

**Results from the 2009  
National Survey on Drug Use and Health:  
Volume I. Summary of National Findings**

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

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## **Originating Office**

Substance Abuse and Mental Health Services Administration  
Office of Applied Studies  
Division of Population Surveys  
1 Choke Cherry Road, Room 7-1044  
Rockville, MD 20857

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# Highlights

This report presents the first information from the 2009 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 2009, an estimated 21.8 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 8.7 percent of the population aged 12 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 2009 (8.7 percent) was higher than the rate in 2008 (8.0 percent).
- Marijuana was the most commonly used illicit drug. In 2009, there were 16.7 million past month users. Among persons aged 12 or older, the rate of past month marijuana use and the number of users in 2009 (6.6 percent or 16.7 million) were higher than in 2008 (6.1 percent or 15.2 million) and in 2007 (5.8 percent or 14.4 million).
- In 2009, there were 1.6 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 2008 (1.9 million or 0.7 percent) but were lower than the estimates in 2006 (2.4 million or 1.0 percent).
- Hallucinogens were used in the past month by 1.3 million persons (0.5 percent) aged 12 or older in 2009, including 760,000 (0.3 percent) who had used Ecstasy. The number and percentage of Ecstasy users increased between 2008 (555,000 or 0.2 percent) and 2009.
- In 2009, there were 7.0 million (2.8 percent) persons aged 12 or older who used prescription-type psychotherapeutic drugs nonmedically in the past month. These estimates were higher than in 2008 (6.2 million or 2.5 percent), but similar to estimates in 2007 (6.9 million or 2.8 percent).
- The number of past month methamphetamine users decreased between 2006 and 2008, but then increased in 2009. The numbers were 731,000 (0.3 percent) in 2006, 529,000 (0.2 percent) in 2007, 314,000 (0.1 percent) in 2008, and 502,000 (0.2 percent) in 2009.
- Among youths aged 12 to 17, the current illicit drug use rate increased from 2008 (9.3 percent) to 2009 (10.0 percent). Between 2002 and 2008, the rate declined from 11.6 to 9.3 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, remained unchanged at 6.7 percent in 2007 and 2008, then increased to 7.3 percent in 2009.
- Among youths aged 12 to 17, the rate of nonmedical use of prescription-type drugs declined from 4.0 percent in 2002 to 2.9 percent in 2008, then held steady at 3.1 percent in 2009.
- The rate of current Ecstasy use among youths aged 12 to 17 declined from 0.5 percent in 2002 to 0.3 percent in 2004, remained at that level through 2007, then increased to 0.5 percent in 2009.
- Between 2008 and 2009, the rate of current use of illicit drugs among young adults aged 18 to 25 increased from 19.6 to 21.2 percent, driven largely by an increase in marijuana use (from 16.5 to 18.1 percent).
- From 2002 to 2009, there was an increase among young adults aged 18 to 25 in the rate of current nonmedical use of prescription-type drugs (from 5.5 to 6.3 percent), driven primarily by an increase in pain reliever misuse (from 4.1 to 4.8 percent). There were decreases in the use of cocaine (from 2.0 to 1.4 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 6.2 percent in 2009. This trend partially reflects 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 2008-2009 who used pain relievers nonmedically in the past 12 months, 55.3 percent got the drug they most recently used from a friend or relative for free. Another 17.6 percent reported they got the drug from one doctor. Only 4.8 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, 80.0 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 2009, 17.0 percent were current illicit drug users, which was higher than the 8.0 percent of those employed full time and 11.5 percent of those employed part time. However, most illicit drug users were employed. Of the 19.3 million current illicit drug users aged 18 or older in 2009, 12.9 million (66.6 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 and 2.5 million in 2009, primarily because of an overall increase in the number of unemployed persons.
- In 2009, 10.5 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.2 percent of the population aged 12 or older, which is similar to the rate in 2008 (4.0 percent) and the rate in 2002 (4.7 percent). In 2009, the rate was highest among young adults aged 18 to 25 (12.8 percent).

## Alcohol Use

- Slightly more than half of Americans aged 12 or older reported being current drinkers of alcohol in the 2009 survey (51.9 percent). This translates to an estimated 130.6 million people, which is similar to the 2008 estimate of 129.0 million people (51.6 percent).
- In 2009, nearly one quarter (23.7 percent) of persons aged 12 or older participated in binge drinking. This translates to about 59.6 million people. The rate in 2009 is similar to the estimate in 2008. 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 2009, heavy drinking was reported by 6.8 percent of the population aged 12 or older, or 17.1 million people. This rate was similar to the rate of heavy drinking in 2008. 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 2009, the rate of binge drinking was 41.7 percent, and the rate of heavy drinking was 13.7 percent. These rates were similar to the rates in 2008.
- The rate of current alcohol use among youths aged 12 to 17 was 14.7 percent in 2009, which is similar to the 2008 rate (14.6 percent). Youth binge and heavy drinking rates in 2009 (8.8 and 2.1 percent) were also similar to rates in 2008 (8.8 and 2.0 percent).
- Past month and binge drinking rates among underage persons (aged 12 to 20) declined between 2002 and 2008, but then remained unchanged between 2008 (26.4 and 17.4 percent) and 2009 (27.2 and 18.1 percent).
- Among persons aged 12 to 20, past month alcohol use rates in 2009 were 16.1 percent among Asians, 20.4 percent among blacks, 22.0 percent among American Indians or Alaska Natives, 25.1 percent among Hispanics, 27.5 percent among those reporting two or more races, and 30.4 percent among whites.
- In 2009, 55.9 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 29.2 percent reported that it had occurred in their own home. About one third (30.3 percent) paid for the alcohol the last time they drank, including 9.0 percent who purchased the alcohol themselves and 21.3 percent who gave money to someone else to purchase it. Among those who did not pay for the alcohol they last drank, 37.1 percent got it from an unrelated person aged 21 or older, 19.9 percent from another person younger than 21 years old, and 20.6 percent from a parent, guardian, or other adult family member.
- In 2009, an estimated 12.0 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 (24.8 percent).

## **Tobacco Use**

- In 2009, an estimated 69.7 million Americans aged 12 or older were current (past month) users of a tobacco product. This represents 27.7 percent of the population in that age range. In addition, 58.7 million persons (23.3 percent of the population) were current cigarette smokers; 13.3 million (5.3 percent) smoked cigars; 8.6 million (3.4 percent) used smokeless tobacco; and 2.1 million (0.8 percent) smoked tobacco in pipes.
- Between 2002 and 2009, past month use of any tobacco product decreased from 30.4 to 27.7 percent, and past month cigarette use declined from 26.0 to 23.3 percent. Rates of past month use of cigars, smokeless tobacco, and pipe tobacco in 2009 were similar to corresponding rates in 2002.
- The rate of past month tobacco use among 12 to 17 year olds remained steady from 2008 to 2009 (11.4 and 11.6 percent, respectively). The rate of past month cigarette use among 12 to 17 year olds also remained steady between 2008 and 2009 (9.1 and 8.9 percent, respectively) but declined since 2002 when the rate was 13.0 percent. However, past month smokeless tobacco use among youths increased from 2.0 percent in 2002 to 2.3 percent in 2009.

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

- In 2009, an estimated 3.1 million persons aged 12 or older used an illicit drug for the first time within the past 12 months. This averages to about 8,500 initiates per day and is similar to the estimate for 2008 (2.9 million). A majority of these past year illicit drug initiates reported that their first drug was marijuana (59.1 percent). Nearly one third initiated with psychotherapeutics (28.6 percent, including 17.1 percent with pain relievers, 8.6 percent with tranquilizers, 2.0 percent with stimulants, and 1.0 percent with sedatives). A sizable proportion reported inhalants (9.8 percent) as their first illicit drug, and a small proportion used hallucinogens as their first drug (2.1 percent).
- In 2009, the illicit drug categories with the largest number of past year initiates among persons aged 12 or older were marijuana use (2.4 million) and nonmedical use of pain relievers (2.2 million). These estimates were not significantly different from the numbers in 2008. However, the number of marijuana initiates increased between 2007 (2.1 million) and 2009 (2.4 million).
- In 2009, the average age of marijuana initiates among persons aged 12 to 49 was 17.0 years, significantly lower than the average age of marijuana initiates in 2008 (17.8 years), but similar to that in 2002 (17.0 years).
- The number of past year initiates of methamphetamine among persons aged 12 or older was 154,000 in 2009. This estimate was significantly higher than the estimate in 2008 (95,000), but lower than the estimate in 2002 (299,000).
- There was a significant increase in the number of past year initiates of Ecstasy between 2008 and 2009, from 894,000 to 1.1 million. The estimate was 1.2 million in 2002, declined to 642,000 in 2003, and nearly doubled between 2005 (615,000) and 2009.

