,581	1,514	1,727	1,718
30-34	3,600	3,373	1,697	1,542	1,903	1,831
35-39	3,192	3,118	1,448	1,396	1,744	1,722
40-44	3,252	3,179	1,479	1,428	1,773	1,751
45-49	3,532	3,474	1,565	1,560	1,967	1,914
50-54	1,575	1,601	737	753	838	848
55-59	1,337	1,360	602	641	735	719
60-64	1,028	1,121	434	508	594	613
65 or Older	2,426	2,527	1,084	1,094	1,342	1,433

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table F.2 Numbers (in Thousands) of Persons Aged 12 or Older, by Gender and Detailed Age Category: 2007 and 2008**

<b>Age Category</b>	<b>Total (2007)</b>	<b>Total (2008)</b>	<b>Male (2007)</b>	<b>Male (2008)</b>	<b>Female (2007)</b>	<b>Female (2008)</b>
<b>TOTAL</b>	247,845	249,815	120,265	121,261	127,581	128,554
12	4,017	3,847	2,019	1,916	1,999	1,932
13	4,117	3,938	2,081	2,018	2,036	1,921
14	4,133	4,099	2,164	2,143	1,969	1,956
15	4,387	4,359	2,202	2,277	2,185	2,081
16	4,451	4,330	2,305	2,157	2,147	2,172
17	4,135	4,319	2,120	2,197	2,015	2,122
18	4,767	4,899	2,558	2,512	2,208	2,387
19	4,383	4,353	2,207	2,296	2,175	2,057
20	4,085	3,965	2,071	2,013	2,014	1,953
21	4,088	3,983	2,053	1,980	2,035	2,002
22	3,791	4,033	1,922	1,997	1,868	2,035
23	3,956	4,082	1,911	2,027	2,045	2,054
24	3,939	3,849	1,943	1,898	1,996	1,951
25	3,723	3,776	1,816	1,842	1,908	1,933
26-29	16,402	17,072	8,206	8,775	8,196	8,297
30-34	18,898	18,562	9,376	9,001	9,522	9,561
35-39	21,062	20,253	10,428	9,799	10,634	10,454
40-44	21,211	21,426	10,574	10,517	10,637	10,909
45-49	22,571	22,519	10,901	11,286	11,669	11,233
50-54	21,724	21,993	10,921	10,421	10,803	11,572
55-59	18,408	17,792	8,546	8,912	9,862	8,880
60-64	13,295	15,113	6,381	7,244	6,915	7,869
65 or Older	36,301	37,255	15,559	16,033	20,742	21,222

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table F.3 Survey Sample Size for Respondents Aged 12 or Older, by Age Group and Demographic Characteristics: 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Total (2007)</b>	<b>Total (2008)</b>	<b>Aged 12-17 (2007)</b>	<b>Aged 12-17 (2008)</b>	<b>Aged 18-25 (2007)</b>	<b>Aged 18-25 (2008)</b>	<b>Aged 26+ (2007)</b>	<b>Aged 26+ (2008)</b>
<b>TOTAL</b>	67,870	68,736	22,433	22,546	22,187	23,205	23,250	22,985
<b>GENDER</b>								
Male	32,796	33,119	11,524	11,517	10,645	11,166	10,627	10,436
Female	35,074	35,617	10,909	11,029	11,542	12,039	12,623	12,549
<b>HISPANIC ORIGIN AND RACE</b>								
Not Hispanic or Latino	57,571	58,045	18,636	18,627	18,532	19,332	20,403	20,086
White	44,230	44,256	13,710	13,667	14,077	14,503	16,443	16,086
Black or African American	8,071	8,407	3,015	3,037	2,670	2,931	2,386	2,439
American Indian or Alaska Native	909	929	335	329	291	328	283	272
Native Hawaiian or Other Pacific Islander	269	277	84	90	103	106	82	81
Asian	2,217	2,247	645	618	787	840	785	789
Two or More Races	1,875	1,929	847	886	604	624	424	419
Hispanic or Latino	10,299	10,691	3,797	3,919	3,655	3,873	2,847	2,899
<b>GENDER/RACE/HISPANIC ORIGIN</b>								
Male, White, Not Hispanic	21,396	21,547	7,059	7,102	6,797	7,048	7,540	7,397
Female, White, Not Hispanic	22,834	22,709	6,651	6,565	7,280	7,455	8,903	8,689
Male, Black, Not Hispanic	3,642	3,750	1,505	1,456	1,164	1,299	973	995
Female, Black, Not Hispanic	4,429	4,657	1,510	1,581	1,506	1,632	1,413	1,444
Male, Hispanic	5,146	5,208	1,971	1,993	1,801	1,875	1,374	1,340
Female, Hispanic	5,153	5,483	1,826	1,926	1,854	1,998	1,473	1,559
<b>EDUCATION<sup>1</sup></b>								
< High School	7,710	7,591	N/A	N/A	4,326	4,304	3,384	3,287
High School Graduate	14,767	15,327	N/A	N/A	7,755	8,292	7,012	7,035
Some College	13,134	13,357	N/A	N/A	7,177	7,550	5,957	5,807
College Graduate	9,826	9,915	N/A	N/A	2,929	3,059	6,897	6,856
<b>CURRENT EMPLOYMENT<sup>1</sup></b>								
Full-Time	25,044	24,762	N/A	N/A	10,526	10,626	14,518	14,136
Part-Time	8,287	8,625	N/A	N/A	5,619	5,999	2,668	2,626
Unemployed	2,385	2,896	N/A	N/A	1,738	2,109	647	787
Other <sup>2</sup>	9,721	9,907	N/A	N/A	4,304	4,471	5,417	5,436

N/A: Not applicable.

<sup>1</sup> Estimates for education and current employment are shown only for persons aged 18 or older.<sup>2</sup> The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table F.4 Numbers (in Thousands) of Persons Aged 12 or Older, by Age Group and Demographic Characteristics: 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Total (2007)</b>	<b>Total (2008)</b>	<b>Aged 12-17 (2007)</b>	<b>Aged 12-17 (2008)</b>	<b>Aged 18-25 (2007)</b>	<b>Aged 18-25 (2008)</b>	<b>Aged 26+ (2007)</b>	<b>Aged 26+ (2008)</b>
<b>TOTAL</b>	247,845	249,815	25,241	24,892	32,731	32,938	189,873	191,985
<b>GENDER</b>								
Male	120,265	121,261	12,891	12,708	16,481	16,566	90,893	91,987
Female	127,581	128,554	12,351	12,185	16,249	16,372	98,981	99,998
<b>HISPANIC ORIGIN AND RACE</b>								
Not Hispanic or Latino	213,595	214,755	20,574	20,168	26,942	27,143	166,079	167,443
White	169,048	169,423	15,053	14,689	20,231	20,304	133,765	134,430
Black or African American	29,235	29,556	3,848	3,779	4,519	4,648	20,868	21,129
American Indian or Alaska Native	1,267	1,083	166	136	168	172	933	775
Native Hawaiian or Other Pacific Islander	708	900	70	95	136	114	502	692
Asian	10,600	10,778	1,018	966	1,446	1,494	8,136	8,319
Two or More Races	2,736	3,014	419	503	442	411	1,876	2,099
Hispanic or Latino	34,250	35,060	4,667	4,724	5,789	5,795	23,794	24,541
<b>GENDER/RACE/HISPANIC ORIGIN</b>								
Male, White, Not Hispanic	82,096	82,325	7,710	7,527	10,206	10,242	64,180	64,556
Female, White, Not Hispanic	86,952	87,098	7,343	7,162	10,025	10,062	69,585	69,874
Male, Black, Not Hispanic	13,260	13,410	1,944	1,903	2,152	2,219	9,164	9,289
Female, Black, Not Hispanic	15,975	16,146	1,904	1,877	2,367	2,429	11,704	11,840
Male, Hispanic	17,585	17,992	2,384	2,413	3,039	3,013	12,163	12,566
Female, Hispanic	16,665	17,069	2,284	2,312	2,750	2,782	11,631	11,975
<b>EDUCATION<sup>1</sup></b>								
< High School	36,336	35,044	N/A	N/A	6,217	5,886	30,119	29,158
High School Graduate	68,151	70,170	N/A	N/A	11,136	11,621	57,014	58,550
Some College	57,465	57,214	N/A	N/A	10,960	10,851	46,505	46,364
College Graduate	60,653	62,494	N/A	N/A	4,418	4,581	56,235	57,913
<b>CURRENT EMPLOYMENT<sup>1</sup></b>								
Full-Time	121,464	122,238	N/A	N/A	15,330	14,980	106,134	107,258
Part-Time	29,509	30,225	N/A	N/A	8,423	8,554	21,086	21,672
Unemployed	7,102	8,982	N/A	N/A	2,613	3,058	4,490	5,924
Other <sup>2</sup>	64,529	63,478	N/A	N/A	6,365	6,347	58,164	57,131

N/A: Not applicable.

<sup>1</sup> Estimates for education and current employment are shown only for persons aged 18 or older.<sup>2</sup> The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table F.5 Survey Sample Size for Respondents Aged 12 or Older, by Age Group and Geographic Characteristics: 2007 and 2008**

<b>Geographic Characteristic</b>	<b>Total (2007)</b>	<b>Total (2008)</b>	<b>Aged 12-17 (2007)</b>	<b>Aged 12-17 (2008)</b>	<b>Aged 18-25 (2007)</b>	<b>Aged 18-25 (2008)</b>	<b>Aged 26+ (2007)</b>	<b>Aged 26+ (2008)</b>
<b>TOTAL</b>	67,870	68,736	22,433	22,546	22,187	23,205	23,250	22,985
<b>GEOGRAPHIC DIVISION</b>								
Northeast	13,642	13,594	4,488	4,432	4,486	4,619	4,668	4,543
New England	5,396	5,449	1,755	1,726	1,789	1,831	1,852	1,892
Middle Atlantic	8,246	8,145	2,733	2,706	2,697	2,788	2,816	2,651
Midwest	19,110	19,314	6,352	6,306	6,281	6,527	6,477	6,481
East North Central	12,715	12,907	4,131	4,248	4,308	4,379	4,276	4,280
West North Central	6,395	6,407	2,221	2,058	1,973	2,148	2,201	2,201
South	20,683	20,877	6,787	6,843	6,701	7,079	7,195	6,955
South Atlantic	10,779	10,977	3,431	3,681	3,541	3,654	3,807	3,642
East South Central	3,582	3,633	1,158	1,158	1,186	1,275	1,238	1,200
West South Central	6,322	6,267	2,198	2,004	1,974	2,150	2,150	2,113
West	14,435	14,951	4,806	4,965	4,719	4,980	4,910	5,006
Mountain	7,257	7,385	2,427	2,527	2,372	2,340	2,458	2,518
Pacific	7,178	7,566	2,379	2,438	2,347	2,640	2,452	2,488
<b>COUNTY TYPE</b>								
Large Metro	29,837	30,133	9,922	9,875	9,558	10,237	10,357	10,021
Small Metro	23,074	23,478	7,405	7,529	7,918	8,139	7,751	7,810
250K – 1 Mil. Pop.	14,927	15,054	4,850	4,869	5,068	5,112	5,009	5,073
< 250K Pop.	8,147	8,424	2,555	2,660	2,850	3,027	2,742	2,737
Nonmetro	14,959	15,125	5,106	5,142	4,711	4,829	5,142	5,154
Urbanized	6,248	6,313	2,052	2,077	2,159	2,158	2,037	2,078
Less Urbanized	7,057	7,252	2,435	2,505	2,176	2,244	2,446	2,503
Completely Rural	1,654	1,560	619	560	376	427	659	573

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.



**Table F.6 Numbers (in Thousands) of Persons Aged 12 or Older, by Age Group and Geographic Characteristics: 2007 and 2008**

<b>Geographic Characteristic</b>	<b>Total (2007)</b>	<b>Total (2008)</b>	<b>Aged 12-17 (2007)</b>	<b>Aged 12-17 (2008)</b>	<b>Aged 18-25 (2007)</b>	<b>Aged 18-25 (2008)</b>	<b>Aged 26+ (2007)</b>	<b>Aged 26+ (2008)</b>
<b>TOTAL</b>	247,845	249,815	25,241	24,892	32,731	32,938	189,873	191,985
<b>GEOGRAPHIC DIVISION</b>								
Northeast	45,878	46,099	4,458	4,375	5,903	5,987	35,516	35,737
New England	12,025	12,060	1,157	1,130	1,528	1,556	9,341	9,373
Middle Atlantic	33,853	34,039	3,302	3,244	4,375	4,430	26,176	26,364
Midwest	54,799	54,957	5,615	5,509	7,288	7,276	41,896	42,173
East North Central	38,300	38,380	3,942	3,866	5,026	5,035	29,332	29,478
West North Central	16,499	16,577	1,673	1,643	2,262	2,240	12,564	12,694
South	89,940	90,963	9,129	9,050	11,687	11,765	69,123	70,148
South Atlantic	47,572	48,014	4,639	4,573	5,906	5,966	37,028	37,475
East South Central	14,734	14,863	1,483	1,469	1,869	1,874	11,382	11,520
West South Central	27,633	28,085	3,007	3,008	3,912	3,925	20,714	21,153
West	57,229	57,796	6,038	5,959	7,853	7,911	43,337	43,927
Mountain	17,275	17,585	1,807	1,807	2,356	2,369	13,111	13,409
Pacific	39,954	40,211	4,231	4,152	5,497	5,542	30,226	30,517
<b>COUNTY TYPE</b>								
Large Metro	132,423	132,895	13,669	13,265	17,280	17,732	101,474	101,899
Small Metro	74,375	75,643	7,400	7,447	10,368	10,200	56,607	57,996
250K – 1 Mil. Pop.	49,747	50,122	4,997	4,931	6,806	6,596	37,943	38,595
< 250K Pop.	24,628	25,521	2,402	2,516	3,561	3,604	18,664	19,401
Nonmetro	41,047	41,276	4,172	4,181	5,083	5,006	31,792	32,090
Urbanized	16,748	17,208	1,712	1,787	2,267	2,309	12,768	13,112
Less Urbanized	19,705	20,059	2,033	2,018	2,444	2,344	15,228	15,697
Completely Rural	4,594	4,010	427	375	371	354	3,796	3,281

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.



## **Appendix G: Selected Prevalence Tables**

**Table G.1 Types of Illicit Drug Use in Lifetime among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLICIT DRUGS<sup>1</sup></b>	108,255 <sup>b</sup>	110,205 <sup>b</sup>	110,057 <sup>b</sup>	112,085 <sup>b</sup>	111,774 <sup>b</sup>	114,275 <sup>a</sup>	117,325
Marijuana and Hashish	94,946 <sup>b</sup>	96,611 <sup>b</sup>	96,772 <sup>b</sup>	97,545 <sup>b</sup>	97,825 <sup>b</sup>	100,518	102,404
Cocaine	33,910 <sup>b</sup>	34,891 <sup>a</sup>	34,153 <sup>b</sup>	33,673 <sup>b</sup>	35,298	35,882	36,773
Crack	8,402	7,949	7,840	7,928	8,554	8,581	8,445
Heroin	3,668	3,744	3,145 <sup>a</sup>	3,534	3,785	3,780	3,788
Hallucinogens	34,314	34,363	34,333	33,728 <sup>a</sup>	35,281	34,215 <sup>a</sup>	35,963
LSD	24,516	24,424	23,398	22,433	23,346	22,656	23,547
PCP	7,418	7,107	6,762	6,603	6,618	6,140	6,631
Ecstasy	10,150 <sup>b</sup>	10,904 <sup>b</sup>	11,130 <sup>b</sup>	11,495 <sup>b</sup>	12,262	12,426	12,924
Inhalants	22,870	22,995	22,798	22,745	22,879	22,477	22,274
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	47,958 <sup>b</sup>	49,001 <sup>b</sup>	49,157 <sup>b</sup>	49,571 <sup>a</sup>	50,965	50,415	51,970
Pain Relievers	29,611 <sup>b</sup>	31,207 <sup>b</sup>	31,768 <sup>b</sup>	32,692 <sup>b</sup>	33,472	33,060 <sup>a</sup>	34,861
OxyContin <sup>®</sup>	1,924 <sup>b</sup>	2,832 <sup>b</sup>	3,072 <sup>b</sup>	3,481 <sup>b</sup>	4,098 <sup>b</sup>	4,354	4,842
Tranquilizers	19,267 <sup>b</sup>	20,220	19,852 <sup>a</sup>	21,041	21,303	20,208	21,476
Stimulants <sup>3</sup>	23,496 <sup>b</sup>	23,004 <sup>a</sup>	22,297	20,983	22,468	21,654	21,206
Methamphetamine <sup>3</sup>	15,365 <sup>b</sup>	15,139 <sup>b</sup>	14,512 <sup>b</sup>	12,663	14,206 <sup>b</sup>	13,065	12,598
Sedatives	9,960 <sup>a</sup>	9,510	9,891	8,982	8,822	8,396	8,882
<b>ILLICIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	70,300 <sup>b</sup>	71,128 <sup>b</sup>	70,657 <sup>b</sup>	71,822 <sup>b</sup>	72,906 <sup>a</sup>	73,494	75,573

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.2 Types of Illicit Drug Use in Lifetime among Persons Aged 12 or Older: Percentages, 2002-2008**

<b>Drug</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>ILLCIT DRUGS<sup>1</sup></b>	46.0	46.4	45.8 <sup>a</sup>	46.1	45.4 <sup>b</sup>	46.1	47.0
Marijuana and Hashish	40.4	40.6	40.2	40.1	39.8 <sup>a</sup>	40.6	41.0
Cocaine	14.4	14.7	14.2	13.8 <sup>a</sup>	14.3	14.5	14.7
Crack	3.6	3.3	3.3	3.3	3.5	3.5	3.4
Heroin	1.6	1.6	1.3	1.5	1.5	1.5	1.5
Hallucinogens	14.6	14.5	14.3	13.9	14.3	13.8	14.4
LSD	10.4 <sup>b</sup>	10.3 <sup>b</sup>	9.7	9.2	9.5	9.1	9.4
PCP	3.2 <sup>b</sup>	3.0	2.8	2.7	2.7	2.5	2.7
Ecstasy	4.3 <sup>b</sup>	4.6 <sup>b</sup>	4.6 <sup>b</sup>	4.7 <sup>a</sup>	5.0	5.0	5.2
Inhalants	9.7 <sup>b</sup>	9.7 <sup>b</sup>	9.5 <sup>a</sup>	9.4	9.3	9.1	8.9
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	20.4	20.6	20.4	20.4	20.7	20.3	20.8
Pain Relievers	12.6 <sup>b</sup>	13.1 <sup>a</sup>	13.2 <sup>a</sup>	13.4	13.6	13.3	14.0
OxyContin <sup>®</sup>	0.8 <sup>b</sup>	1.2 <sup>b</sup>	1.3 <sup>b</sup>	1.4 <sup>b</sup>	1.7 <sup>b</sup>	1.8	1.9
Tranquilizers	8.2	8.5	8.3	8.7	8.7	8.2	8.6
Stimulants <sup>3</sup>	10.0 <sup>b</sup>	9.7 <sup>b</sup>	9.3 <sup>b</sup>	8.6	9.1 <sup>a</sup>	8.7	8.5
Methamphetamine <sup>3</sup>	6.5 <sup>b</sup>	6.4 <sup>b</sup>	6.0 <sup>b</sup>	5.2	5.8 <sup>b</sup>	5.3	5.0
Sedatives	4.2 <sup>b</sup>	4.0 <sup>a</sup>	4.1 <sup>a</sup>	3.7	3.6	3.4	3.6
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	29.9	29.9	29.4	29.5	29.6	29.7	30.3

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.3 Types of Illicit Drug Use in the Past Year among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1</sup></b>	35,132	34,993	34,807	35,041	35,775	35,692	35,525
Marijuana and Hashish	25,755	25,231	25,451	25,375	25,378	25,085	25,768
Cocaine	5,902 <sup>a</sup>	5,908 <sup>a</sup>	5,658	5,523	6,069 <sup>b</sup>	5,738	5,255
Crack	1,554 <sup>b</sup>	1,406	1,304	1,381	1,479 <sup>a</sup>	1,451 <sup>a</sup>	1,109
Heroin	404	314	398	379	560	366	453
Hallucinogens	4,749 <sup>b</sup>	3,936	3,878	3,809	3,956	3,762	3,678
LSD	999 <sup>a</sup>	558 <sup>b</sup>	592 <sup>b</sup>	563 <sup>b</sup>	666	620 <sup>a</sup>	802
PCP	235 <sup>b</sup>	219 <sup>b</sup>	210 <sup>b</sup>	164 <sup>a</sup>	187 <sup>a</sup>	137	99
Ecstasy	3,167 <sup>b</sup>	2,119	1,915	1,960	2,130	2,132	2,139
Inhalants	2,084	2,075	2,255	2,187	2,218	2,080	2,047
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	14,795	15,163	14,849	15,346	16,482 <sup>b</sup>	16,280 <sup>a</sup>	15,166
Pain Relievers	10,992 <sup>a</sup>	11,671	11,256	11,815	12,649	12,466	11,885
OxyContin <sup>®</sup>	--	--	1,213 <sup>a</sup>	1,226	1,323	1,422	1,459
Tranquilizers	4,849	5,051	5,068	5,249	5,058	5,282	5,103
Stimulants <sup>3</sup>	3,380 <sup>b</sup>	3,031 <sup>a</sup>	3,254 <sup>b</sup>	3,088 <sup>a</sup>	3,791 <sup>b</sup>	2,998	2,639
Methamphetamine <sup>3</sup>	1,755 <sup>b</sup>	1,602 <sup>b</sup>	1,808 <sup>b</sup>	1,603 <sup>b</sup>	1,889 <sup>b</sup>	1,343 <sup>b</sup>	850
Sedatives	981 <sup>b</sup>	831 <sup>a</sup>	737	750	926 <sup>b</sup>	864 <sup>a</sup>	621
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	20,423	20,305	19,658	20,109	21,254 <sup>a</sup>	21,144	19,990

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.4 Types of Illicit Drug Use in the Past Year among Persons Aged 12 or Older: Percentages, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLICIT DRUGS<sup>1</sup></b>	14.9 <sup>a</sup>	14.7	14.5	14.4	14.5	14.4	14.2
Marijuana and Hashish	11.0 <sup>a</sup>	10.6	10.6	10.4	10.3	10.1	10.3
Cocaine	2.5 <sup>b</sup>	2.5 <sup>b</sup>	2.4 <sup>a</sup>	2.3	2.5 <sup>b</sup>	2.3	2.1
Crack	0.7 <sup>b</sup>	0.6 <sup>a</sup>	0.5	0.6 <sup>a</sup>	0.6 <sup>a</sup>	0.6 <sup>a</sup>	0.4
Heroin	0.2	0.1	0.2	0.2	0.2	0.1	0.2
Hallucinogens	2.0 <sup>b</sup>	1.7 <sup>a</sup>	1.6	1.6	1.6	1.5	1.5
LSD	0.4 <sup>b</sup>	0.2 <sup>b</sup>	0.2 <sup>b</sup>	0.2 <sup>b</sup>	0.3	0.3 <sup>a</sup>	0.3
PCP	0.1 <sup>b</sup>	0.1 <sup>b</sup>	0.1 <sup>b</sup>	0.1 <sup>b</sup>	0.1 <sup>a</sup>	0.1	0.0
Ecstasy	1.3 <sup>b</sup>	0.9	0.8	0.8	0.9	0.9	0.9
Inhalants	0.9	0.9	0.9 <sup>a</sup>	0.9	0.9	0.8	0.8
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	6.3	6.4	6.2	6.3	6.7 <sup>b</sup>	6.6 <sup>a</sup>	6.1
Pain Relievers	4.7	4.9	4.7	4.9	5.1 <sup>a</sup>	5.0	4.8
OxyContin <sup>®</sup>	--	--	0.5	0.5	0.5	0.6	0.6
Tranquilizers	2.1	2.1	2.1	2.2	2.1	2.1	2.0
Stimulants <sup>3</sup>	1.4 <sup>b</sup>	1.3 <sup>b</sup>	1.4 <sup>b</sup>	1.3 <sup>b</sup>	1.5 <sup>b</sup>	1.2	1.1
Methamphetamine <sup>3</sup>	0.7 <sup>b</sup>	0.7 <sup>b</sup>	0.8 <sup>b</sup>	0.7 <sup>b</sup>	0.8 <sup>b</sup>	0.5 <sup>b</sup>	0.3
Sedatives	0.4 <sup>b</sup>	0.3 <sup>a</sup>	0.3	0.3	0.4 <sup>b</sup>	0.3 <sup>a</sup>	0.2
<b>ILLICIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	8.7 <sup>b</sup>	8.5 <sup>a</sup>	8.2	8.3	8.6 <sup>b</sup>	8.5 <sup>a</sup>	8.0

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.5 Types of Illicit Drug Use in the Past Month among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1</sup></b>	19,522	19,470	19,071	19,720	20,357	19,857	20,077
Marijuana and Hashish	14,584	14,638	14,576	14,626	14,813	14,448	15,203
Cocaine	2,020	2,281 <sup>a</sup>	2,021	2,397 <sup>b</sup>	2,421 <sup>b</sup>	2,075	1,855
Crack	567 <sup>a</sup>	604 <sup>a</sup>	467	682 <sup>b</sup>	702 <sup>b</sup>	610 <sup>b</sup>	359
Heroin	166	119	166	136	338	153	213
Hallucinogens	1,196	1,042	929	1,088	1,006	996	1,060
LSD	112	133	141	104	130	145	154
PCP	58	56 <sup>a</sup>	49	48	30	41	24
Ecstasy	676	470	450	502	528	503	555
Inhalants	635	570	638	611	761	616	640
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	6,287	6,451	6,110	6,491	7,095 <sup>b</sup>	6,895 <sup>a</sup>	6,224
Pain Relievers	4,377	4,693	4,404	4,658	5,220	5,174	4,747
OxyContin <sup>®</sup>	--	--	325	334	276 <sup>a</sup>	369	435
Tranquilizers	1,804	1,830	1,616	1,817	1,766	1,835	1,800
Stimulants <sup>3</sup>	1,303 <sup>b</sup>	1,310 <sup>b</sup>	1,312 <sup>b</sup>	1,188 <sup>b</sup>	1,385 <sup>b</sup>	1,053	904
Methamphetamine <sup>3</sup>	683 <sup>b</sup>	726 <sup>b</sup>	706 <sup>b</sup>	628 <sup>b</sup>	731 <sup>b</sup>	529 <sup>a</sup>	314
Sedatives	436 <sup>b</sup>	294	265	272	385	346	234
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	8,777	8,849	8,247	8,963	9,615 <sup>b</sup>	9,270	8,565

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.



**Table G.6 Types of Illicit Drug Use in the Past Month among Persons Aged 12 or Older: Percentages, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1</sup></b>	8.3	8.2	7.9	8.1	8.3	8.0	8.0
Marijuana and Hashish	6.2	6.2	6.1	6.0	6.0	5.8	6.1
Cocaine	0.9	1.0 <sup>b</sup>	0.8	1.0 <sup>b</sup>	1.0 <sup>b</sup>	0.8	0.7
Crack	0.2 <sup>b</sup>	0.3 <sup>a</sup>	0.2	0.3 <sup>b</sup>	0.3 <sup>b</sup>	0.2 <sup>b</sup>	0.1
Heroin	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hallucinogens	0.5	0.4	0.4	0.4	0.4	0.4	0.4
LSD	0.0	0.1	0.1	0.0	0.1	0.1	0.1
PCP	0.0 <sup>a</sup>	0.0 <sup>a</sup>	0.0	0.0	0.0	0.0	0.0
Ecstasy	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Inhalants	0.3	0.2	0.3	0.3	0.3	0.2	0.3
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	2.7	2.7	2.5	2.7	2.9 <sup>b</sup>	2.8 <sup>a</sup>	2.5
Pain Relievers	1.9	2.0	1.8	1.9	2.1	2.1	1.9
OxyContin <sup>®</sup>	--	--	0.1	0.1	0.1 <sup>a</sup>	0.1	0.2
Tranquilizers	0.8	0.8	0.7	0.7	0.7	0.7	0.7
Stimulants <sup>3</sup>	0.6 <sup>b</sup>	0.6 <sup>b</sup>	0.5 <sup>b</sup>	0.5 <sup>b</sup>	0.6 <sup>b</sup>	0.4	0.4
Methamphetamine <sup>3</sup>	0.3 <sup>b</sup>	0.3 <sup>b</sup>	0.3 <sup>b</sup>	0.3 <sup>b</sup>	0.3 <sup>b</sup>	0.2 <sup>a</sup>	0.1
Sedatives	0.2 <sup>b</sup>	0.1	0.1	0.1	0.2 <sup>a</sup>	0.1	0.1
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	3.7	3.7	3.4	3.7	3.9 <sup>b</sup>	3.7	3.4