- The number of past year cocaine initiates declined from 1.0 million in 2002 to 617,000 in 2009. The number of initiates of crack cocaine declined during this period from 337,000 to 94,000.
- In 2009, there were 180,000 persons who used heroin for the first time within the past year, significantly more than the average annual number from 2002 to 2008. Estimates during those years ranged from 91,000 to 118,000 per year.
- Most (85.5 percent) of the 4.6 million past year alcohol initiates were younger than 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 2.5 million in 2009, similar to the estimate in 2008 (2.4 million), but significantly higher than the estimate for 2002 (1.9 million). Most new smokers in 2009 were younger than 18 when they first smoked cigarettes (58.8 percent or 1.5 million).
- The number of persons aged 12 and older who used smokeless tobacco for the first time within the past year increased from 951,000 in 2002 to 1.5 million in 2009.

### **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 49.3 percent in 2009. Between 2002 and 2008, the percentages who reported great risk in smoking one or more packs of cigarettes per day increased from 63.1 to 69.7 percent, but in 2009 the percentage dropped to 65.8 percent.
- Almost half (49.9 percent) of youths aged 12 to 17 reported in 2009 that it would be "fairly easy" or "very easy" for them to obtain marijuana if they wanted some. Approximately one in five reported it would be easy to get cocaine (20.9 percent). About one in seven (13.5 percent) indicated that LSD would be "fairly" or "very" easily available, and 12.9 percent reported easy availability for heroin. Between 2002 and 2009, there were declines in the perceived availability for all four drugs.
- A majority of youths aged 12 to 17 (90.5 percent) in 2009 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 (4.8 vs. 31.3 percent).
- In 2009, almost four fifths (77.0 percent) reported having seen or heard drug or alcohol prevention messages from sources outside of school, lower than in 2002 (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 74.9 percent.

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

- In 2009, an estimated 22.5 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, 3.2 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 15.4 million were dependent on or abused alcohol but not illicit drugs.
- Between 2002 and 2009, the number of persons with substance dependence or abuse was stable (22.0 million in 2002 and 22.5 million in 2009).
- The specific illicit drugs that had the highest levels of past year dependence or abuse in 2009 were marijuana (4.3 million), pain relievers (1.9 million), and cocaine (1.1 million). The number of persons with marijuana dependence or abuse has not changed since 2002, but the number with pain reliever dependence or abuse has increased (from 1.5 million to 1.9 million) and the number with cocaine dependence or abuse has declined (from 1.5 million to 1.1 million).
- In 2009, adults aged 21 or older who had first used alcohol at age 14 or younger were more than 6 times as likely to be classified with alcohol dependence or abuse than adults who had their first drink at age 21 or older (16.5 vs. 2.5 percent).
- The rate of substance dependence or abuse for males aged 12 or older in 2009 was nearly twice as high as the rate for females (11.9 vs. 6.1 percent). Among youths aged 12 to 17, however, the rate of substance dependence or abuse among males (6.7 percent) was similar to the rate among females (7.4 percent).
- Between 2002 and 2009, the percentage of youths aged 12 to 17 with substance dependence or abuse declined from 8.9 to 7.0 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 2009, 23.5 million persons aged 12 or older needed treatment for an illicit drug or alcohol use problem (9.3 percent of persons aged 12 or older). Of these, 2.6 million (1.0 percent of persons aged 12 or older and 11.2 percent of those who needed treatment) received treatment at a specialty facility. Thus, 20.9 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 20.9 million persons aged 12 or older in 2009 who were classified as needing substance use treatment but did not receive treatment at a specialty facility in the past year, 1.1 million persons (5.1 percent) reported that they felt they needed treatment for their illicit drug or alcohol use problem. Of these 1.1 million persons who felt they needed treatment, 371,000 (34.9 percent) reported that they made an effort to get treatment, and 693,000 (65.1 percent) reported making no effort to get treatment.

# 1. Introduction

This report presents a first look at results from the 2009 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. The report focuses on trends between 2008 and 2009 and from 2002 to 2009, as well as differences across population subgroups in 2009. Estimates from NSDUH for States and areas within States will be presented in separate reports. NSDUH estimates related to mental health, which have been included in national findings reports in prior years, are not included in this 2009 report. A separate report focusing on 2009 mental health data, including co-occurring mental and substance use disorders, will be published later in 2010.

## 1.1. Summary of NSDUH

NSDUH is the primary source of statistical information on the use of illegal drugs, alcohol, and tobacco by the U.S. civilian, noninstitutionalized population aged 12 or older. 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 2009 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

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

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 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 143,565 addresses, and 68,700 completed interviews were obtained. The survey was conducted from January through December 2009. Weighted response rates for household screening and for interviewing were 88.8 and 75.7 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 2009 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 2009 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 and 2008 reports, incorporate statistical adjustments to enable year-to-year comparisons to be made over the period from 2002 to 2009.

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

This report has separate chapters that discuss the national findings on six topics: use of illicit drugs; use of alcohol; use of tobacco products; initiation of substance use; prevention-related issues; and substance dependence, abuse, and treatment. A final chapter summarizes the results and discusses key findings in relation to other research and survey results. Technical appendices presented in Volume II of this report 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 2009 estimates are significantly different from 2008 or earlier estimates. In addition, most percentages in this report are presented to the nearest tenth of a percent. Therefore, some estimates that are significantly different from one another may nevertheless round to the same value. 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.

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

Other reports focusing on specific topics of interest will be produced using the 2009 NSDUH data and made available on SAMHSA's Web site. In particular, data on mental health will be discussed in a separate report to be released later this year: *Results from the 2009 National Survey on Drug Use and Health: Mental Health Findings*. The report will address overall mental illness (i.e., any mental disorder), serious mental illness, major depressive episode, and suicide-related measures. Treatment for mental health problems and the co-occurrence of substance use disorders also will be included. A report on State-level estimates for substance use and mental health for 2008-2009 will be available in early 2011.

A comprehensive set of tables, referred to as "detailed tables," is available through the Internet at <http://www.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 7.1A 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://www.oas.samhsa.gov>). In addition, OAS makes public use data files available to researchers through the Substance Abuse and Mental Health Data Archive (SAMHDA, 2010) at <http://www.datafiles.samhsa.gov>. Currently, files are available from the 1979 to 2008 surveys.<sup>2</sup> The 2009 NSDUH public use file will be available by the end of 2010.

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<sup>2</sup> See <http://www.icpsr.umich.edu/icpsrweb/SAMHDA/series/64>.



## 2. Illicit Drug Use

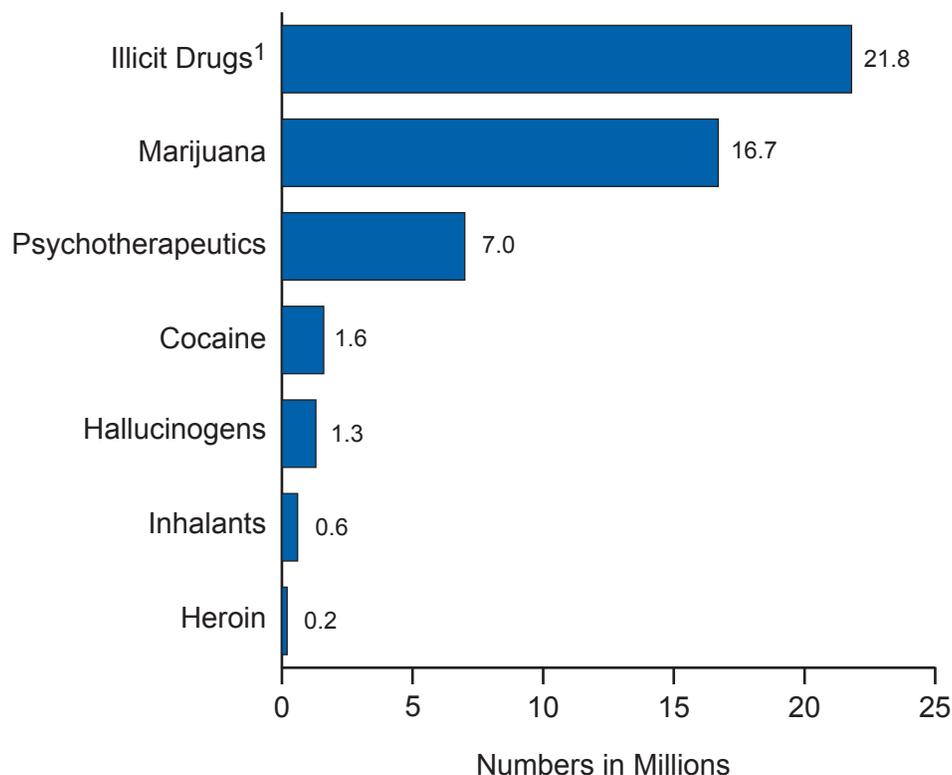
The National Survey on Drug Use and Health (NSDUH) obtains information on nine categories of illicit drug use: use of marijuana, cocaine, heroin, hallucinogens, and inhalants; and the nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives. In these categories, hashish 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. Respondents are asked to report use of inhalants to get high but not to report times when they accidentally inhaled a substance.