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.7 Types of Illicit Drug Use in the Past Month among Persons Aged 12 to 17: Percentages, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1</sup></b>	11.6 <sup>b</sup>	11.2 <sup>b</sup>	10.6 <sup>b</sup>	9.9	9.8	9.5	9.3
Marijuana and Hashish	8.2 <sup>b</sup>	7.9 <sup>b</sup>	7.6 <sup>b</sup>	6.8	6.7	6.7	6.7
Cocaine	0.6 <sup>a</sup>	0.6 <sup>b</sup>	0.5	0.6 <sup>a</sup>	0.4	0.4	0.4
Crack	0.1 <sup>a</sup>	0.1 <sup>b</sup>	0.1	0.1 <sup>a</sup>	0.0	0.1	0.0
Heroin	0.0	0.1	0.1	0.1	0.1	0.0	0.1
Hallucinogens	1.0	1.0	0.8	0.8	0.7 <sup>a</sup>	0.7 <sup>b</sup>	1.0
LSD	0.2	0.2	0.2	0.1	0.1	0.1	0.2
PCP	0.1	0.1	0.0	0.1	0.0	0.0	0.1
Ecstasy	0.5	0.4	0.3	0.3	0.3	0.3 <sup>a</sup>	0.4
Inhalants	1.2	1.3	1.2	1.2	1.3	1.2	1.1
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	4.0 <sup>b</sup>	4.0 <sup>b</sup>	3.6 <sup>b</sup>	3.3 <sup>a</sup>	3.3 <sup>a</sup>	3.3 <sup>a</sup>	2.9
Pain Relievers	3.2 <sup>b</sup>	3.2 <sup>b</sup>	3.0 <sup>b</sup>	2.7 <sup>a</sup>	2.7 <sup>a</sup>	2.7 <sup>a</sup>	2.3
OxyContin <sup>®</sup>	--	--	0.3	0.1	0.1 <sup>a</sup>	0.2	0.2
Tranquilizers	0.8	0.9 <sup>b</sup>	0.6	0.6	0.5	0.7	0.6
Stimulants <sup>3</sup>	0.8 <sup>b</sup>	0.9 <sup>b</sup>	0.7 <sup>b</sup>	0.7 <sup>a</sup>	0.7 <sup>a</sup>	0.5	0.5
Methamphetamine <sup>3</sup>	0.3 <sup>b</sup>	0.3 <sup>b</sup>	0.2 <sup>a</sup>	0.3 <sup>b</sup>	0.2 <sup>a</sup>	0.1	0.1
Sedatives	0.2	0.2	0.1	0.1	0.2	0.1	0.1
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	5.7 <sup>b</sup>	5.7 <sup>b</sup>	5.3 <sup>b</sup>	4.9 <sup>a</sup>	4.9 <sup>a</sup>	4.7	4.4

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.8 Types of Illicit Drug Use in the Past Month among Persons Aged 18 to 25: Percentages, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1</sup></b>	20.2	20.3	19.4	20.1	19.8	19.7	19.6
Marijuana and Hashish	17.3	17.0	16.1	16.6	16.3	16.4	16.5
Cocaine	2.0 <sup>b</sup>	2.2 <sup>b</sup>	2.1 <sup>b</sup>	2.6 <sup>b</sup>	2.2 <sup>b</sup>	1.7	1.5
Crack	0.2	0.2	0.3	0.3 <sup>b</sup>	0.2	0.2	0.2
Heroin	0.1	0.1 <sup>b</sup>	0.1	0.2	0.2	0.1	0.2
Hallucinogens	1.9	1.7	1.5	1.5	1.7	1.5	1.7
LSD	0.1 <sup>b</sup>	0.2	0.3	0.2	0.2 <sup>a</sup>	0.2	0.3
PCP	0.0	0.1 <sup>a</sup>	0.1 <sup>a</sup>	0.0	0.0	0.0	0.0
Ecstasy	1.1	0.7	0.7	0.8	1.0	0.7	0.9
Inhalants	0.5 <sup>a</sup>	0.4	0.4	0.5	0.4	0.4	0.3
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	5.5	6.1	6.1	6.3	6.5	6.0	5.9
Pain Relievers	4.1 <sup>a</sup>	4.7	4.7	4.7	4.9	4.6	4.6
OxyContin <sup>®</sup>	--	--	0.4	0.4	0.4	0.5	0.4
Tranquilizers	1.6	1.7	1.8	1.9	2.0	1.7	1.7
Stimulants <sup>3</sup>	1.3 <sup>a</sup>	1.3	1.5 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>a</sup>	1.1	1.1
Methamphetamine <sup>3</sup>	0.6 <sup>b</sup>	0.6 <sup>b</sup>	0.7 <sup>b</sup>	0.7 <sup>b</sup>	0.6 <sup>b</sup>	0.4	0.2
Sedatives	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	7.9	8.4	8.1	8.8 <sup>a</sup>	8.9 <sup>b</sup>	8.1	7.8

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.9 Types of Illicit Drug Use in the Past Month among Persons Aged 26 or Older: Percentages, 2002-2008**

Drug	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1</sup></b>	5.8	5.6	5.5	5.8	6.1	5.8	5.9
Marijuana and Hashish	4.0	4.0	4.1	4.1	4.2	3.9	4.2
Cocaine	0.7	0.8	0.7	0.8	0.8	0.7	0.7
Crack	0.3 <sup>a</sup>	0.3 <sup>a</sup>	0.2	0.3 <sup>a</sup>	0.3 <sup>b</sup>	0.3 <sup>a</sup>	0.2
Heroin	0.1	0.0	0.1	0.0	0.1	0.1	0.1
Hallucinogens	0.2	0.1	0.1	0.2	0.1	0.2	0.1
LSD	0.0	0.0	0.0	0.0	0.0	0.0	*
PCP	0.0	*	0.0	0.0	*	0.0	*
Ecstasy	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Inhalants	0.1	0.1 <sup>a</sup>	0.1	0.1	0.2	0.1	0.1
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	2.0	2.0	1.8	1.9	2.2 <sup>a</sup>	2.2	1.9
Pain Relievers	1.3	1.3	1.2	1.3	1.5	1.6	1.4
OxyContin <sup>®</sup>	--	--	0.1 <sup>a</sup>	0.1	0.1 <sup>a</sup>	0.1	0.1
Tranquilizers	0.6	0.6	0.5	0.6	0.5	0.6	0.6
Stimulants <sup>3</sup>	0.4 <sup>a</sup>	0.4 <sup>a</sup>	0.4 <sup>a</sup>	0.3	0.4 <sup>b</sup>	0.3	0.2
Methamphetamine <sup>3</sup>	0.2 <sup>b</sup>	0.3 <sup>b</sup>	0.2 <sup>b</sup>	0.2	0.3 <sup>b</sup>	0.2	0.1
Sedatives	0.2 <sup>b</sup>	0.1	0.1	0.1	0.2 <sup>a</sup>	0.1	0.1
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1</sup></b>	2.7	2.6	2.3	2.6	2.9	2.9	2.5

\*Low precision; no estimate reported.

-- Not available.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. The estimates for Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine incorporated in these summary estimates do not include data from the methamphetamine items added in 2005 and 2006. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>2</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>3</sup> Estimates of Nonmedical Use of Psychotherapeutics, Stimulants, and Methamphetamine in the designated rows include data from methamphetamine items added in 2005 and 2006 and are not comparable with estimates presented in NSDUH reports prior to the 2007 National Findings report. For the 2002 through 2005 survey years, a Bernoulli stochastic imputation procedure was used to generate adjusted estimates comparable with estimates for survey years 2006 and later. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.10 Illicit Drug Use in Lifetime, Past Year, and Past Month, by Detailed Age Category: Percentages, 2007 and 2008**

Age Category	Lifetime (2007)	Lifetime (2008)	Past Year (2007)	Past Year (2008)	Past Month (2007)	Past Month (2008)
<b>TOTAL</b>	46.1	47.0	14.4	14.2	8.0	8.0
12	9.9	11.2	5.4 <sup>a</sup>	7.2	2.7	3.1
13	16.4	15.2	10.2	9.9	4.0	3.4
14	21.4	21.5	14.7	14.9	6.7	6.7
15	29.0	28.4	21.4	20.4	11.0	10.5
16	37.6	35.8	28.6	27.5	14.8	13.5
17	41.5	42.0	30.8	31.8	17.4	17.0
18	46.9	47.5	34.8	34.7	20.7	20.3
19	53.3	52.5	36.6	37.6	22.3	22.2
20	57.1	55.7	36.6	36.9	22.0	22.3
21	60.3	59.0	37.6	35.6	23.1	20.9
22	59.6	60.1	32.8	34.8	20.0	20.7
23	62.7 <sup>a</sup>	59.1	31.6	28.8	17.5	17.3
24	62.1	59.9	28.7	29.6	16.1	17.4
25	60.1	61.7	25.4 <sup>a</sup>	28.7	15.4	15.4
26-29	57.8 <sup>a</sup>	61.1	23.0	23.4	12.8	13.0
30-34	55.5	55.4	16.9	16.4	9.4	9.6
35-39	56.1	55.2	13.9	14.6	7.3	8.6
40-44	58.6	60.2	13.1	12.9	7.0	6.3
45-49	61.0	62.7	11.9	11.5	7.2	7.0
50-54	58.9	58.0	10.6	8.1	5.7	4.3
55-59	51.6	51.9	8.0	7.7	4.1	5.0
60-64	35.0 <sup>a</sup>	41.3	4.4	5.2	1.9	3.0
65 or Older	10.7 <sup>a</sup>	13.5	1.0	1.4	0.7	1.0

\*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.11 Illicit Drug Use in Lifetime, Past Year, and Past Month among Persons Aged 12 or Older, by Demographic Characteristics: Percentages, 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Lifetime (2007)</b>	<b>Lifetime (2008)</b>	<b>Past Year (2007)</b>	<b>Past Year (2008)</b>	<b>Past Month (2007)</b>	<b>Past Month (2008)</b>
<b>TOTAL</b>	46.1	47.0	14.4	14.2	8.0	8.0
<b>AGE</b>						
12-17	26.2	26.2	18.7	19.0	9.5	9.3
18-25	57.4	56.6	33.2	33.5	19.7	19.6
26 or Older	46.8	48.0	10.6	10.3	5.8	5.9
<b>GENDER</b>						
Male	50.6	51.3	17.4 <sup>a</sup>	16.4	10.4	9.9
Female	41.8	42.9	11.6	12.2	5.8 <sup>a</sup>	6.3
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	48.0	48.7	14.8	14.5	8.2	8.3
White	50.3	50.7	14.9	14.4	8.2	8.2
Black or African American	43.1	46.1	16.0	16.9	9.5	10.1
American Indian or Alaska Native	54.6	57.6	18.4	19.5	12.6	9.5
Native Hawaiian or Other Pacific Islander	*	*	13.3	*	*	7.3
Asian	22.8	21.2	7.2	7.4	4.2	3.6
Two or More Races	51.5	56.1	22.1	21.2	11.8	14.7
Hispanic or Latino	34.2	36.4	12.2	12.3	6.6	6.2

\*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.12 Illicit Drug Use in Lifetime, Past Year, and Past Month among Persons Aged 12 to 17, by Demographic Characteristics: Percentages, 2007 and 2008**

Demographic Characteristic	Lifetime (2007)	Lifetime (2008)	Past Year (2007)	Past Year (2008)	Past Month (2007)	Past Month (2008)
<b>TOTAL</b>	26.2	26.2	18.7	19.0	9.5	9.3
<b>GENDER</b>						
Male	27.1	26.0	19.4	19.0	10.0	9.5
Female	25.4	26.3	18.0	18.9	9.1	9.1
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	26.6	26.0	19.1	19.0	9.9	9.3
White	27.0	26.2	19.9	19.7	10.2	9.8
Black or African American	26.7	26.2	17.6	17.6	9.4	8.2
American Indian or Alaska Native	43.1	43.8	*	31.3	*	18.2
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	16.3	16.8	10.9	9.8	6.0 <sup>a</sup>	2.7
Two or More Races	28.4	30.1	18.9	24.8	9.2	13.5
Hispanic or Latino	24.7	27.0	17.1	18.8	8.1	8.9
<b>GENDER/RACE/HISPANIC ORIGIN</b>						
Male, White, Not Hispanic	27.2 <sup>a</sup>	25.1	20.1	18.9	10.4	10.0
Female, White, Not Hispanic	26.7	27.4	19.8	20.6	9.9	9.6
Male, Black, Not Hispanic	27.7	29.0	18.0	20.3	10.1	9.0
Female, Black, Not Hispanic	25.8	23.5	17.1	15.0	8.8	7.3
Male, Hispanic	26.5	27.9	18.6	20.0	8.6	9.2
Female, Hispanic	22.9	26.1	15.5	17.5	7.6	8.6

\*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.13 Illicit Drug Use in Lifetime, Past Year, and Past Month among Persons Aged 18 or Older, by Demographic Characteristics: Percentages, 2007 and 2008**

Demographic Characteristic	Lifetime (2007)	Lifetime (2008)	Past Year (2007)	Past Year (2008)	Past Month (2007)	Past Month (2008)
<b>TOTAL</b>	48.4	49.3	13.9	13.7	7.8	7.9
<b>GENDER</b>						
Male	53.5	54.2	17.1	16.1	10.4	9.9
Female	43.6	44.6	10.9	11.5	5.4 <sup>a</sup>	6.0
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	50.3	51.0	14.3	14.1	8.1	8.2
White	52.6	53.1	14.4	13.9	8.0	8.1
Black or African American	45.5	49.0	15.8	16.8	9.5	10.3
American Indian or Alaska Native	56.3	59.6	16.7	17.8	12.0	8.3
Native Hawaiian or Other Pacific Islander	*	*	12.5	*	*	6.5
Asian	23.5	21.6	6.8	7.2	4.0	3.7
Two or More Races	55.6	61.3	22.7	20.4	12.3	14.9
Hispanic or Latino	35.7	37.9	11.5	11.3	6.4	5.8
<b>EDUCATION</b>						
< High School	36.0	37.7	15.0	13.5	9.3 <sup>a</sup>	8.1
High School Graduate	46.1	46.9	14.0	14.4	8.6	8.6
Some College	55.2	56.4	16.4	16.1	8.9	9.4
College Graduate	51.8	51.8	10.8	10.9	5.1	5.7
<b>CURRENT EMPLOYMENT</b>						
Full-Time	56.7	57.1	15.1	14.4	8.4	8.0
Part-Time	49.7	50.9	17.6	18.1	10.1	10.2
Unemployed	59.7	62.5	28.5	29.8	18.3	19.6
Other <sup>1</sup>	30.8	31.4	8.5	8.0	4.7	4.9

\*Low precision; no estimate reported.

NOTE: Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.



**Table G.14 Tobacco Product and Alcohol Use in the Past Month among Persons Aged 12 or Older, by Gender: Numbers in Thousands, 2002-2008**

Gender/Substance	2002	2003	2004	2005	2006	2007	2008
<b>TOTAL</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	71,499	70,757	70,257	71,519	72,873	70,939	70,868
Cigarettes	61,136	60,434	59,896	60,532	61,565	60,069	59,781
Smokeless Tobacco	7,787 <sup>a</sup>	7,725 <sup>a</sup>	7,154 <sup>b</sup>	7,682 <sup>a</sup>	8,231	8,051	8,670
Cigars	12,751	12,837	13,727	13,640	13,708	13,263	13,126
Pipe Tobacco	1,816	1,619	1,835	2,190	2,321 <sup>a</sup>	2,046	1,877
<b>ALCOHOL</b>	119,820 <sup>b</sup>	118,965 <sup>b</sup>	120,934 <sup>b</sup>	126,028 <sup>a</sup>	125,309 <sup>b</sup>	126,760	128,974
Binge Alcohol Use <sup>2</sup>	53,787 <sup>b</sup>	53,770 <sup>b</sup>	54,725 <sup>b</sup>	55,090 <sup>b</sup>	56,575	57,778	58,096
Heavy Alcohol Use <sup>2</sup>	15,860 <sup>a</sup>	16,144 <sup>a</sup>	16,689	16,035 <sup>a</sup>	16,946	17,010	17,292
<b>MALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	41,991	41,288	41,569	42,175	43,389	42,369	41,881
Cigarettes	32,636	32,263	32,278	32,312	33,220	32,607	31,942
Smokeless Tobacco	7,242 <sup>a</sup>	7,096 <sup>b</sup>	6,730 <sup>b</sup>	7,174 <sup>b</sup>	7,843	7,589	8,215
Cigars	10,669	10,372	11,375	11,355	11,092	10,940	10,900
Pipe Tobacco	1,487	1,400	1,579	1,877 <sup>a</sup>	2,023 <sup>a</sup>	1,797	1,486
<b>ALCOHOL</b>	65,210 <sup>b</sup>	65,927 <sup>b</sup>	66,317 <sup>b</sup>	68,497	68,025 <sup>a</sup>	68,088 <sup>a</sup>	69,989
Binge Alcohol Use <sup>2</sup>	35,456 <sup>b</sup>	35,565 <sup>b</sup>	36,195 <sup>b</sup>	36,025 <sup>b</sup>	37,298	38,128	38,292
Heavy Alcohol Use <sup>2</sup>	12,216	11,958	12,388	12,172	12,775	12,786	12,882
<b>FEMALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	29,509	29,469	28,688	29,344	29,484	28,570	28,986
Cigarettes	28,500	28,171	27,618	28,220	28,345	27,462	27,839
Smokeless Tobacco	545	628	424	508	388	461	455
Cigars	2,082	2,465	2,352	2,285	2,616 <sup>a</sup>	2,323	2,226
Pipe Tobacco	330	219 <sup>b</sup>	256	313	298	249 <sup>a</sup>	391
<b>ALCOHOL</b>	54,610 <sup>b</sup>	53,038 <sup>b</sup>	54,616 <sup>b</sup>	57,531	57,283	58,672	58,986
Binge Alcohol Use <sup>2</sup>	18,331 <sup>a</sup>	18,205 <sup>b</sup>	18,530 <sup>a</sup>	19,065	19,276	19,651	19,805
Heavy Alcohol Use <sup>2</sup>	3,645 <sup>b</sup>	4,186	4,301	3,863 <sup>a</sup>	4,172	4,225	4,410

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Tobacco Products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

<sup>2</sup> Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.15 Tobacco Product and Alcohol Use in the Past Month among Persons Aged 12 or Older, by Gender: Percentages, 2002-2008**

Gender/Substance	2002	2003	2004	2005	2006	2007	2008
<b>TOTAL</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	30.4 <sup>b</sup>	29.8 <sup>b</sup>	29.2	29.4 <sup>a</sup>	29.6 <sup>a</sup>	28.6	28.4
Cigarettes	26.0 <sup>b</sup>	25.4 <sup>b</sup>	24.9 <sup>a</sup>	24.9 <sup>a</sup>	25.0 <sup>a</sup>	24.2	23.9
Smokeless Tobacco	3.3	3.3	3.0 <sup>b</sup>	3.2	3.3	3.2	3.5
Cigars	5.4	5.4	5.7 <sup>a</sup>	5.6	5.6	5.4	5.3
Pipe Tobacco	0.8	0.7	0.8	0.9	0.9 <sup>a</sup>	0.8	0.8
<b>ALCOHOL</b>	51.0	50.1 <sup>b</sup>	50.3 <sup>a</sup>	51.8	50.9	51.1	51.6
Binge Alcohol Use <sup>2</sup>	22.9	22.6	22.8	22.7	23.0	23.3	23.3
Heavy Alcohol Use <sup>2</sup>	6.7	6.8	6.9	6.6	6.9	6.9	6.9
<b>MALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	37.0 <sup>b</sup>	35.9	35.7	35.8	36.4 <sup>a</sup>	35.2	34.5
Cigarettes	28.7 <sup>b</sup>	28.1 <sup>b</sup>	27.7 <sup>a</sup>	27.4	27.8 <sup>a</sup>	27.1	26.3
Smokeless Tobacco	6.4	6.2	5.8 <sup>b</sup>	6.1 <sup>a</sup>	6.6	6.3	6.8
Cigars	9.4	9.0	9.8 <sup>a</sup>	9.6	9.3	9.1	9.0
Pipe Tobacco	1.3	1.2	1.4	1.6 <sup>a</sup>	1.7 <sup>b</sup>	1.5	1.2
<b>ALCOHOL</b>	57.4	57.3	56.9	58.1	57.0	56.6	57.7
Binge Alcohol Use <sup>2</sup>	31.2	30.9	31.1	30.5	31.2	31.7	31.6
Heavy Alcohol Use <sup>2</sup>	10.8	10.4	10.6	10.3	10.7	10.6	10.6
<b>FEMALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	24.3 <sup>b</sup>	24.0 <sup>a</sup>	23.1	23.4	23.3	22.4	22.5
Cigarettes	23.4 <sup>b</sup>	23.0 <sup>a</sup>	22.3	22.5	22.4	21.5	21.7
Smokeless Tobacco	0.4	0.5	0.3	0.4	0.3	0.4	0.4
Cigars	1.7	2.0 <sup>a</sup>	1.9	1.8	2.1 <sup>a</sup>	1.8	1.7
Pipe Tobacco	0.3	0.2 <sup>a</sup>	0.2	0.3	0.2	0.2 <sup>a</sup>	0.3
<b>ALCOHOL</b>	44.9	43.2 <sup>b</sup>	44.0 <sup>a</sup>	45.9	45.2	46.0	45.9
Binge Alcohol Use <sup>2</sup>	15.1	14.8	14.9	15.2	15.2	15.4	15.4
Heavy Alcohol Use <sup>2</sup>	3.0 <sup>a</sup>	3.4	3.5	3.1	3.3	3.3	3.4

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Tobacco Products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

<sup>2</sup> Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.16 Tobacco Product and Alcohol Use in the Past Month among Persons Aged 12 to 17, by Gender: Percentages, 2002-2008**

Gender/Substance	2002	2003	2004	2005	2006	2007	2008
<b>TOTAL</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	15.2 <sup>b</sup>	14.4 <sup>b</sup>	14.4 <sup>b</sup>	13.1 <sup>b</sup>	12.9 <sup>b</sup>	12.4 <sup>a</sup>	11.4
Cigarettes	13.0 <sup>b</sup>	12.2 <sup>b</sup>	11.9 <sup>b</sup>	10.8 <sup>b</sup>	10.4 <sup>b</sup>	9.8 <sup>a</sup>	9.1
Smokeless Tobacco	2.0	2.0	2.3	2.1	2.4	2.4	2.2
Cigars	4.5 <sup>b</sup>	4.5 <sup>b</sup>	4.8 <sup>b</sup>	4.2	4.1	4.2	3.8
Pipe Tobacco	0.6	0.6	0.7	0.6	0.7	0.7	0.7
<b>ALCOHOL</b>	17.6 <sup>b</sup>	17.7 <sup>b</sup>	17.6 <sup>b</sup>	16.5 <sup>b</sup>	16.6 <sup>b</sup>	15.9 <sup>b</sup>	14.6
Binge Alcohol Use <sup>2</sup>	10.7 <sup>b</sup>	10.6 <sup>b</sup>	11.1 <sup>b</sup>	9.9 <sup>b</sup>	10.3 <sup>b</sup>	9.7 <sup>b</sup>	8.8
Heavy Alcohol Use <sup>2</sup>	2.5 <sup>b</sup>	2.6 <sup>b</sup>	2.7 <sup>b</sup>	2.4 <sup>a</sup>	2.4 <sup>a</sup>	2.3	2.0
<b>MALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	16.0 <sup>b</sup>	15.6 <sup>b</sup>	15.3 <sup>b</sup>	14.2 <sup>b</sup>	14.0 <sup>a</sup>	14.1 <sup>b</sup>	12.6
Cigarettes	12.3 <sup>b</sup>	11.9 <sup>b</sup>	11.3 <sup>b</sup>	10.7 <sup>b</sup>	10.0 <sup>a</sup>	10.0 <sup>a</sup>	9.0
Smokeless Tobacco	3.4	3.7	4.0	3.7	4.2	4.4	3.9
Cigars	6.2 <sup>a</sup>	6.2 <sup>a</sup>	6.6 <sup>b</sup>	5.8	5.5	6.0	5.3
Pipe Tobacco	0.7	0.9	0.9	0.8	0.9	0.9	0.8
<b>ALCOHOL</b>	17.4 <sup>b</sup>	17.1 <sup>b</sup>	17.2 <sup>b</sup>	15.9 <sup>b</sup>	16.3 <sup>b</sup>	15.9 <sup>b</sup>	14.2
Binge Alcohol Use <sup>2</sup>	11.4 <sup>b</sup>	11.1 <sup>b</sup>	11.6 <sup>b</sup>	10.4 <sup>b</sup>	10.7 <sup>b</sup>	10.6 <sup>b</sup>	8.9
Heavy Alcohol Use <sup>2</sup>	3.1 <sup>b</sup>	2.9 <sup>a</sup>	3.2 <sup>b</sup>	3.0 <sup>a</sup>	2.8 <sup>a</sup>	2.8	2.3
<b>FEMALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	14.4 <sup>b</sup>	13.3 <sup>b</sup>	13.5 <sup>b</sup>	11.9 <sup>b</sup>	11.8 <sup>b</sup>	10.6	10.2
Cigarettes	13.6 <sup>b</sup>	12.5 <sup>b</sup>	12.5 <sup>b</sup>	10.8 <sup>b</sup>	10.7 <sup>b</sup>	9.7	9.2
Smokeless Tobacco	0.4	0.3 <sup>a</sup>	0.4	0.4	0.4	0.4	0.5
Cigars	2.7	2.7	2.8 <sup>a</sup>	2.5	2.7	2.4	2.2
Pipe Tobacco	0.4	0.3 <sup>b</sup>	0.5	0.4	0.4	0.5	0.6
<b>ALCOHOL</b>	17.9 <sup>b</sup>	18.3 <sup>b</sup>	18.0 <sup>b</sup>	17.2 <sup>b</sup>	17.0 <sup>b</sup>	16.0	15.0
Binge Alcohol Use <sup>2</sup>	9.9 <sup>a</sup>	10.1 <sup>b</sup>	10.5 <sup>b</sup>	9.4	9.9 <sup>a</sup>	8.8	8.7
Heavy Alcohol Use <sup>2</sup>	1.9	2.3 <sup>b</sup>	2.1 <sup>a</sup>	1.8	1.9	1.8	1.6

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Tobacco Products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

<sup>2</sup> Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.17 Tobacco Product and Alcohol Use in the Past Month among Persons Aged 18 to 25, by Gender: Percentages, 2002-2008**

Gender/Substance	2002	2003	2004	2005	2006	2007	2008
<b>TOTAL</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	45.3 <sup>b</sup>	44.8 <sup>b</sup>	44.6 <sup>b</sup>	44.3 <sup>b</sup>	43.9 <sup>b</sup>	41.8	41.4
Cigarettes	40.8 <sup>b</sup>	40.2 <sup>b</sup>	39.5 <sup>b</sup>	39.0 <sup>b</sup>	38.4 <sup>b</sup>	36.2	35.7
Smokeless Tobacco	4.8	4.7 <sup>a</sup>	4.9	5.1	5.2	5.3	5.4
Cigars	11.0	11.4	12.7 <sup>b</sup>	12.0	12.1 <sup>a</sup>	11.8	11.3
Pipe Tobacco	1.1 <sup>a</sup>	0.9 <sup>b</sup>	1.2	1.5	1.3	1.2	1.4
<b>ALCOHOL</b>	60.5	61.4	60.5	60.9	61.9	61.2	61.2
Binge Alcohol Use <sup>2</sup>	40.9	41.6	41.2	41.9	42.2	41.8	41.0
Heavy Alcohol Use <sup>2</sup>	14.9	15.1	15.1	15.3	15.6 <sup>a</sup>	14.7	14.5
<b>MALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	52.1 <sup>b</sup>	51.7 <sup>b</sup>	51.7 <sup>b</sup>	51.6 <sup>b</sup>	51.0 <sup>a</sup>	50.0	48.8
Cigarettes	44.4 <sup>b</sup>	44.2 <sup>b</sup>	43.5 <sup>b</sup>	42.9 <sup>b</sup>	41.9 <sup>a</sup>	40.5	39.5
Smokeless Tobacco	9.4	8.9 <sup>b</sup>	9.5	9.7	9.9	9.9	10.3
Cigars	16.8	17.3	19.7 <sup>b</sup>	18.3	18.7 <sup>a</sup>	18.4	17.2
Pipe Tobacco	1.7	1.4 <sup>b</sup>	2.1	2.3	2.2	1.9	2.0
<b>ALCOHOL</b>	65.2	66.9 <sup>b</sup>	64.9	66.3 <sup>a</sup>	65.9	65.3	64.3
Binge Alcohol Use <sup>2</sup>	50.2	51.3 <sup>b</sup>	50.1	51.7 <sup>b</sup>	50.2	49.8	48.4
Heavy Alcohol Use <sup>2</sup>	21.1	21.2	21.2	21.7 <sup>a</sup>	21.0	19.9	19.9
<b>FEMALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	38.4 <sup>b</sup>	37.8 <sup>b</sup>	37.4 <sup>b</sup>	36.9 <sup>b</sup>	36.8 <sup>b</sup>	33.6	33.8
Cigarettes	37.1 <sup>b</sup>	36.2 <sup>b</sup>	35.5 <sup>b</sup>	35.0 <sup>b</sup>	34.9 <sup>b</sup>	31.8	31.8
Smokeless Tobacco	0.3	0.4	0.4	0.5	0.4	0.5	0.4
Cigars	5.2	5.5	5.8	5.6	5.5	5.1	5.3
Pipe Tobacco	0.4 <sup>a</sup>	0.4 <sup>a</sup>	0.4 <sup>b</sup>	0.6	0.5 <sup>a</sup>	0.5	0.7
<b>ALCOHOL</b>	55.7 <sup>a</sup>	55.8 <sup>a</sup>	56.0 <sup>a</sup>	55.4 <sup>b</sup>	57.9	57.1	58.0
Binge Alcohol Use <sup>2</sup>	31.7 <sup>a</sup>	31.8 <sup>a</sup>	32.3	31.9	34.0	33.7	33.6
Heavy Alcohol Use <sup>2</sup>	8.7	9.0	8.8	8.8	10.0 <sup>a</sup>	9.5	9.0

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Tobacco Products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