The four categories of prescription-type drugs (pain relievers, tranquilizers, stimulants, and sedatives) cover numerous medications that currently are or have been 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.

- In 2009, an estimated 21.8 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 8.7 percent of the population aged 12 or older.
- The overall rate of current illicit drug use among persons aged 12 or older in 2009 (8.7 percent) was higher than the rate in 2008 (8.0 percent) and higher than the rates in 2004 (7.9 percent), 2005 (8.1 percent), and 2007 (8.0 percent) (Figure 2.2).
- Marijuana was the most commonly used illicit drug (16.7 million past month users). In 2009, marijuana was used by 76.6 percent of current illicit drug users and was the only drug used by 58.0 percent of them. Illicit drugs other than marijuana were used by 9.2 million persons or 42.0 percent of illicit drug users aged 12 or older. Current use of other drugs but not marijuana was reported by 23.4 percent of illicit drug users, and 18.6 percent used both marijuana and other drugs.

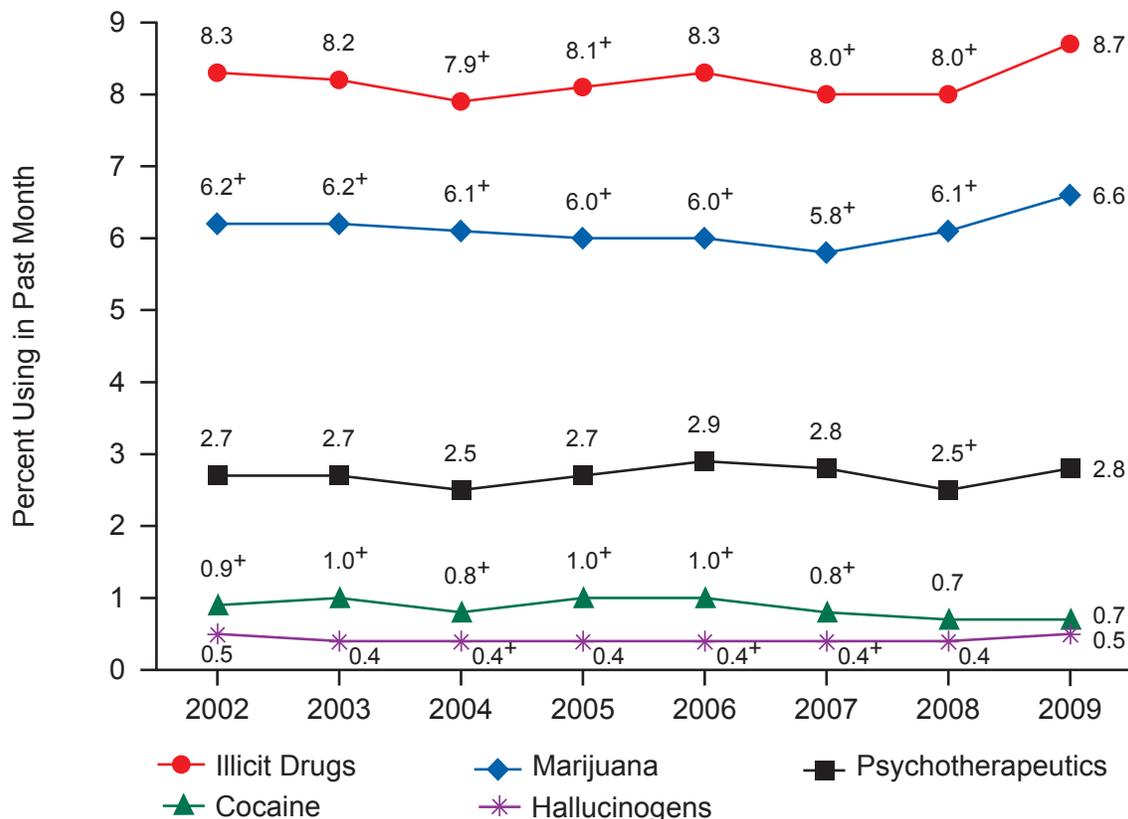
**Figure 2.1 Past Month Illicit Drug Use among Persons Aged 12 or Older: 2009**



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

- Among persons aged 12 or older, the rate of past month marijuana use and the number of users in 2009 (6.6 percent or 16.7 million) were higher than in 2008 (6.1 percent or 15.2 million) and in 2007 (5.8 percent or 14.4 million) (Figure 2.2).
- An estimated 9.2 million people aged 12 or older (3.6 percent) were current users of illicit drugs other than marijuana in 2009. The majority of these (7.0 million persons or 2.8 percent of the population) used psychotherapeutic drugs nonmedically in the past month. An estimated 5.3 million persons used pain relievers nonmedically in the past month in 2009, 2.0 million used tranquilizers, 1.3 million used stimulants, and 370,000 used sedatives.
- The number and percentage of current nonmedical users of psychotherapeutic drugs in 2009 (7.0 million or 2.8 percent) were higher than in 2008 (6.2 million or 2.5 percent) (Figure 2.2). Small but statistically significant increases in the percentage using stimulants (from 0.4 percent in 2008 to 0.5 percent in 2009) and sedatives (from 0.09 to 0.15 percent) contributed to this increase, along with a small increase for pain relievers (from 1.9 to 2.1 percent) that was not statistically significant (Figure 2.3). Though higher than in 2008, the 2009 rates for any psychotherapeutic drug use were similar to those in 2007 (6.9 million or 2.8 percent).

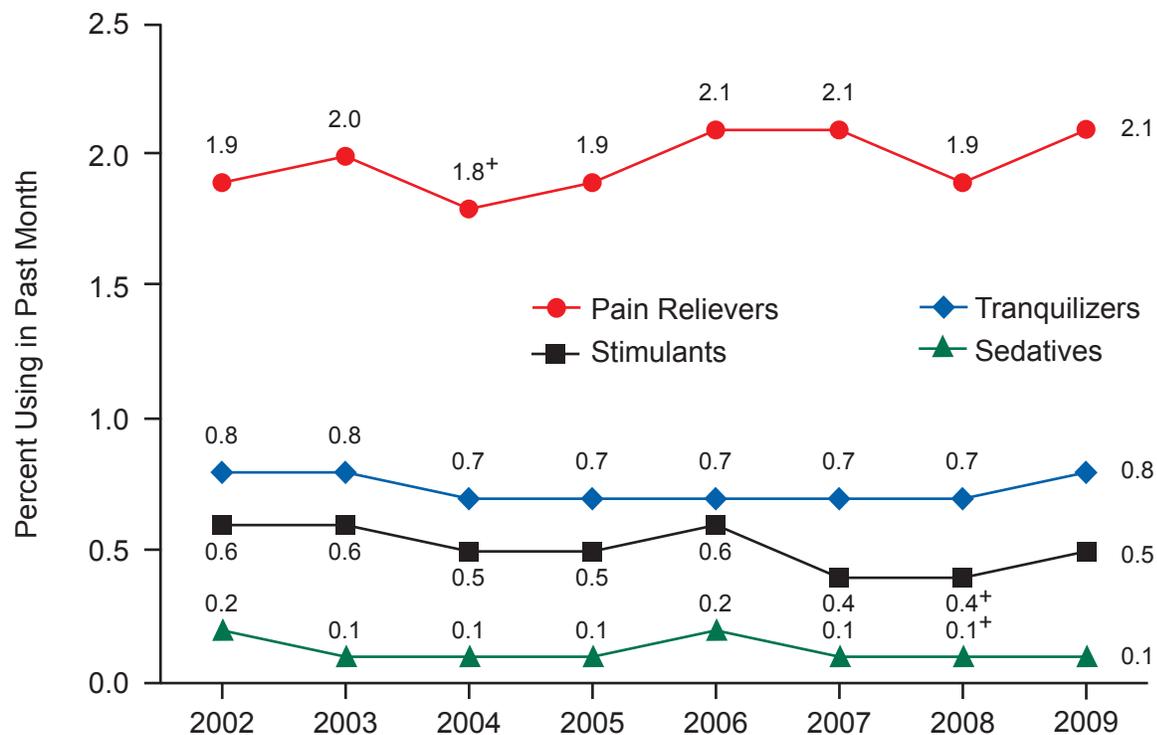
**Figure 2.2 Past Month Use of Selected Illicit Drugs among Persons Aged 12 or Older: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- The number and percentage of past month nonmedical users of stimulants increased from 904,000 (0.4 percent) in 2008 to 1.3 million (0.5 percent) in 2009, based in part on an increase in methamphetamine users, from 314,000 (0.1 percent) to 502,000 (0.2 percent).
- The number of past month methamphetamine users decreased between 2006 and 2008, but then increased in 2009. The numbers were 731,000 (0.3 percent) in 2006, 529,000 (0.2 percent) in 2007, 314,000 (0.1 percent) in 2008, and 502,000 (0.2 percent) in 2009.
- The estimated number and percentage of persons aged 12 or older who used cocaine in the past month in 2009 (1.6 million users or 0.7 percent) were similar to those in 2008 (1.9 million or 0.7 percent), but lower than the estimates in 2006 (2.4 million or 1.0 percent).
- Hallucinogens were used in the past month by 1.3 million persons aged 12 or older (0.5 percent) in 2009, including 760,000 (0.3 percent) who had used Ecstasy. The number and percentage of Ecstasy users in 2009 were higher than in 2008 (555,000 or 0.2 percent). Longer term data show that there were 676,000 Ecstasy users in 2002; the number decreased to 450,000 in 2004, then increased to 760,000 in 2009.