<sup>2</sup> Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.18 Tobacco Product and Alcohol Use in the Past Month among Persons Aged 26 or Older, by Gender: Percentages, 2002-2008**

Gender/Substance	2002	2003	2004	2005	2006	2007	2008
<b>TOTAL</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	29.9 <sup>a</sup>	29.3	28.5	29.0	29.4	28.5	28.3
Cigarettes	25.2 <sup>a</sup>	24.7	24.1	24.3	24.7	24.1	23.8
Smokeless Tobacco	3.2	3.2	2.7 <sup>b</sup>	3.0	3.2	3.0	3.3
Cigars	4.6	4.5	4.6	4.7	4.6	4.4	4.4
Pipe Tobacco	0.8	0.6	0.7	0.8	0.9 <sup>a</sup>	0.8	0.6
<b>ALCOHOL</b>	53.9	52.5 <sup>b</sup>	53.0 <sup>a</sup>	55.1	53.7	54.1	54.8
Binge Alcohol Use <sup>2</sup>	21.4	21.0 <sup>a</sup>	21.1	21.0 <sup>a</sup>	21.4	21.9	22.1
Heavy Alcohol Use <sup>2</sup>	5.9	5.9	6.1	5.6 <sup>a</sup>	6.0	6.1	6.3
<b>MALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	37.3 <sup>a</sup>	36.0	35.7	36.0	36.9 <sup>a</sup>	35.6	35.0
Cigarettes	28.3 <sup>a</sup>	27.5	27.2	27.0	27.8	27.1	26.4
Smokeless Tobacco	6.3	6.0	5.3 <sup>b</sup>	5.8	6.3	5.9	6.5
Cigars	8.5	7.9	8.4	8.6	8.1	7.8	8.0
Pipe Tobacco	1.3	1.2	1.3	1.6 <sup>a</sup>	1.7 <sup>b</sup>	1.5	1.1
<b>ALCOHOL</b>	61.9	61.5	61.3	62.7	61.2	60.8	62.5
Binge Alcohol Use <sup>2</sup>	30.7	30.1	30.4	29.6 <sup>a</sup>	30.7	31.4	31.7
Heavy Alcohol Use <sup>2</sup>	10.0	9.5	9.8	9.3	10.0	10.1	10.1
<b>FEMALE</b>							
<b>TOBACCO PRODUCTS<sup>1</sup></b>	23.2	23.1	22.0	22.6	22.5	22.0	22.2
Cigarettes	22.5	22.1	21.3	21.9	21.8	21.3	21.5
Smokeless Tobacco	0.5	0.6	0.3	0.4	0.3	0.3	0.3
Cigars	1.0	1.3	1.1	1.1	1.4 <sup>a</sup>	1.2	1.1
Pipe Tobacco	0.2	0.1	0.1	0.2	0.2	0.1	0.2
<b>ALCOHOL</b>	46.6	44.3 <sup>b</sup>	45.4 <sup>a</sup>	48.0	46.7	47.9	47.7
Binge Alcohol Use <sup>2</sup>	13.0	12.6	12.6	13.2	12.8	13.2	13.2
Heavy Alcohol Use <sup>2</sup>	2.2 <sup>a</sup>	2.6	2.7	2.3	2.4	2.5	2.7

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Tobacco Products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

<sup>2</sup> Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.19 Alcohol Use in Lifetime, Past Year, and Past Month among Persons Aged 12 to 20, by Gender: Percentages, 2002-2008**

<b>Gender/Alcohol Use</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>TOTAL</b>							
Lifetime	56.2 <sup>b</sup>	55.8 <sup>b</sup>	54.9 <sup>b</sup>	53.9 <sup>b</sup>	53.9 <sup>b</sup>	52.9	52.2
Past Year	47.0 <sup>b</sup>	46.8 <sup>b</sup>	46.6 <sup>b</sup>	46.3 <sup>b</sup>	46.1 <sup>b</sup>	45.1	44.3
Past Month	28.8 <sup>b</sup>	29.0 <sup>b</sup>	28.7 <sup>b</sup>	28.2 <sup>b</sup>	28.3 <sup>b</sup>	27.9 <sup>a</sup>	26.4
Binge Alcohol Use <sup>1</sup>	19.3 <sup>b</sup>	19.2 <sup>b</sup>	19.6 <sup>b</sup>	18.8 <sup>b</sup>	19.0 <sup>b</sup>	18.6 <sup>a</sup>	17.4
Heavy Alcohol Use <sup>1</sup>	6.2 <sup>a</sup>	6.1 <sup>a</sup>	6.3 <sup>a</sup>	6.0	6.2 <sup>a</sup>	6.0	5.5
<b>MALE</b>							
Lifetime	56.5 <sup>b</sup>	55.0 <sup>b</sup>	54.9 <sup>b</sup>	53.7 <sup>a</sup>	54.0 <sup>b</sup>	53.0	52.0
Past Year	46.6 <sup>b</sup>	45.6 <sup>b</sup>	46.3 <sup>b</sup>	45.6 <sup>b</sup>	46.0 <sup>b</sup>	45.1 <sup>a</sup>	43.5
Past Month	29.6 <sup>b</sup>	29.9 <sup>b</sup>	29.6 <sup>b</sup>	28.9 <sup>a</sup>	29.2 <sup>b</sup>	28.4	27.1
Binge Alcohol Use <sup>1</sup>	21.8 <sup>b</sup>	21.7 <sup>b</sup>	22.1 <sup>b</sup>	21.3 <sup>b</sup>	21.3 <sup>b</sup>	21.1 <sup>b</sup>	19.2
Heavy Alcohol Use <sup>1</sup>	8.1 <sup>b</sup>	7.9 <sup>a</sup>	8.2 <sup>b</sup>	7.6	7.9 <sup>a</sup>	7.8	7.0
<b>FEMALE</b>							
Lifetime	56.0 <sup>b</sup>	56.6 <sup>b</sup>	54.8 <sup>b</sup>	54.2 <sup>a</sup>	53.7	52.8	52.4
Past Year	47.5 <sup>b</sup>	48.0 <sup>b</sup>	46.9 <sup>a</sup>	46.9 <sup>a</sup>	46.2	45.1	45.1
Past Month	28.0 <sup>b</sup>	28.1 <sup>b</sup>	27.8 <sup>b</sup>	27.5 <sup>a</sup>	27.4 <sup>a</sup>	27.3 <sup>a</sup>	25.8
Binge Alcohol Use <sup>1</sup>	16.7	16.5	17.0 <sup>a</sup>	16.1	16.5	16.1	15.5
Heavy Alcohol Use <sup>1</sup>	4.2	4.3	4.3	4.3	4.3	4.2	4.0

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.20 Alcohol Use, Binge Alcohol Use, and Heavy Alcohol Use in the Past Month, by Detailed Age Category: Percentages, 2007 and 2008**

Age Category	Alcohol Use (2007)	Alcohol Use (2008)	Binge Alcohol Use (2007)	Binge Alcohol Use (2008)	Heavy Alcohol Use (2007)	Heavy Alcohol Use (2008)
<b>TOTAL</b>	51.1	51.6	23.3	23.3	6.9	6.9
12	2.2	2.1	0.9	0.9	0.1	0.1
13	4.7	4.6	2.0	2.1	0.1	0.3
14	10.0	10.6	4.5	5.1	0.4	0.6
15	19.0 <sup>b</sup>	15.5	10.9 <sup>b</sup>	8.6	2.4	1.5
16	23.8	22.2	15.1	14.7	3.8	3.7
17	34.6 <sup>b</sup>	30.3	23.9 <sup>b</sup>	19.6	7.1 <sup>a</sup>	5.2
18	41.8	41.5	28.9	28.2	9.6	9.1
19	53.7	50.5	38.8	35.5	14.1	13.1
20	57.8	55.5	40.3	38.4	15.8	15.4
21	71.8	70.6	50.1	49.0	17.9	17.3
22	66.5 <sup>a</sup>	70.4	46.9	46.9	16.9	18.0
23	68.4	69.0	45.3	45.0	16.2	14.8
24	67.4	69.8	44.3	46.2	15.6	15.9
25	67.3	67.8	42.7	42.5	12.6	13.4
26-29	63.2 <sup>a</sup>	67.4	37.9 <sup>b</sup>	42.6	10.5 <sup>a</sup>	13.2
30-34	62.1	59.9	32.6	30.8	9.0	8.1
35-39	59.1	59.4	28.4	27.4	8.5	7.4
40-44	60.9	60.3	27.9	26.1	7.3	6.7
45-49	58.3	59.6	23.9	23.9	7.8	7.4
50-54	57.0	54.9	21.5	20.3	6.3	6.4
55-59	52.0	54.6	15.9	17.6	4.5	5.2
60-64	47.6	50.3	12.1	14.6	2.9	3.6
65 or Older	38.1	39.7	7.6	8.2	1.4	2.2

\*Low precision; no estimate reported.

NOTE: Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.21 Alcohol Use, Binge Alcohol Use, and Heavy Alcohol Use in the Past Month among Persons Aged 12 to 20, by Demographic Characteristics: Percentages, 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Alcohol Use (2007)</b>	<b>Alcohol Use (2008)</b>	<b>Binge Alcohol Use (2007)</b>	<b>Binge Alcohol Use (2008)</b>	<b>Heavy Alcohol Use (2007)</b>	<b>Heavy Alcohol Use (2008)</b>
<b>TOTAL</b>	27.9 <sup>a</sup>	26.4	18.6 <sup>a</sup>	17.4	6.0	5.5
<b>GENDER</b>						
Male	28.4	27.1	21.1 <sup>b</sup>	19.2	7.8	7.0
Female	27.3 <sup>a</sup>	25.8	16.1	15.5	4.2	4.0
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	28.6 <sup>a</sup>	27.2	19.1 <sup>a</sup>	17.9	6.4	5.9
White	32.0 <sup>b</sup>	30.1	22.4 <sup>a</sup>	20.8	8.0	7.2
Black or African American	18.3	19.0	8.4	9.3	1.5	1.9
American Indian or Alaska Native	28.3	26.4	*	*	*	4.0
Native Hawaiian or Other Pacific Islander	*	*	*	*	4.7	5.8
Asian	16.8	17.2	9.6	9.4	1.9	2.1
Two or More Races	26.2	22.9	16.4	15.0	5.0	4.2
Hispanic or Latino	24.7	23.1	16.7	15.1	4.1	4.1
<b>GENDER/RACE/HISPANIC ORIGIN</b>						
Male, White, Not Hispanic	32.7 <sup>a</sup>	30.3	25.1 <sup>b</sup>	22.6	10.2 <sup>a</sup>	8.8
Female, White, Not Hispanic	31.2	29.9	19.5	18.9	5.6	5.5
Male, Black, Not Hispanic	17.2	18.9	9.7	10.7	2.4	2.7
Female, Black, Not Hispanic	19.4	19.2	7.0	7.8	0.6	1.2
Male, Hispanic	25.8	25.3	19.2	17.3	5.6	5.6
Female, Hispanic	23.5	20.7	14.1	12.6	2.6	2.5

\*Low precision; no estimate reported.

NOTE: Binge Alcohol Use is defined as 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. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.



**Table G.22 Cigarette Use in Lifetime, Past Year, and Past Month, by Detailed Age Category: Percentages, 2007 and 2008**

Age Category	Lifetime (2007)	Lifetime (2008)	Past Year (2007)	Past Year (2008)	Past Month (2007)	Past Month (2008)
<b>TOTAL</b>	65.3	65.1	28.5	28.0	24.2	23.9
12	5.1	5.0	2.6	2.4	0.9	1.2
13	10.7	10.1	5.5	5.9	2.7	2.9
14	17.5	16.9	11.2	9.9	6.0	5.0
15	26.8	25.5	17.6	17.2	10.7	10.1
16	37.2	34.4	24.7	22.9	15.5	14.1
17	42.9	42.0	31.4	29.0	22.5 <sup>a</sup>	19.4
18	51.5	53.2	38.7	41.6	29.7	30.2
19	60.5	60.9	45.5	46.0	33.2	34.3
20	64.0	62.0	44.9	45.0	35.7	36.9
21	64.6	65.2	45.1	46.6	37.1	38.5
22	67.7	66.5	49.4	47.0	40.3	37.7
23	71.0	68.4	48.4	45.0	39.8 <sup>a</sup>	36.0
24	71.0	69.3	47.4	43.9	39.5 <sup>a</sup>	36.0
25	71.4	71.5	42.8	45.4	35.7	37.6
26-29	70.1	72.1	41.4	44.1	35.7	37.1
30-34	68.3	68.5	36.0	35.4	31.5	30.4
35-39	70.0	68.3	32.9 <sup>a</sup>	29.7	28.5	26.1
40-44	70.5	71.7	30.3	30.2	26.6	27.4
45-49	74.9	73.8	32.3	31.1	29.6	28.8
50-54	75.2	72.6	29.7	30.1	26.7	27.1
55-59	73.6	75.5	24.6	22.3	22.0	20.6
60-64	76.3	73.8	20.5	20.4	18.8	18.0
65 or Older	65.1	65.3	10.8	11.2	9.0	10.3

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.23 Cigarette Use in Lifetime, Past Year, and Past Month among Persons Aged 12 to 17, by Demographic Characteristics: Percentages, 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Lifetime (2007)</b>	<b>Lifetime (2008)</b>	<b>Past Year (2007)</b>	<b>Past Year (2008)</b>	<b>Past Month (2007)</b>	<b>Past Month (2008)</b>
<b>TOTAL</b>	23.7	22.9	15.7	15.0	9.8 <sup>a</sup>	9.1
<b>GENDER</b>						
Male	24.5 <sup>a</sup>	22.6	16.0 <sup>a</sup>	14.8	10.0 <sup>a</sup>	9.0
Female	22.8	23.1	15.3	15.1	9.7	9.2
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	24.3 <sup>a</sup>	23.1	16.2 <sup>a</sup>	15.2	10.5 <sup>b</sup>	9.4
White	26.7 <sup>b</sup>	24.7	18.7 <sup>b</sup>	17.0	12.2 <sup>b</sup>	10.6
Black or African American	17.8	19.0	9.6	9.7	6.1	5.0
American Indian or Alaska Native	29.7	41.6	19.3	28.9	13.4	18.9
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	12.6	10.7	6.1	5.9	3.4	3.8
Two or More Races	24.2	25.4	14.5	18.1	8.9	13.1
Hispanic or Latino	20.8	22.0	13.1	14.0	6.7	7.9
<b>GENDER/RACE/HISPANIC ORIGIN</b>						
Male, White, Not Hispanic	27.1 <sup>b</sup>	23.8	18.5 <sup>b</sup>	16.2	11.7 <sup>a</sup>	10.1
Female, White, Not Hispanic	26.3	25.7	18.8	17.8	12.7 <sup>a</sup>	11.2
Male, Black, Not Hispanic	17.9	19.9	10.1	10.9	6.8	5.4
Female, Black, Not Hispanic	17.7	18.0	9.0	8.6	5.4	4.5
Male, Hispanic	22.7	22.9	14.3	15.2	7.8	9.1
Female, Hispanic	18.8	21.0	11.9	12.7	5.6	6.6

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.24 Cigarette Use in Lifetime, Past Year, and Past Month among Persons Aged 18 or Older, by Demographic Characteristics: Percentages, 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Lifetime (2007)</b>	<b>Lifetime (2008)</b>	<b>Past Year (2007)</b>	<b>Past Year (2008)</b>	<b>Past Month (2007)</b>	<b>Past Month (2008)</b>
<b>TOTAL</b>	70.0	69.7	29.9	29.5	25.9	25.6
<b>GENDER</b>						
Male	75.9	75.1	33.7	32.8	29.2	28.4
Female	64.5	64.7	26.4	26.4	22.8	23.0
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	72.2	71.6	30.3	30.0	26.4	26.3
White	76.2	75.8	31.0	30.5	26.9	26.6
Black or African American	58.7	58.4	29.5	30.7	25.8	27.8
American Indian or Alaska Native	78.6	77.6	44.7	52.1	37.6	47.7
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	41.4	37.3	18.7	15.9	15.3	12.7
Two or More Races	73.0	80.3	36.8	39.1	33.7	36.0
Hispanic or Latino	56.0	58.1	27.3	25.8	22.7	21.1
<b>EDUCATION</b>						
< High School	64.1	65.2	37.0	38.1	32.9	34.4
High School Graduate	71.2	70.8	35.7	34.6	31.9	30.6
Some College	73.1	72.0	31.3	30.8	26.8	26.6
College Graduate	69.2	69.0	17.9	17.7	14.0	14.0
<b>CURRENT EMPLOYMENT</b>						
Full-Time	72.4	72.4	31.9	31.5	27.6	27.2
Part-Time	68.1	67.9	29.7	28.5	24.5	23.8
Unemployed	70.9	70.7	49.5	47.3	44.6	43.0
Other <sup>1</sup>	66.2	65.3	24.2	23.5	21.1	20.8

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.25 Perceived Risk and Availability of Substances among Persons Aged 12 to 17: Percentages, 2002-2008**

Risk/Availability	2002	2003	2004	2005	2006	2007	2008
<b>PERCEPTIONS OF GREAT RISK<sup>1</sup></b>							
Cigarettes							
Smoke One or More Packs Per Day	63.1 <sup>b</sup>	64.2 <sup>b</sup>	67.5 <sup>b</sup>	68.3 <sup>a</sup>	68.7	68.8	69.7
Marijuana							
Smoke Once a Month	32.4 <sup>a</sup>	34.9	35.0	34.0	34.7	34.5	33.9
Smoke Once or Twice a Week	51.5 <sup>a</sup>	54.4 <sup>a</sup>	54.7 <sup>b</sup>	55.0 <sup>b</sup>	54.2	54.7 <sup>b</sup>	53.1
Cocaine							
Use Once a Month	50.5	51.4 <sup>b</sup>	49.6	48.8	49.0	49.6	49.7
Use Once or Twice a Week	79.8	80.7 <sup>b</sup>	79.8	79.9	79.2	78.9	79.2
Heroin							
Try Once or Twice	58.5	58.8	57.0	56.5 <sup>a</sup>	57.2	57.0	57.7
Use Once or Twice a Week	82.5 <sup>a</sup>	82.6 <sup>a</sup>	81.4	81.8	81.2	81.0	81.3
LSD							
Try Once or Twice	52.6 <sup>b</sup>	53.4 <sup>b</sup>	52.6 <sup>b</sup>	51.7	51.6	51.2	50.5
Use Once or Twice a Week	76.2 <sup>b</sup>	76.9 <sup>b</sup>	76.4 <sup>b</sup>	76.1 <sup>b</sup>	74.7	74.2	73.9
Alcohol							
Have Four or Five Drinks Nearly Every Day	62.2 <sup>b</sup>	61.6 <sup>b</sup>	61.8 <sup>b</sup>	63.8 <sup>b</sup>	64.6 <sup>a</sup>	65.2	65.9
Have Five or More Drinks Once or Twice a Week	38.2 <sup>b</sup>	38.5 <sup>b</sup>	38.1 <sup>b</sup>	38.4 <sup>b</sup>	39.4	39.4	40.5
<b>PERCEIVED AVAILABILITY<sup>2</sup></b>							
Fairly or Very Easy to Obtain <sup>3</sup>							
Marijuana	55.0 <sup>b</sup>	53.6 <sup>b</sup>	52.2 <sup>b</sup>	51.0 <sup>b</sup>	50.1	49.1	49.2
Cocaine	25.0 <sup>b</sup>	25.0 <sup>b</sup>	24.4 <sup>b</sup>	24.9 <sup>b</sup>	25.9 <sup>b</sup>	24.5 <sup>b</sup>	22.1
Crack	26.5 <sup>b</sup>	26.2 <sup>b</sup>	25.0 <sup>b</sup>	25.3 <sup>b</sup>	26.2 <sup>b</sup>	25.3 <sup>b</sup>	23.2
Heroin	15.8 <sup>b</sup>	15.3 <sup>b</sup>	14.0 <sup>a</sup>	14.0 <sup>a</sup>	14.4 <sup>b</sup>	14.1 <sup>a</sup>	13.0
LSD	19.4 <sup>b</sup>	17.6 <sup>b</sup>	16.9 <sup>b</sup>	15.7 <sup>b</sup>	14.0	14.4	13.8
Approached in the Past Month by Someone Selling Drugs	16.7 <sup>b</sup>	16.1 <sup>b</sup>	16.3 <sup>b</sup>	15.5 <sup>b</sup>	15.3 <sup>b</sup>	14.5	13.7

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Response categories for the Perception of Risk questions include "No risk," "Slight risk," "Moderate risk," and "Great risk." The estimates in this table correspond to persons reporting "Great risk." Respondents with unknown Perception of Risk data were excluded.

<sup>2</sup> Respondents with unknown Perceived Availability data were excluded.

<sup>3</sup> Response categories for the Perceived Availability questions include "Probably impossible," "Very difficult," "Fairly difficult," "Fairly easy," and "Very easy." The estimates in this table correspond to persons reporting "Fairly easy" or "Very easy."

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.26 Past Year Initiation of Substance Use among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

Substance	2002	2003	2004	2005	2006	2007	2008
<b>ILLCIT DRUGS<sup>1,2</sup></b>	2,656	2,627	2,784	2,908	2,789	2,670	2,885
Marijuana and Hashish	2,196	1,973 <sup>a</sup>	2,142	2,114	2,063	2,090	2,208
Cocaine	1,032 <sup>b</sup>	986 <sup>b</sup>	998 <sup>b</sup>	872 <sup>a</sup>	977 <sup>b</sup>	906 <sup>a</sup>	722
Crack	337 <sup>a</sup>	269	215	230	245	352	205
Heroin	117	92	118	108	91	106	114
Hallucinogens	1,152	886 <sup>b</sup>	934 <sup>a</sup>	953 <sup>a</sup>	1,116	1,064	1,127
LSD	338	200 <sup>b</sup>	235 <sup>b</sup>	243 <sup>b</sup>	264 <sup>b</sup>	270 <sup>b</sup>	394
PCP	123 <sup>b</sup>	105 <sup>b</sup>	106 <sup>a</sup>	77	69	58	53
Ecstasy	1,206 <sup>b</sup>	642 <sup>b</sup>	607 <sup>b</sup>	615 <sup>b</sup>	860	781	894
Inhalants	849	871 <sup>a</sup>	857 <sup>a</sup>	877 <sup>a</sup>	783	775	729
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	2,552	2,583	2,836 <sup>a</sup>	2,526	2,576	2,532	2,512
Pain Relievers	2,320	2,456	2,422	2,193	2,150	2,147	2,176
OxyContin <sup>®</sup>	--	--	615 <sup>a</sup>	526	533	554	478
Tranquilizers	1,184	1,071	1,180	1,286	1,112	1,232	1,127
Stimulants <sup>2</sup>	783 <sup>b</sup>	715	793 <sup>a</sup>	647	845 <sup>b</sup>	642	599
Sedatives	209	194	240	247	267	198	181
<b>ILLCIT DRUGS OTHER THAN MARIJUANA<sup>1,2</sup></b>	2,569	2,523	2,664	2,768	2,719	2,563	2,693
<b>CIGARETTES</b>	1,940 <sup>b</sup>	1,983 <sup>b</sup>	2,122 <sup>a</sup>	2,282	2,449	2,231	2,418
Daily Cigarette Use <sup>4</sup>	1,016	1,064	1,101 <sup>a</sup>	965	1,051	984	942
<b>SMOKELESS TOBACCO</b>	951 <sup>b</sup>	928 <sup>b</sup>	999 <sup>b</sup>	1,134 <sup>b</sup>	1,329	1,297	1,398
<b>CIGARS</b>	2,858	2,736	3,058	3,349 <sup>b</sup>	3,061	3,076	2,884
<b>ALCOHOL</b>	3,942 <sup>b</sup>	4,082 <sup>a</sup>	4,396	4,274	4,381	4,559	4,466

\*Low precision; no estimate reported.

-- Not available.

NOTE: Past Year Initiates are defined as persons who used the substance(s) for the first time in the 12 months prior to date of interview.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

<sup>2</sup> Estimates in these designated rows do not include data from methamphetamine initiation items added in 2007 or methamphetamine use items added in 2005 and 2006.

<sup>3</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

<sup>4</sup> Daily Cigarette Use is defined as ever smoking every day for at least 30 days.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.27 Substance Dependence or Abuse for Specific Substances in the Past Year among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

Past Year Dependence or Abuse	2002	2003	2004	2005	2006	2007	2008
<b>ILLICIT DRUGS<sup>1,2</sup></b>	7,116	6,835	7,298	6,833	7,020	6,851	6,990
Marijuana and Hashish	4,294	4,198	4,469	4,090	4,172	3,932	4,199
Cocaine	1,488	1,515	1,571	1,549	1,671	1,598	1,411
Heroin	214	189	270	227	323	213	282
Hallucinogens	426	321	449	371	380	368	358
Inhalants	180	169	233	221	176	164	175
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	2,018	1,923	2,048	1,959	2,035	2,160	2,176
Pain Relievers	1,509	1,424 <sup>a</sup>	1,388 <sup>a</sup>	1,546	1,635	1,707	1,716
Tranquilizers	509	435	573	419	402	443	451
Stimulants <sup>2</sup>	436	378	470	409	390	406	351
Sedatives	154	158	128	97	121	154	126
<b>ALCOHOL</b>	18,100	17,805	18,654	18,658	18,799	18,638	18,331
<b>BOTH ILLICIT DRUGS AND ALCOHOL<sup>1,2</sup></b>	3,210	3,054	3,445	3,273	3,205	3,175	3,090
<b>ILLICIT DRUGS OR ALCOHOL<sup>1,2</sup></b>	22,006	21,586	22,506	22,218	22,613	22,313	22,231

\*Low precision; no estimate reported.

NOTE: Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>2</sup> Estimates in these designated rows do not include data from methamphetamine use items added in 2005 and 2006.

<sup>3</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.28 Substance Dependence or Abuse for Specific Substances in the Past Year among Persons Aged 12 or Older: Percentages, 2002-2008**

Past Year Dependence or Abuse	2002	2003	2004	2005	2006	2007	2008
<b>ILLICIT DRUGS<sup>1,2</sup></b>	3.0	2.9	3.0	2.8	2.9	2.8	2.8
Marijuana and Hashish	1.8	1.8	1.9	1.7	1.7	1.6	1.7
Cocaine	0.6	0.6	0.7	0.6	0.7	0.6	0.6
Heroin	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hallucinogens	0.2	0.1	0.2	0.2	0.2	0.1	0.1
Inhalants	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nonmedical Use of Psychotherapeutics <sup>2,3</sup>	0.9	0.8	0.9	0.8	0.8	0.9	0.9
Pain Relievers	0.6	0.6	0.6 <sup>a</sup>	0.6	0.7	0.7	0.7
Tranquilizers	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Stimulants <sup>2</sup>	0.2	0.2	0.2 <sup>a</sup>	0.2	0.2	0.2	0.1
Sedatives	0.1	0.1	0.1	0.0	0.0	0.1	0.1
<b>ALCOHOL</b>	7.7	7.5	7.8	7.7	7.6	7.5	7.3
<b>BOTH ILLICIT DRUGS AND ALCOHOL<sup>1,2</sup></b>	1.4	1.3	1.4 <sup>a</sup>	1.3	1.3	1.3	1.2
<b>ILLICIT DRUGS OR ALCOHOL<sup>1,2</sup></b>	9.4	9.1	9.4	9.1	9.2	9.0	8.9

\*Low precision; no estimate reported.

NOTE: Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>2</sup> Estimates in these designated rows do not include data from methamphetamine use items added in 2005 and 2006.

<sup>3</sup> Nonmedical use of prescription-type psychotherapeutics includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.29 Substance Dependence or Abuse in the Past Year among Persons Aged 12 or Older, by Demographic Characteristics: Percentages, 2007 and 2008**

Demographic Characteristic	Illicit Drugs <sup>1</sup> (2007)	Illicit Drugs <sup>1</sup> (2008)	Alcohol (2007)	Alcohol (2008)	Illicit Drugs or Alcohol <sup>1</sup> (2007)	Illicit Drugs or Alcohol <sup>1</sup> (2008)
<b>TOTAL</b>	2.8	2.8	7.5	7.3	9.0	8.9
<b>AGE</b>						
12-17	4.3	4.6	5.4 <sup>a</sup>	4.9	7.7	7.6
18-25	7.9	7.8	16.8	17.2	20.7	20.8
26 or Older	1.7	1.7	6.2	6.0	7.2	7.0
<b>GENDER</b>						
Male	3.8	3.4	10.6 <sup>a</sup>	9.7	12.5 <sup>a</sup>	11.5
Female	1.8 <sup>b</sup>	2.2	4.6 <sup>a</sup>	5.1	5.7 <sup>b</sup>	6.4
<b>HISPANIC ORIGIN AND RACE</b>						
Not Hispanic or Latino	2.8	2.8	7.6	7.2	9.1	8.8
White	2.7	2.7	8.0	7.5	9.4	9.0
Black or African American	3.7	3.6	6.3	6.6	8.5	8.8
American Indian or Alaska Native	4.0	4.7	10.9	8.4	13.4	11.1
Native Hawaiian or Other Pacific Islander	3.6	1.9	7.3	*	9.9	*
Asian	1.1	0.9	4.3	3.5	4.7	4.2
Two or More Races	5.1	3.6	8.6	7.2	10.8	9.8
Hispanic or Latino	2.5	2.9	7.0	8.0	8.3	9.5

\*Low precision; no estimate reported.

NOTE: Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.