**Figure 2.3 Past Month Nonmedical Use of Types of Psychotherapeutic Drugs among Persons Aged 12 or Older: 2002-2009**

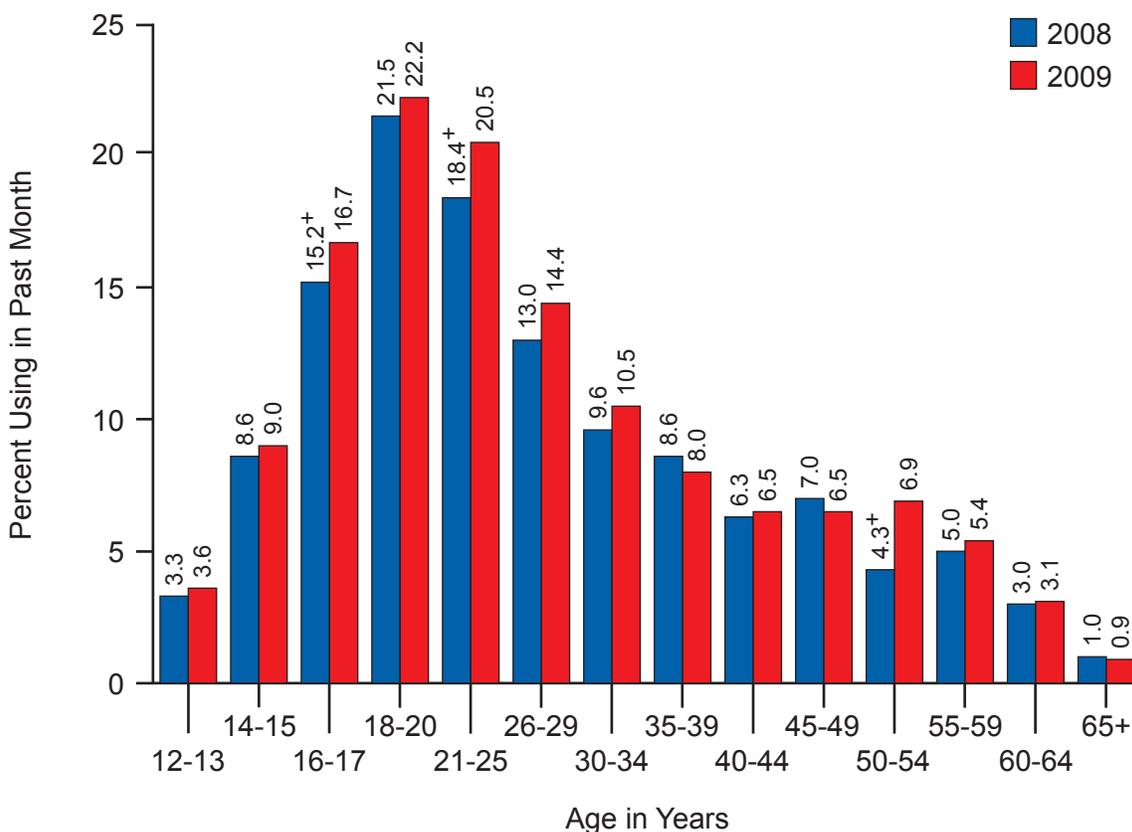


<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

### 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 2009 increased from 3.6 percent at ages 12 or 13 to 9.0 percent at ages 14 or 15 to 16.7 percent at ages 16 or 17 (Figure 2.4). The highest rate was among persons aged 18 to 20 (22.2 percent). The rate was 20.5 percent among those aged 21 to 25, and it was 14.4 percent among those aged 26 to 29. Among persons aged 65 or older, the rate was 0.9 percent.
- From 2008 to 2009, statistically significant increases in the rate of illicit drug use were observed among three of the age groups shown in Figure 2.4. Among youths aged 16 or 17, the rate increased from 15.2 to 16.7 percent; for young adults aged 21 to 25, it increased from 18.4 to 20.5 percent; and among adults aged 50 to 54, the rate increased from 4.3 to 6.9 percent.

**Figure 2.4 Past Month Illicit Drug Use among Persons Aged 12 or Older, by Age: 2008 and 2009**



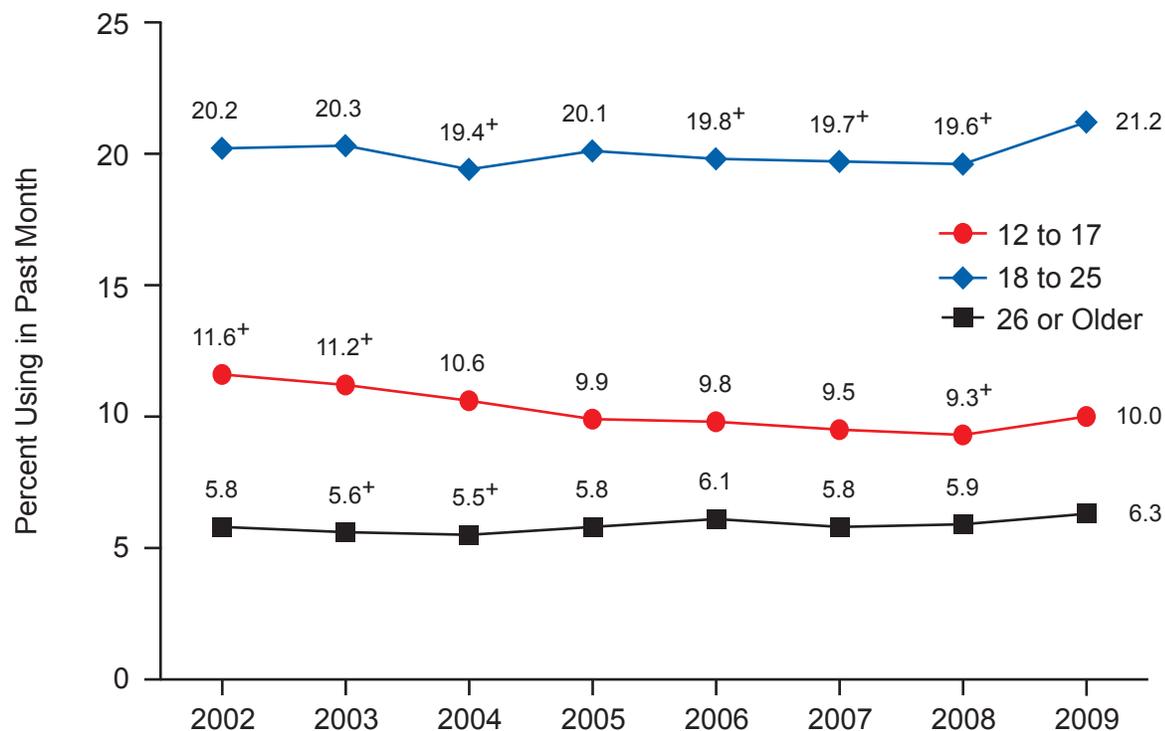
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- In 2009, 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 (6.3 vs. 10.0 and 21.2 percent, respectively). However, there were more drug users aged 26 or older (12.2 million) than users aged 12 to 17 (2.5 million) and users aged 18 to 25 (7.1 million) combined.
- The rate of past month illicit drug use increased from 2008 to 2009 among youths aged 12 to 17 (from 9.3 to 10.0 percent) and young adults aged 18 to 25 (from 19.6 to 21.2 percent) (Figure 2.5).