**Table G.30 Received Substance Use Treatment at Any Treatment Location or at a Specialty Facility in the Past Year among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

<b>Location/Substance for Which Treatment Was Received in Past Year</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>ANY TREATMENT LOCATION</b>							
Illicit Drugs <sup>1</sup>	2,013	1,802	2,192	2,172	2,457	2,163	2,082
Alcohol	2,405 <sup>a</sup>	2,359 <sup>a</sup>	2,658	2,843	2,764	2,733	2,894
Both Illicit Drugs and Alcohol <sup>1</sup>	1,319	1,255	1,467	1,522	1,566	1,406	1,317
Illicit Drugs or Alcohol <sup>1,2</sup>	3,483 <sup>a</sup>	3,327 <sup>b</sup>	3,791	3,930	4,031	3,913	4,045
<b>SPECIALTY FACILITY</b>							
Illicit Drugs <sup>1</sup>	1,412	1,103	1,427	1,280	1,576 <sup>a</sup>	1,343	1,209
Alcohol	1,549	1,298	1,535	1,626	1,557	1,567	1,560
Both Illicit Drugs and Alcohol <sup>1</sup>	709	595	718	748	731	615	577
Illicit Drugs or Alcohol <sup>1,2</sup>	2,346	1,874 <sup>a</sup>	2,327	2,308	2,537	2,412	2,287

\*Low precision; no estimate reported.

NOTE: Received Substance Use Treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use, or for medical problems associated with illicit drug or alcohol use. Treatment at Any Treatment Location includes treatment received at any location, such as a hospital, rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail. Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>2</sup> Estimates include persons who received treatment specifically for illicit drugs or alcohol, as well as persons who received treatment but did not specify for what substance(s).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.31 Received Substance Use Treatment at Any Treatment Location or at a Specialty Facility in the Past Year among Persons Aged 12 or Older: Percentages, 2002-2008**

<b>Location/Substance for Which Treatment Was Received in Past Year</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>ANY TREATMENT LOCATION</b>							
Illicit Drugs <sup>1</sup>	0.9	0.8	0.9	0.9	1.0 <sup>a</sup>	0.9	0.8
Alcohol	1.0	1.0	1.1	1.2	1.1	1.1	1.2
Both Illicit Drugs and Alcohol <sup>1</sup>	0.6	0.5	0.6	0.6	0.6	0.6	0.5
Illicit Drugs or Alcohol <sup>1,2</sup>	1.5	1.4 <sup>a</sup>	1.6	1.6	1.6	1.6	1.6
<b>SPECIALTY FACILITY</b>							
Illicit Drugs <sup>1</sup>	0.6	0.5	0.6	0.5	0.6 <sup>a</sup>	0.5	0.5
Alcohol	0.7	0.5	0.6	0.7	0.6	0.6	0.6
Both Illicit Drugs and Alcohol <sup>1</sup>	0.3	0.3	0.3	0.3	0.3	0.2	0.2
Illicit Drugs or Alcohol <sup>1,2</sup>	1.0	0.8	1.0	0.9	1.0	1.0	0.9

\*Low precision; no estimate reported.

NOTE: Received Substance Use Treatment refers to treatment received in order to reduce or stop illicit drug or alcohol use, or for medical problems associated with illicit drug or alcohol use. Treatment at Any Treatment Location includes treatment received at any location, such as a hospital, rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail. Treatment at a Specialty Facility refers to treatment received at a hospital (inpatient), rehabilitation facility (inpatient or outpatient), or mental health center.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

<sup>2</sup> Estimates include persons who received treatment specifically for illicit drugs or alcohol, as well as persons who received treatment but did not specify for what substance(s).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.32 Needed and Received Treatment for a Substance Use Problem in the Past Year among Persons Aged 12 or Older: Numbers in Thousands, 2002-2008**

<b>Substance/Substance Treatment Status</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>NEEDED TREATMENT FOR ILLICIT DRUGS<sup>1</sup></b>	7,748	7,333	8,053	7,550	7,756	7,528	7,559
Received Treatment at a Specialty Facility	1,412	1,103	1,427	1,280	1,576 <sup>a</sup>	1,343	1,209
Did Not Receive Treatment at a Specialty Facility	6,335	6,230	6,626	6,269	6,180	6,185	6,351
<b>NEEDED TREATMENT FOR ALCOHOL</b>	18,638	18,215	19,360	19,378	19,520	19,301	18,951
Received Treatment at a Specialty Facility	1,549	1,298	1,535	1,626	1,557	1,567	1,560
Did Not Receive Treatment at a Specialty Facility	17,089	16,917	17,824	17,752	17,963	17,734	17,391
<b>NEEDED TREATMENT FOR ILLICIT DRUGS OR ALCOHOL<sup>1</sup></b>	22,811	22,165	23,476	23,172	23,591	23,202	23,051
Received Treatment at a Specialty Facility	2,346	1,874 <sup>a</sup>	2,327	2,308	2,537	2,412	2,287
Did Not Receive Treatment at a Specialty Facility	20,465	20,290	21,149	20,864	21,054	20,790	20,764

\*Low precision; no estimate reported.

NOTE: Respondents were classified as needing treatment for a substance use problem if they met at least one of three criteria during the past year: (1) dependent on the substance; (2) abuse of the substance; or (3) received treatment for substance use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient], or mental health center).

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.33 Needed and Received Treatment for a Substance Use Problem in the Past Year among Persons Aged 12 or Older: Percentages, 2002-2008**

Substance/Substance Treatment Status	2002	2003	2004	2005	2006	2007	2008
<b>NEEDED TREATMENT FOR ILLICIT DRUGS<sup>1</sup></b>	3.3 <sup>a</sup>	3.1	3.3 <sup>a</sup>	3.1	3.2	3.0	3.0
Received Treatment at a Specialty Facility	0.6	0.5	0.6	0.5	0.6 <sup>a</sup>	0.5	0.5
Did Not Receive Treatment at a Specialty Facility	2.7	2.6	2.8	2.6	2.5	2.5	2.5
<b>NEEDED TREATMENT FOR ALCOHOL</b>	7.9	7.7	8.0	8.0	7.9	7.8	7.6
Received Treatment at a Specialty Facility	0.7	0.5	0.6	0.7	0.6	0.6	0.6
Did Not Receive Treatment at a Specialty Facility	7.3	7.1	7.4	7.3	7.3	7.2	7.0
<b>NEEDED TREATMENT FOR ILLICIT DRUGS OR ALCOHOL<sup>1</sup></b>	9.7	9.3	9.8 <sup>a</sup>	9.5	9.6	9.4	9.2
Received Treatment at a Specialty Facility	1.0	0.8	1.0	0.9	1.0	1.0	0.9
Did Not Receive Treatment at a Specialty Facility	8.7	8.5	8.8 <sup>a</sup>	8.6	8.6	8.4	8.3

\*Low precision; no estimate reported.

NOTE: Respondents were classified as needing treatment for a substance use problem if they met at least one of three criteria during the past year: (1) dependent on the substance; (2) abuse of the substance; or (3) received treatment for substance use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient], or mental health center).

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine items added in 2005 and 2006.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

**Table G.34 Needed and Received Treatment at a Specialty Facility for an Illicit Drug or Alcohol Problem in the Past Year among Persons Aged 12 or Older, by Demographic Characteristics: Percentages, 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Needed Treatment (2007)</b>	<b>Needed Treatment (2008)</b>	<b>Needed and Received Treatment (2007)</b>	<b>Needed and Received Treatment (2008)</b>	<b>Needed but Did Not Receive Treatment (2007)</b>	<b>Needed but Did Not Receive Treatment (2008)</b>	<b>Percentage Who Received Treatment among Persons Who Needed Treatment (2007)</b>	<b>Percentage Who Received Treatment among Persons Who Needed Treatment (2008)</b>
<b>TOTAL</b>	9.4	9.2	1.0	0.9	8.4	8.3	10.4	9.9
<b>AGE</b>								
12-17	7.9	7.8	0.6	0.6	7.3	7.2	7.6	7.4
18-25	21.1	21.2	1.5	1.5	19.7	19.7	7.0	7.1
26 or Older	7.5	7.4	0.9	0.9	6.6	6.5	12.4	11.6
<b>GENDER</b>								
Male	13.0 <sup>a</sup>	11.9	1.4	1.2	11.5 <sup>a</sup>	10.7	10.9	10.3
Female	6.0 <sup>b</sup>	6.7	0.6	0.6	5.4 <sup>b</sup>	6.1	9.3	9.3
<b>HISPANIC ORIGIN AND RACE</b>								
Not Hispanic or Latino	9.5	9.2	1.0	1.0	8.4	8.2	11.0	10.7
White	9.7	9.4	1.0	1.0	8.8	8.4	9.9	10.3
Black or African American	9.3	9.5	1.7	1.2	7.6	8.2	18.2	13.2
American Indian or Alaska Native	14.5	12.1	3.4	1.9	11.1	10.2	*	15.4
Native Hawaiian or Other Pacific Islander	9.9	*	0.1	0.1	9.9	*	*	*
Asian	4.9	4.2	0.2	0.4	4.7	3.8	*	*
Two or More Races	11.7	10.4	1.8	1.3	9.8	9.1	*	12.9
Hispanic or Latino	8.6	9.7	0.5	0.5	8.0	9.2	6.0	5.4

\*Low precision; no estimate reported.

NOTE: Respondents were classified as needing treatment for an illicit drug or alcohol problem if they met at least one of three criteria during the past year: (1) dependent on illicit drugs or alcohol; (2) abuse of illicit drugs or alcohol; or (3) received treatment for illicit drug or alcohol use at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient], or mental health center). Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine use items added in 2005 and 2006.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.35 Perceived Need for Illicit Drug or Alcohol Treatment and Whether Made an Effort to Get Treatment in the Past Year among Persons Aged 12 or Older Classified as Needing But Not Receiving Treatment for an Illicit Drug or Alcohol Problem, by Demographic Characteristics: Numbers in Thousands, 2007 and 2008**

Demographic Characteristic	Needed but Did Not Receive Treatment <sup>1</sup> (2007)	Needed but Did Not Receive Treatment <sup>1</sup> (2008)	Felt Need for Treatment <sup>2</sup> (2007)	Felt Need for Treatment <sup>2</sup> (2008)	Felt Need and Made Effort to Get Treatment <sup>2</sup> (2007)	Felt Need and Made Effort to Get Treatment <sup>2</sup> (2008)	Felt Need and Made No Effort to Get Treatment <sup>2</sup> (2007)	Felt Need and Made No Effort to Get Treatment <sup>2</sup> (2008)	Did Not Feel Need for Treatment <sup>2</sup> (2007)	Did Not Feel Need for Treatment <sup>2</sup> (2008)
<b>TOTAL</b>	20,790	20,764	1,335	1,000	380 <sup>a</sup>	233	955	766	19,455	19,764
<b>AGE</b>										
12-17	1,832	1,795	55	39	15	8	40	31	1,776	1,756
18-25	6,435	6,489	255 <sup>a</sup>	184	82 <sup>a</sup>	42	173	142	6,180	6,304
26 or Older	12,523	12,481	1,025	776	283	183	742	593	11,498	11,704
<b>GENDER</b>										
Male	13,871	12,953	898	591	262 <sup>a</sup>	137	636	455	12,973	12,361
Female	6,919 <sup>b</sup>	7,811	437	408	118	97	319	312	6,482 <sup>b</sup>	7,403

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Needing But Not Receiving Treatment refers to respondents classified as needing treatment for illicit drugs or alcohol, but have not received treatment for an illicit drug or alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient], or mental health center). Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine use items added in 2005 and 2006.

<sup>2</sup> Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an illicit drug or alcohol problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.36 Perceived Need for Illicit Drug or Alcohol Treatment and Whether Made an Effort to Get Treatment in the Past Year among Persons Aged 12 or Older Classified as Needing But Not Receiving Treatment for an Illicit Drug or Alcohol Problem, by Demographic Characteristics: Percentages, 2007 and 2008**

Demographic Characteristic	Needed but Did Not Receive Treatment <sup>1</sup> (2007)	Needed but Did Not Receive Treatment <sup>1</sup> (2008)	Felt Need for Treatment <sup>2</sup> (2007)	Felt Need for Treatment <sup>2</sup> (2008)	Felt Need and Made Effort to Get Treatment <sup>2</sup> (2007)	Felt Need and Made Effort to Get Treatment <sup>2</sup> (2008)	Felt Need and Made No Effort to Get Treatment <sup>2</sup> (2007)	Felt Need and Made No Effort to Get Treatment <sup>2</sup> (2008)	Did Not Feel Need for Treatment <sup>2</sup> (2007)	Did Not Feel Need for Treatment <sup>2</sup> (2008)
<b>TOTAL</b>	100.0	100.0	6.4 <sup>a</sup>	4.8	1.8 <sup>a</sup>	1.1	4.6	3.7	93.6 <sup>a</sup>	95.2
<b>AGE</b>										
12-17	100.0	100.0	3.0	2.2	0.8	0.5	2.2	1.7	97.0	97.8
18-25	100.0	100.0	4.0 <sup>a</sup>	2.8	1.3 <sup>a</sup>	0.7	2.7	2.2	96.0 <sup>a</sup>	97.2
26 or Older	100.0	100.0	8.2	6.2	2.3	1.5	5.9	4.8	91.8	93.8
<b>GENDER</b>										
Male	100.0	100.0	6.5	4.6	1.9	1.1	4.6	3.5	93.5	95.4
Female	100.0	100.0	6.3	5.2	1.7	1.2	4.6	4.0	93.7	94.8

\*Low precision; no estimate reported.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Needing But Not Receiving Treatment refers to respondents classified as needing treatment for illicit drugs or alcohol, but have not received treatment for an illicit drug or alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facility [inpatient or outpatient], hospital [inpatient], or mental health center). Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically, based on data from original questions not including methamphetamine use items added in 2005 and 2006.

<sup>2</sup> Felt Need for Treatment includes persons who did not receive but felt they needed treatment for an illicit drug or alcohol problem, as well as persons who received treatment at a location other than a specialty facility but felt they needed additional treatment.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.37 Serious Mental Illness in the Past Year among Persons Aged 18 or Older, by Age Group and Demographic Characteristics: Percentages, 2008**

Demographic Characteristic	Total	Aged 18-25	Aged 26-49	Aged 50+
<b>TOTAL</b>	4.4	7.4	5.2	2.3
<b>GENDER</b>				
Male	3.0	5.0	3.7	1.5
Female	5.6	9.8	6.8	3.1
<b>HISPANIC ORIGIN AND RACE</b>				
Not Hispanic or Latino	4.4	7.5	5.5	2.3
White	4.7	7.9	6.0	2.5
Black or African American	3.5	6.0	4.4	0.8
American Indian or Alaska Native	4.2	4.5	6.5	*
Native Hawaiian or Other Pacific Islander	*	*	*	*
Asian	2.9	5.6	2.2	*
Two or More Races	5.6	12.3	8.2	1.6
Hispanic or Latino	4.0	7.0	3.8	2.3
<b>EDUCATION</b>				
< High School	4.9	9.0	6.1	2.5
High School Graduate	4.4	6.8	5.7	2.3
Some College	5.5	7.9	6.5	2.9
College Graduate	3.0	5.8	3.5	1.9
<b>CURRENT EMPLOYMENT</b>				
Full-Time	3.5	6.9	3.9	1.4
Part-Time	4.8	7.2	6.3	1.5
Unemployed	8.0	9.8	6.7	8.4
Other <sup>1</sup>	5.3	7.7	11.2	3.1

\*Low precision; no estimate reported.

NOTE: Serious Mental Illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder that met criteria in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) and resulted in functional impairment that substantially interfered with or limited one or more major life activities. NSDUH respondents' SMI status is determined based on their responses to questions on distress (K6 scale) and impairment (World Health Organization Disability Assessment Schedule [WHODAS] for half the sample, and Sheehan Disability Scale [SDS] for the other half). Regression models, based on clinical interviews conducted on a subset ( $n = 1,502$ ) of NSDUH respondents, specify the distress and impairment levels predictive of having SMI. For details, see Section B.4.6 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>1</sup>The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.  
Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.



**Table G.38 Received Mental Health Treatment/Counseling in the Past Year among Persons Aged 18 or Older, by Past Year Serious Mental Illness and Demographic Characteristics: Percentages, 2008**

Demographic Characteristic	Total <sup>1</sup>	Serious Mental Illness	No Serious Mental Illness
<b>TOTAL</b>	13.4	58.7	11.3
<b>AGE</b>			
18-25	10.8	40.4	8.5
26-49	14.0	62.2	11.3
50 or Older	13.6	70.9	12.3
<b>GENDER</b>			
Male	9.3	52.9	7.9
Female	17.2	61.6	14.5
<b>HISPANIC ORIGIN AND RACE</b>			
Not Hispanic or Latino	14.4	61.4	12.2
White	16.0	64.6	13.6
Black or African American	8.7	44.8	7.4
American Indian or Alaska Native	13.2	*	10.5
Native Hawaiian or Other Pacific Islander	*	*	2.7
Asian	4.5	*	3.6
Two or More Races	18.8	*	16.5
Hispanic or Latino	6.8	39.4	5.4
<b>EDUCATION</b>			
< High School	11.3	45.2	9.5
High School Graduate	12.3	57.9	10.2
Some College	14.2	58.9	11.6
College Graduate	15.0	72.1	13.3
<b>CURRENT EMPLOYMENT</b>			
Full-Time	10.8	51.1	9.3
Part-Time	15.4	59.0	13.3
Unemployed	14.1	51.0	10.9
Other <sup>2</sup>	17.3	70.0	14.4

\*Low precision; no estimate reported.

NOTE: Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

NOTE: Serious Mental Illness (SMI) is defined as having a diagnosable mental, behavioral, or emotional disorder that met criteria in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* and resulted in functional impairment that substantially interfered with or limited one or more major life activities. NSDUH respondents' SMI status is determined based on their responses to questions on distress (K6 scale) and impairment (World Health Organization Disability Assessment Schedule [WHODAS] for half the sample, and Sheehan Disability Scale [SDS] for the other half). Regression models, based on clinical interviews conducted on a subset (n = 1,502) of NSDUH respondents, specify the distress and impairment levels predictive of having SMI. For details, see Section B.4.6 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

<sup>1</sup>Estimates in the Total column represent persons aged 18 or older, including those with unknown past year SMI information.

<sup>2</sup>The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008.

**Table G.39 Specific Types of Mental Health Treatment/Counseling Received in the Past Year among Persons Aged 18 or Older, by Demographic Characteristics: Percentages, 2007 and 2008**

<b>Demographic Characteristic</b>	<b>Received Mental Health Treatment/ Counseling<sup>1</sup> (2007)</b>	<b>Received Mental Health Treatment/ Counseling<sup>1</sup> (2008)</b>	<b>Inpatient (2007)</b>	<b>Inpatient (2008)</b>	<b>Outpatient (2007)</b>	<b>Outpatient (2008)</b>	<b>Prescription Medication (2007)</b>	<b>Prescription Medication (2008)</b>
<b>TOTAL</b>	13.2	13.4	1.0	0.9	6.9	6.8	11.1	11.3
<b>AGE</b>								
18-25	10.3	10.8	1.1	1.1	5.6	5.8	7.9	8.0
26-49	14.3	14.0	1.1 <sup>a</sup>	0.8	8.0	7.9	11.7	11.6
50 or Older	13.2	13.6	0.7	0.9	6.2	6.0	11.6	12.2
<b>GENDER</b>								
Male	9.2	9.3	1.0	0.7	4.7	5.0	7.5	7.5
Female	17.0	17.2	0.9	1.0	9.0	8.5	14.5	14.8
<b>HISPANIC ORIGIN AND RACE</b>								
Not Hispanic or Latino	14.2	14.4	1.0	0.9	7.4	7.3	12.0	12.3
White	16.0	16.0	0.9	0.8	8.2	7.9	13.8	13.9
Black or African American	6.8 <sup>a</sup>	8.7	1.2	1.6	4.1	5.5	5.1	6.2
American Indian or Alaska Native	11.6	13.2	1.6	0.6	3.9	7.8	10.1	9.5
Native Hawaiian or Other Pacific Islander	*	*	*	*	1.1	*	1.4	1.1
Asian	3.9	4.5	0.6	0.3	2.4	2.3	2.4	3.4
Two or More Races	15.6	18.8	1.9	0.4	9.5	7.2	12.1	17.1
Hispanic or Latino	7.3	6.8	1.0	1.0	3.9	3.8	5.6	5.2
<b>EDUCATION</b>								
< High School	12.3	11.3	2.2	2.0	5.8	4.7	9.9	9.2
High School Graduate	12.5	12.3	1.0	0.8	5.8	5.5	10.9	10.7
Some College	13.6	14.2	0.8	0.7	7.0	7.3	11.8	12.4
College Graduate	14.4	15.0	0.4	0.5	8.8	9.0	11.5	12.3
<b>CURRENT EMPLOYMENT</b>								
Full-Time	10.8	10.8	0.4	0.4	5.6	5.6	8.8	9.0
Part-Time	14.8	15.4	1.0	1.0	8.0	8.3	12.4	12.6
Unemployed	14.3	14.1	1.5	1.2	8.3	8.1	12.3	11.8
Other <sup>2</sup>	17.0	17.3	1.9	1.7	8.7	8.2	14.8	15.1

\*Low precision; no estimate reported.

NOTE: Respondents could report receiving multiple types of mental health treatment/counseling; thus, these response categories are not mutually exclusive.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Mental Health Treatment/Counseling is defined as having received inpatient care or outpatient care or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use. Respondents with unknown treatment/counseling information were excluded. Estimates were based only on responses to items in the Adult Mental Health Service Utilization module.

<sup>2</sup> The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2007 and 2008.

**Table G.40 Had at Least One Major Depressive Episode (MDE) or MDE with Severe Impairment in the Past Year among Persons Aged 18 or Older, and Receipt of Treatment for Depression in the Past Year among Persons Aged 18 or Older with MDE or MDE with Severe Impairment in the Past Year, by Demographic Characteristics: Percentages, 2008**

Demographic Characteristic	Had MDE	Had MDE with Severe Impairment <sup>1</sup>	Received Treatment for Depression in the Past Year among Persons with MDE <sup>2</sup>	Received Treatment for Depression in the Past Year among Persons with MDE with Severe Impairment <sup>1,2</sup>
<b>TOTAL</b>	6.4	4.2	71.0	75.0
<b>GENDER</b>				
Male	4.6	3.2	65.0	69.0
Female	8.1	5.2	74.2	78.4
<b>HISPANIC ORIGIN AND RACE</b>				
Not Hispanic or Latino	6.6	4.5	72.5	76.6
White	7.0	4.8	74.2	77.5
Black or African American	4.9	3.3	55.2	*
American Indian or Alaska Native	4.9	2.6	*	*
Native Hawaiian or Other Pacific Islander	*	*	*	*
Asian	3.6	2.6	*	*
Two or More Races	12.7	7.7	*	*
Hispanic or Latino	5.2	2.7	*	*
<b>EDUCATION</b>				
< High School	5.5	3.6	69.8	*
High School Graduate	6.8	5.0	71.0	75.8
Some College	7.4	4.7	68.3	70.0
College Graduate	5.5	3.3	75.1	81.4
<b>CURRENT EMPLOYMENT</b>				
Full-Time	5.2	3.2	62.4	66.3
Part-Time	7.9	4.8	73.9	78.6
Unemployed	11.5	6.6	*	*
Other <sup>3</sup>	7.3	5.7	81.8	82.5
<b>MARITAL STATUS</b>				
Married	4.5	3.0	77.8	81.5
Widowed	3.9	2.1	*	*
Divorced or Separated	11.4	8.2	82.0	84.9
Never Married	8.6	5.5	54.1	59.6

\*Low precision; no estimate reported.

NOTE: Major Depressive Episode (MDE) is defined as in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms.

NOTE: Estimates in this table are based on a subsample of respondents aged 18 or older. See Section B.4.8 in Appendix B of the *Results from the 2008 National Survey on Drug Use and Health: National Findings*.

NOTE: Impairment is based on the Sheehan Disability Scale (SDS) role domains, which measure the impact of a disorder on a person's life. Impairment is defined as the highest severity level of role impairment across four domains: (1) home management, (2) work, (3) close relationships with others, and (4) social life. Ratings  $\geq 7$  on a 0 to 10 scale were considered Severe Impairment.

NOTE: Respondents with unknown Past Year MDE data were excluded.

<sup>1</sup> Respondents with unknown Severe Impairment data were excluded.

<sup>2</sup> Treatment is defined as seeing or talking to a medical doctor or other professional or using prescription medication for depression in the past year. Respondents with unknown treatment data were excluded.

<sup>3</sup> The Other Employment category includes retired persons, disabled persons, homemakers, students, or other persons not in the labor force.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2008 (subsample).

**Table G.41 Had at Least One Major Depressive Episode (MDE) in the Past Year among Persons Aged 12 to 17, by Demographic Characteristics: Percentages, 2004-2008**

Demographic Characteristic	2004	2005	2006	2007	2008
<b>TOTAL</b>	9.0 <sup>a</sup>	8.8	7.9	8.2	8.3
<b>AGE</b>					
12-13	5.4	5.2	4.9	4.3	4.8
14-15	9.2	9.5	7.9	8.4	8.4
16-17	12.3	11.5	10.7	11.5	11.1
<b>GENDER</b>					
Male	5.0 <sup>a</sup>	4.5	4.2	4.6	4.3
Female	13.1	13.3	11.8	11.9	12.4
<b>HISPANIC ORIGIN AND RACE</b>					
Not Hispanic or Latino	8.9	8.7	7.9	8.4	8.4
White	9.2	9.1	8.1	8.7	8.7
Black or African American	7.7	7.6	6.4	7.8	7.0
American Indian or Alaska Native	7.8	6.1	9.3	4.6	10.1
Native Hawaiian or Other Pacific Islander	*	*	*	*	*
Asian	8.3	6.0	7.6	6.8	7.6
Two or More Races	11.7	10.5	13.0	10.0	12.0
Hispanic or Latino	9.1	9.1	8.0	7.1	7.5

\*Low precision; no estimate reported.

NOTE: Major Depressive Episode (MDE) is defined as in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. Respondents with unknown past year MDE data were excluded.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2004, 2005, 2006, 2007, and 2008.

**Table G.42 Source of Mental Health Service in the Past Year among Persons Aged 12 to 17: Percentages, 2002-2008**

Source of Mental Health Service <sup>1</sup>	2002	2003	2004	2005	2006	2007	2008
<b>SPECIALTY MENTAL HEALTH</b>	12.0	12.5	13.5	13.5	13.1	12.5	12.7
<b>Outpatient</b>	10.8	11.3	12.1	12.1	11.7	11.1	11.4
Private Therapist, Psychologist, Psychiatrist, Social Worker, or Counselor	9.2	9.5	10.1	10.2	9.6	9.4	9.7
Mental Health Clinic or Center	2.5	2.6	2.9 <sup>b</sup>	2.6	2.3	2.3	2.3
Partial Day Hospital or Day Treatment Program	1.8	1.7	1.8	1.8	1.9 <sup>a</sup>	1.7	1.5
In-Home Therapist, Counselor, or Family Preservation Worker	2.8	2.6	3.0	2.9	2.8	2.8	2.9
<b>Inpatient or Residential (Overnight or Longer   Stay)</b>	2.4	2.5	2.8 <sup>a</sup>	2.8	2.7	2.5	2.4
Hospital	1.7	1.9	2.1	2.1	2.0	2.0	1.9
Residential Treatment Center	0.9	0.9	1.2 <sup>b</sup>	0.9	0.9	0.8	0.8
Foster Care or Therapeutic Foster Care Home	0.6	0.7 <sup>a</sup>	0.6	0.6	0.5	0.4	0.5
<b>EDUCATION<sup>2</sup></b>	10.6 <sup>b</sup>	12.1	12.7 <sup>a</sup>	12.1	11.9	11.5	11.8
School Counselor, School Psychologist or Regular Meetings with a Teacher	8.6 <sup>b</sup>	9.9	10.5	10.0	9.8	9.7	10.1
Special Education Services While in a Regular Classroom or Placement in a Special Classroom, Special Program or Special School	3.4	3.9 <sup>b</sup>	4.1 <sup>b</sup>	3.9 <sup>b</sup>	3.9 <sup>b</sup>	3.3	3.0
<b>MEDICAL</b>							
Pediatrician or Other Family Doctor	2.7	2.9	3.4 <sup>a</sup>	3.2	2.8	2.8	2.9
<b>SPECIALTY MENTAL HEALTH AND EDUCATION OR MEDICAL<sup>3</sup></b>	4.8	5.7	5.7	5.8	5.3	5.1	5.3

\*Low precision; no estimate reported.

NOTE: Receipt of mental health services for persons aged 12 to 17 is defined as having received treatment/counseling for emotional or behavioral problems not caused by drug or alcohol use.

NOTE: Respondents with unknown receipt of mental health service information in the past year were excluded.

<sup>a</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.05 level.

<sup>b</sup> Difference between estimate and 2008 estimate is statistically significant at the 0.01 level.

<sup>1</sup> Respondents could indicate multiple service sources; thus, these response categories are not mutually exclusive.

<sup>2</sup> Respondents who did not report their school enrollment status, who reported not being enrolled in school in the past 12 months, or who reported being home-schooled were not asked about receipt of mental health treatment/counseling from this source.

<sup>3</sup> Specialty Mental Health and Education or Medical includes receipt of any specialty mental health services and receipt of services from either Education or Medical sources.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.



# Appendix H: List of Contributors

This National Survey on Drug Use and Health (NSDUH) report was prepared by the Division of Population Surveys, Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS), and by RTI International (a trade name of Research Triangle Institute), Research Triangle Park, North Carolina. Work by RTI was performed under Contract No. 283-2004-00022.

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