### **Youths Aged 12 to 17**

- In 2009, 10.0 percent of youths aged 12 to 17 were current illicit drug users (Figure 2.6): 7.3 percent used marijuana, 3.1 percent engaged in nonmedical use of prescription-type psychotherapeutics, 1.0 percent used inhalants, 0.9 percent used hallucinogens, and 0.3 percent used cocaine.

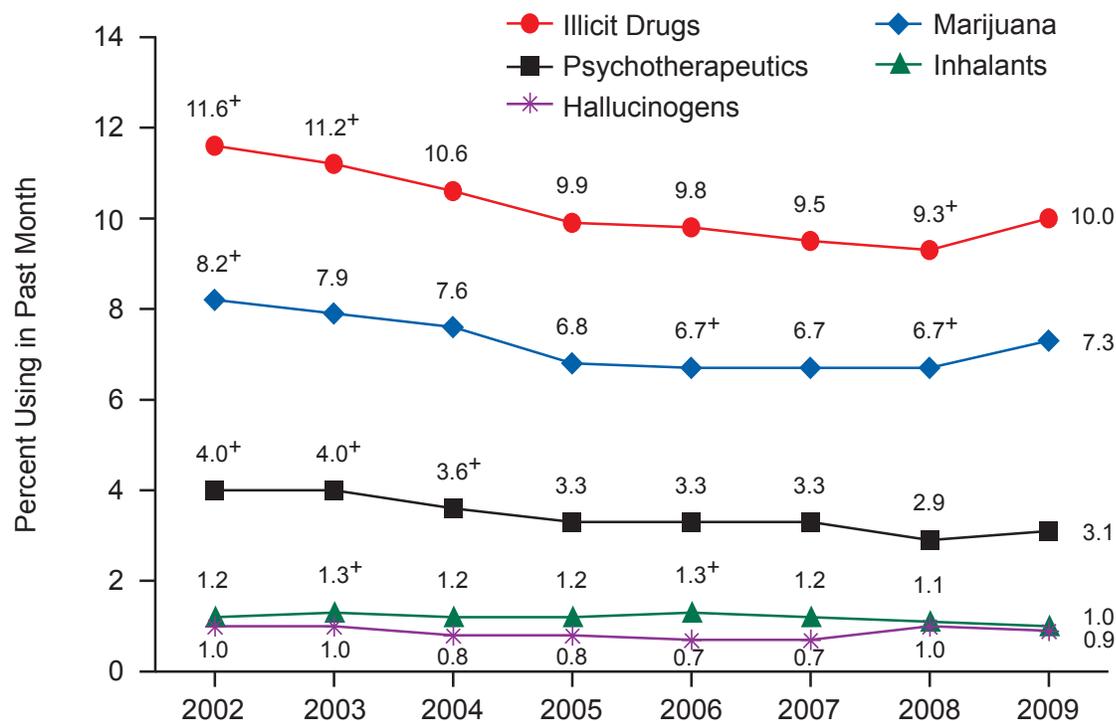
**Figure 2.5 Past Month Illicit Drug Use among Persons Aged 12 or Older, by Age: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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, 1.6 percent used prescription-type drugs nonmedically, 1.4 percent used inhalants, and 0.8 percent used marijuana. Among 14 or 15 year olds, marijuana was the most commonly used drug (6.3 percent), followed by prescription-type drugs used nonmedically (3.3 percent); inhalants and hallucinogens tied for third rank (0.8 percent). Marijuana also was the most commonly used drug among 16 or 17 year olds (14.0 percent); it was followed by prescription-type drugs used nonmedically (4.3 percent), hallucinogens (1.6 percent), inhalants (0.8 percent), and cocaine (0.6 percent).
- After gradually declining from 11.6 percent in 2002 to 9.3 percent in 2008, the rate of past month illicit drug use among 12 to 17 year olds increased to 10.0 percent in 2009 (Figure 2.6). Marijuana use declined from 8.2 percent in 2002 to 6.7 percent in 2006, held steady at that rate through 2008, then increased to 7.3 percent in 2009. Nonmedical use of psychotherapeutic drugs declined from 4.0 percent in 2002 and 2003 to 2.9 percent in 2008; the rate in 2009, 3.1 percent, was not significantly different from the rate in 2008.

**Figure 2.6 Past Month Use of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2009**



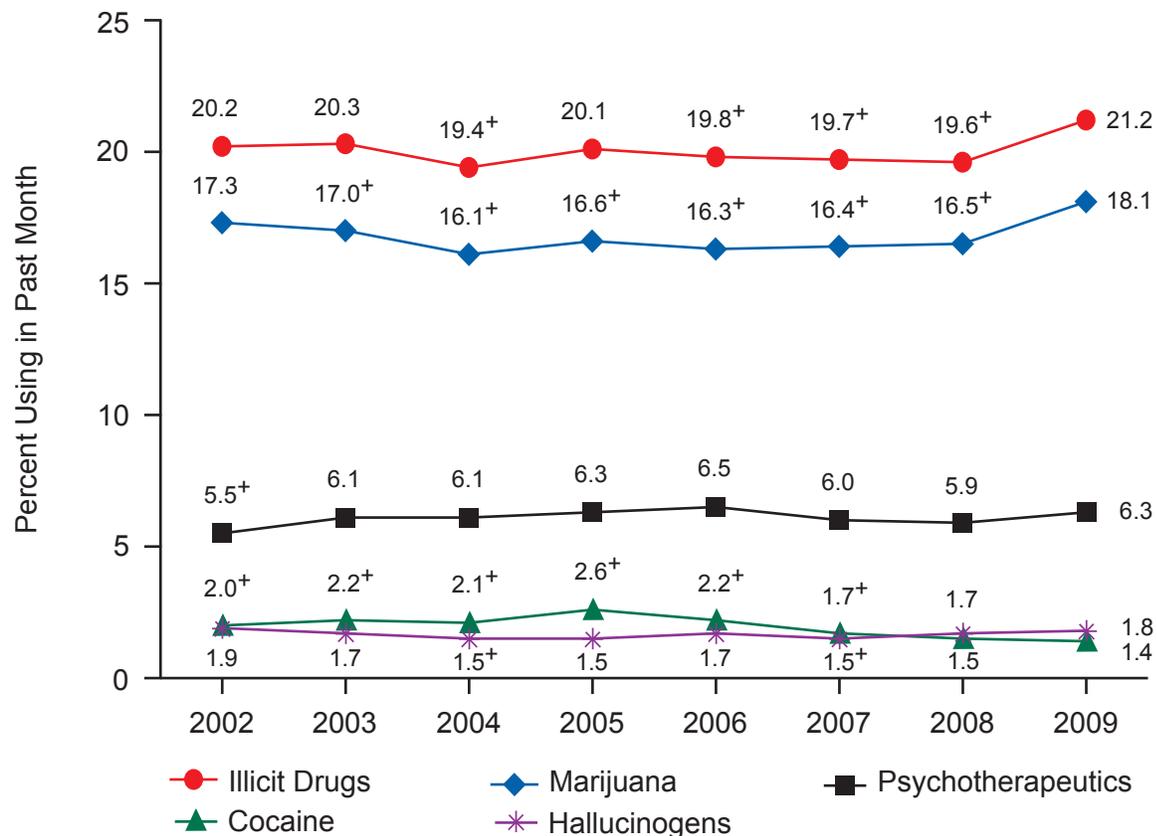
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- In 2002, 0.5 percent of youths aged 12 to 17 were current users of Ecstasy. The rate declined to 0.3 percent in 2004 and remained at that level through 2007. It increased to 0.5 percent in 2009.

### Young Adults Aged 18 to 25

- Rates of current use of illicit drugs in 2009 were higher for young adults aged 18 to 25 (21.2 percent) than for youths aged 12 to 17 (10.0 percent) and adults aged 26 or older (6.3 percent). Among young adults, 18.1 percent used marijuana in the past month, 6.3 percent used prescription-type drugs nonmedically, 1.8 percent used hallucinogens, and 1.4 percent used cocaine (Figure 2.7).
- From 2008 to 2009, the rate of current illicit use among young adults aged 18 to 25 increased from 19.6 to 21.2 percent, driven largely by an increase in marijuana use (from 16.5 to 18.1 percent).
- From 2002 to 2009, there were net increases in young adults' past month nonmedical use of psychotherapeutic drugs (from 5.5 to 6.3 percent) and nonmedical use of pain relievers (from 4.1 to 4.8 percent). Over the same period, there were net declines in young adults' use of cocaine (from 2.0 to 1.4 percent) and methamphetamine (from 0.6 to 0.2 percent).

**Figure 2.7 Past Month Use of Selected Illicit Drugs among Young Adults Aged 18 to 25: 2002-2009**



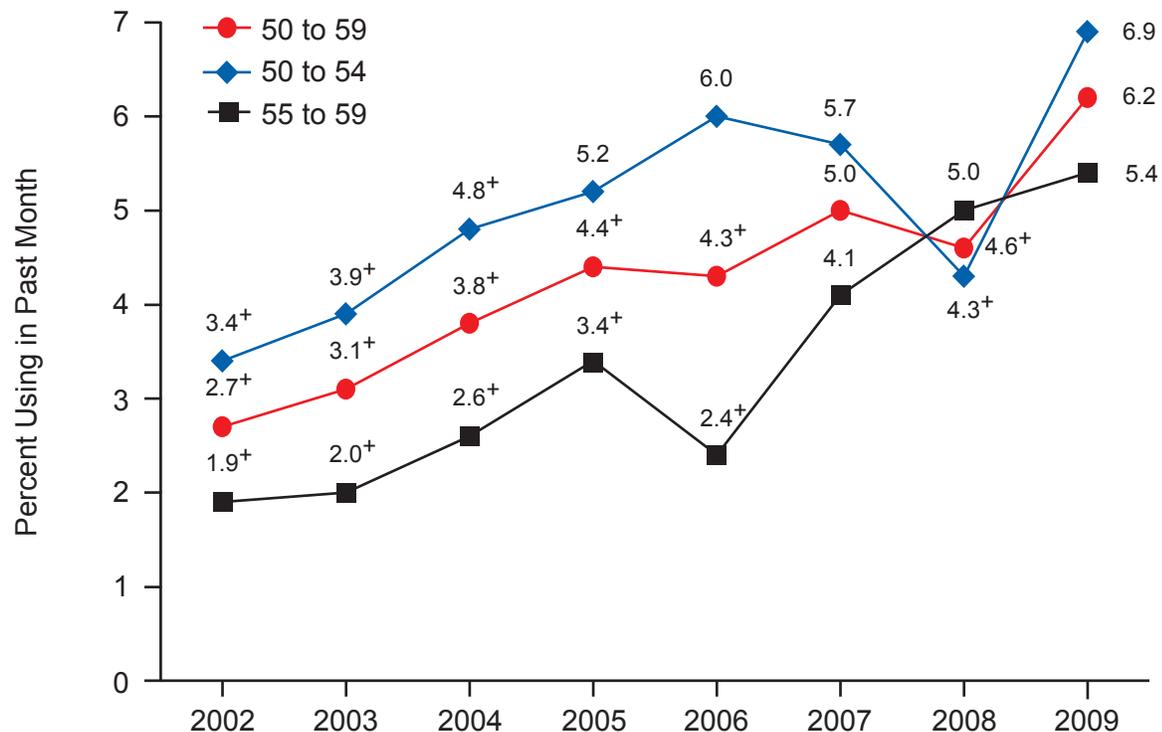
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

**Adults Aged 26 or Older**

- Among adults aged 26 or older, 6.3 percent were current illicit drug users in 2009. In this age group, 4.6 percent used marijuana, and 2.1 percent used prescription-type drugs nonmedically. Less than 1 percent used cocaine (0.6 percent), hallucinogens (0.2 percent), heroin (0.1 percent), and inhalants (0.1 percent). The only statistically significant changes between 2008 and 2009 in the rates of past month use among adults in this age group involved nonmedical use of stimulants (which increased from 0.2 to 0.4 percent) and methamphetamine use (which rose from 0.1 to 0.2 percent). In addition to these increases between 2008 and 2009, the rate of current marijuana use among adults aged 26 or older was higher in 2009 (4.6 percent) than in 2002 (4.0 percent).

- Among adults aged 50 to 59, the rate of current illicit drug use increased from 2.7 to 6.2 percent between 2002 and 2009 (Figure 2.8). For those aged 50 to 54, the rate increased from 3.4 percent in 2002 to 6.9 percent in 2009. Among those aged 55 to 59, current illicit drug use increased from 1.9 percent in 2002 to 5.4 percent in 2009. These patterns and trends 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 2.8 Past Month Illicit Drug Use among Adults Aged 50 to 59: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

### Gender

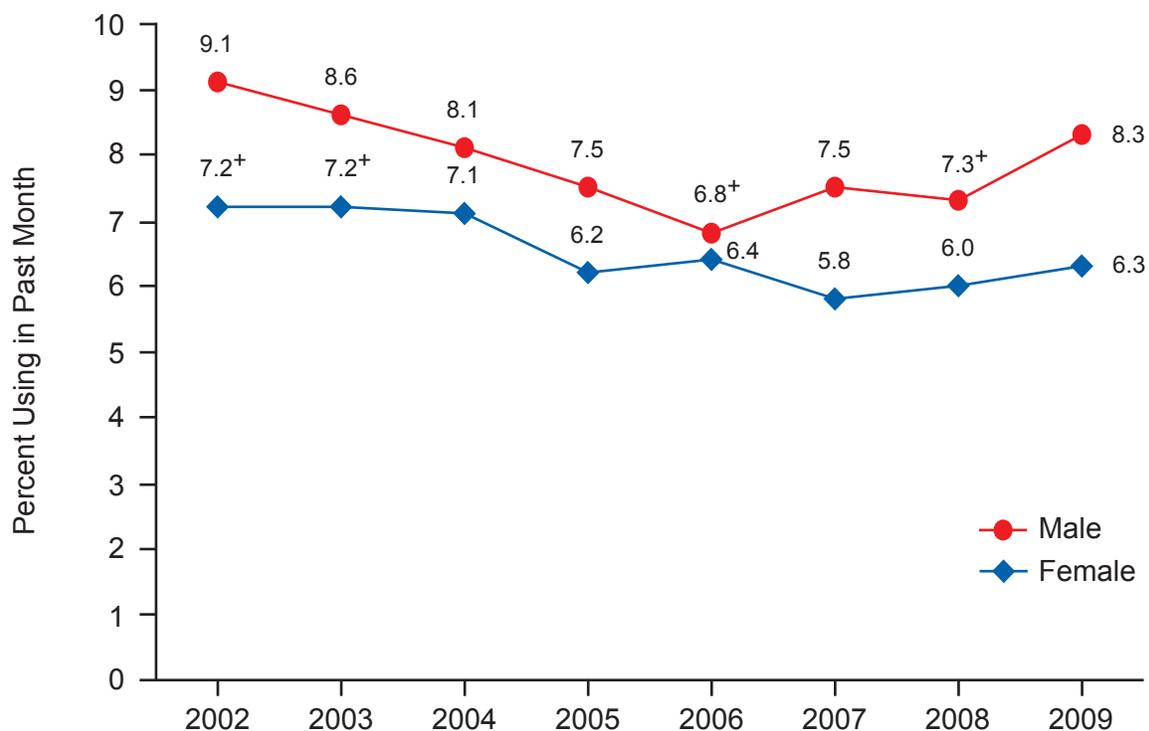
- In 2009, as in prior years, the rate of current illicit drug use among persons aged 12 or older was higher for males than for females (10.8 vs. 6.6 percent, respectively). Males were more likely than females to be current users of several different drugs, including, for example, marijuana (8.6 vs. 4.8 percent), psychotherapeutics (3.1 vs. 2.4 percent, for nonmedical use), and cocaine (0.9 vs. 0.4 percent). However, males and females had similar rates of past month nonmedical use of tranquilizers (0.8 percent for both) and methamphetamine (0.2 percent for both).

- In the total population aged 12 or older, the rate of current illicit drug use among males increased from 9.9 percent in 2008 to 10.8 percent in 2009, but females' rates for the 2 years did not differ significantly (6.3 and 6.6 percent, respectively). Among males, current marijuana use increased from 7.9 to 8.6 percent, and increases were seen for current nonmedical use of psychotherapeutics (from 2.6 to 3.1 percent), pain relievers (from 2.0 to 2.4 percent), stimulants (from 0.4 to 0.6 percent), and sedatives (from 0.1 to 0.2 percent). Among females, there were no statistically significant differences between the 2008 and 2009 rates for any drugs.
- Among youths aged 12 to 17 in 2009, males had higher rates than females for current use of illicit drugs overall (10.6 percent for males vs. 9.4 percent for females) and use of marijuana (8.3 vs. 6.3 percent) (Figure 2.9). Females, on the other hand, had higher rates than males for nonmedical use of psychotherapeutic drugs (3.5 percent for females vs. 2.8 percent for males) and nonmedical use of pain relievers (2.9 vs. 2.4 percent).
- Past month marijuana use among males aged 12 to 17 declined from 9.1 percent in 2002 to 6.8 percent in 2006 (Figure 2.9), then increased to 8.3 percent in 2009, a rate that was not significantly different from the rate in 2002 (9.1 percent). Among female youths, little change in current marijuana use occurred from 2002 to 2004. However, rates subsequently declined, and the percentage in 2009 (6.3 percent) was lower than that in 2002 (7.2 percent).

### **Pregnant Women**

- Among pregnant women aged 15 to 44 years, 4.5 percent used illicit drugs in the past month based on data averaged for 2008 and 2009. This rate was significantly lower than the rate among women in this age group who were not pregnant (10.6 percent). Among pregnant women, the average rate of current illicit drug use in 2008-2009 (4.5 percent) did not change significantly from 2006-2007 (5.2 percent) and was similar to the rate observed in 2003-2004 (4.6 percent). However, the rate of current illicit drug use among women aged 15 to 44 who were not pregnant increased from 9.7 percent in 2006-2007 to 10.6 percent in 2008-2009.
- The rate of current illicit drug use in the combined 2008-2009 data was lower for pregnant women than for nonpregnant women among those aged 18 to 25 (7.1 vs. 16.8 percent, respectively) and among those aged 26 to 44 (2.2 vs. 7.6 percent). Among women aged 15 to 17, however, those who were pregnant and those who were not pregnant did not differ significantly in their rate of illicit drug use (15.8 and 13.0 percent).

**Figure 2.9 Past Month Marijuana Use among Youths Aged 12 to 17, by Gender: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

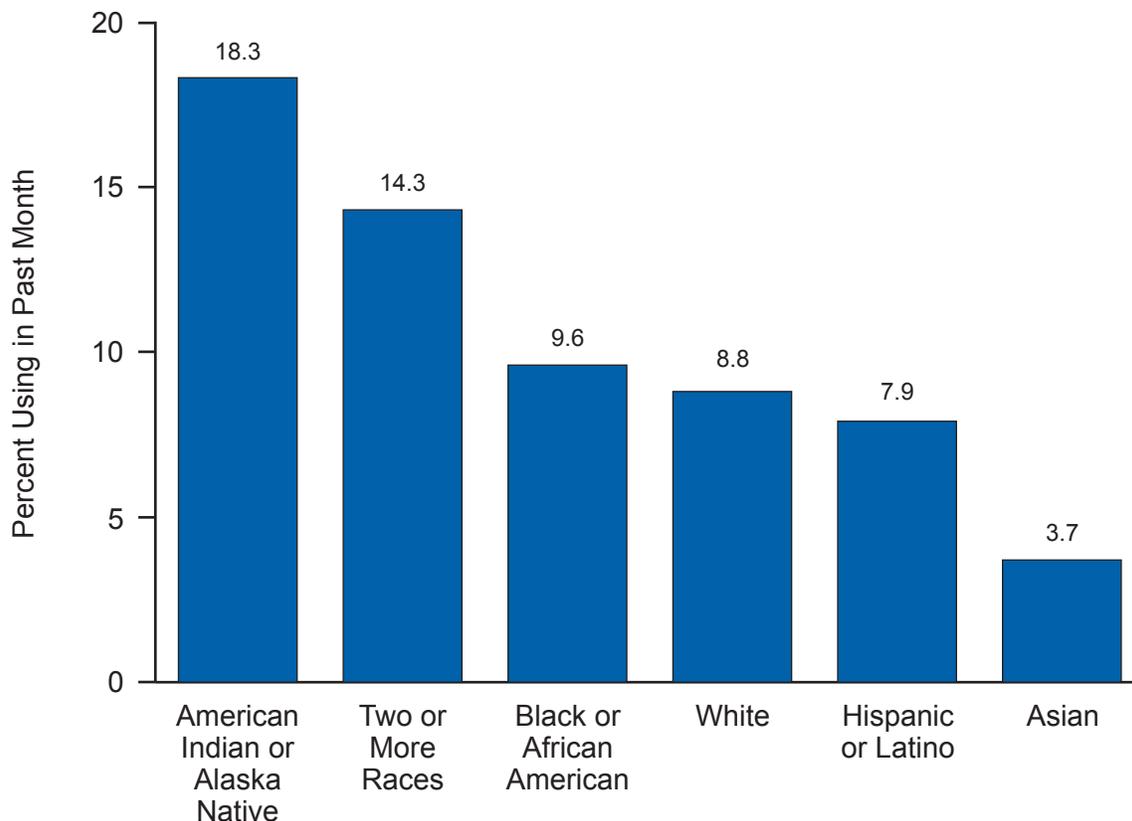
### Race/Ethnicity

- Current illicit drug use among persons aged 12 or older varied by race/ethnicity in 2009, with the lowest rate occurring among Asians (3.7 percent) (Figure 2.10). Rates were 18.3 percent for American Indians or Alaska Natives, 14.3 percent for persons reporting two or more races, 9.6 percent for blacks, 8.8 percent for whites, and 7.9 percent for Hispanics.
- From 2008 to 2009, there were increases in the rate of current illicit drug use for American Indians or Alaska Natives (from 9.5 to 18.3 percent) and Hispanics (from 6.2 to 7.9 percent) aged 12 or older.

### Education

- Illicit drug use in 2009 varied by educational status. Among adults aged 18 or older, the rate of current illicit drug use was lower for college graduates (6.1 percent) than for those who did not graduate from high school (10.2 percent), high school graduates (8.8 percent), and those with some college (9.8 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. 39.7 percent). The rate of current illicit drug use increased from 8.1 percent in 2008 to 10.2 percent in 2009 among adults who had not completed high school.

**Figure 2.10 Past Month Illicit Drug Use among Persons Aged 12 or Older, by Race/Ethnicity: 2009**



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

### College Students

- Among persons aged 18 to 22 years old, the rate of current use of illicit drugs in 2009 among full-time college students (22.7 percent) was similar to the rate among other persons in that age group (22.3 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 who were in college full time increased from 20.2 percent in 2008 to 22.7 percent in 2009, but there was no significant change in the rate of drug use among those not enrolled full time in college.
- Among full-time college students aged 18 to 22, there were increases from 2008 to 2009 in the rate of current use of marijuana (from 17.9 to 20.2 percent) and current nonmedical use of psychotherapeutic drugs overall (from 5.2 to 6.3 percent) and OxyContin® (from 0.2 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.

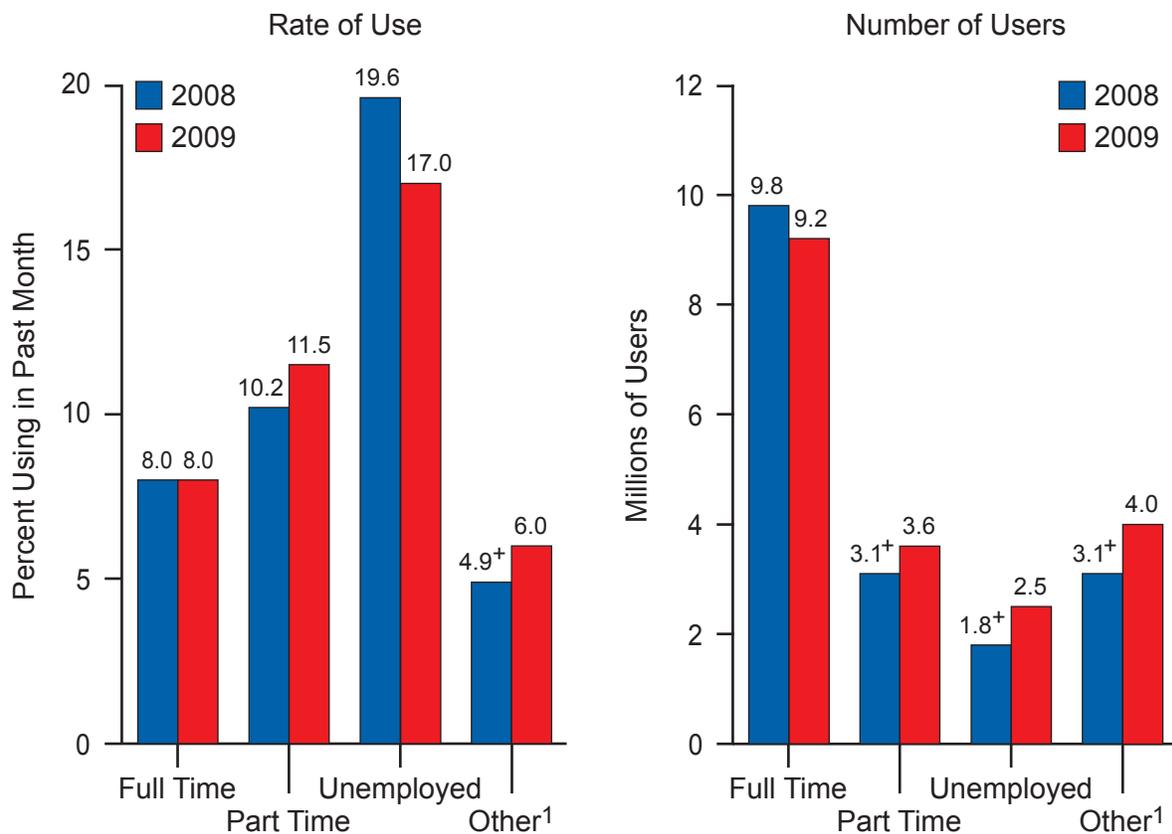
## Employment

- Current illicit drug use differed by employment status in 2009. Among adults aged 18 or older, the rate of illicit drug use was higher for unemployed persons (17.0 percent) than for those who were employed full time (8.0 percent) or part time (11.5 percent) (Figure 2.11). Among those in the "other" employment category, which includes retired persons, disabled persons, homemakers, students, and other persons not in the labor force, the rate of current illicit drug use increased from 4.9 percent in 2008 to 6.0 percent in 2009.
- 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 2009 were employed. Of the estimated 19.3 million current illicit drug users aged 18 or older in 2009, 12.9 million (66.6 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 and 2.5 million in 2009, primarily because of an overall increase in the number of unemployed persons between 2007 and 2009 (Figure 2.11). Increases also were seen in the numbers of past month illicit drug users among adults who were employed part time (from 3.1 to 3.6 million) and those in the "other" employment category (retired persons, disabled persons, homemakers, students, and other persons not in the labor force) (from 3.1 to 4.0 million). NSDUH estimates the numbers of persons who were employed full time were 122.2 million in 2008 and 114.8 million in 2009; the estimated numbers of unemployed persons were 9.0 million in 2008 and 14.7 million in 2009. The rate of current illicit drug use among unemployed adults was 19.6 in 2008 and 17.0 percent in 2009; although this difference is not statistically significant, the rate in 2009 may reflect the inclusion of persons who had been employed in 2008 but were unemployed at the time they were interviewed in 2009.

## Geographic Area

- Among persons aged 12 or older, the rate of current illicit drug use in 2009 was 10.3 percent in the West, 9.2 percent in the Northeast, 7.8 percent in the South, and 7.9 percent in the Midwest.
- Although none of the four regions experienced statistically significant differences between 2008 and 2009 in the rate of current illicit drug use among persons aged 12 or older, there were some significant differences for specific drugs by region. For example, marijuana use among persons in the Northeast increased from 6.2 percent in 2008 to 7.5 percent in 2009, and nonmedical use of prescription psychotherapeutics increased from 2.4 to 2.9 percent among persons in the South.

**Figure 2.11 Past Month Illicit Drug Use among Persons Aged 18 or Older, by Employment Status: 2008 and 2009**

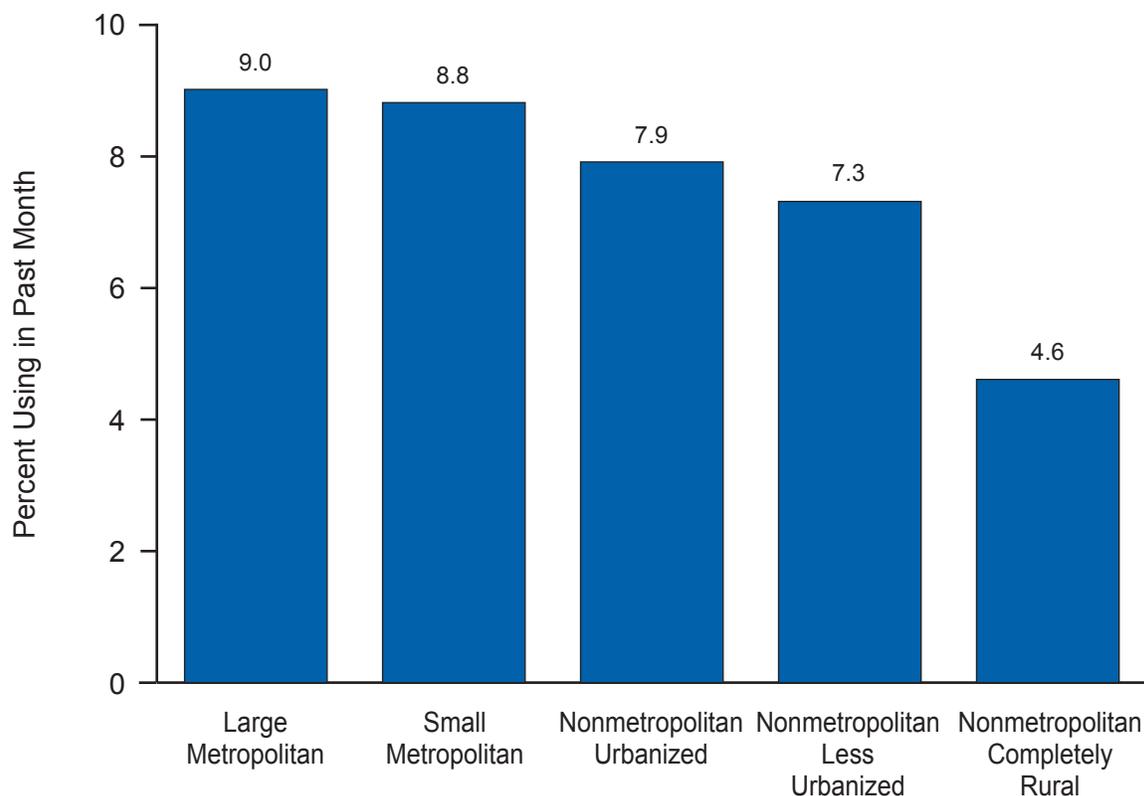


<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

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

- In 2009, 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 9.0 percent in large metropolitan counties, 8.8 percent in small metropolitan counties, and 7.3 percent in nonmetropolitan counties as a group (Figure 2.12). Within nonmetropolitan areas, the rate was 7.9 percent in urbanized counties, 7.3 percent in less urbanized counties, and 4.6 percent in completely rural counties. Among persons in less urbanized counties in nonmetropolitan areas, the rate of current illicit drug use increased from 5.6 percent in 2008 to 7.3 percent in 2009.

**Figure 2.12 Past Month Illicit Drug Use among Persons Aged 12 or Older, by County Type: 2009**



**Criminal Justice Populations**

- In 2009, an estimated 1.7 million adults aged 18 or older were on parole or other supervised release from prison at some time during the past year. More than one fifth (22.8 percent) were current illicit drug users, which was higher than the rate of 8.4 percent among adults not on parole or supervised release.
- Among the 5.1 million adults on probation at some time in the past year, 27.9 percent reported current illicit drug use in 2009. This was higher than the rate of 8.1 percent among adults not on probation in 2009.

**Frequency of Use**

- In 2009, an estimated 14.2 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 4.0 million persons using marijuana on a daily or almost daily basis over a 12-month period. An estimated 36.7 percent (6.1 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 2009, the rate of current illicit drug use was approximately 9 times higher among youths aged 12 to 17 who smoked cigarettes in the past month (52.8 percent) than it was among youths who did not smoke cigarettes in the past month (5.9 percent).
- Past month illicit drug use also was associated with the level of past month alcohol use. Among youths aged 12 to 17 in 2009 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), 69.9 percent also were current illicit drug users, which was higher than the rate among those who were not current alcohol users (5.2 percent).

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

- In 2009, 10.5 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.2 percent of the population aged 12 or older, similar to the rate in 2008 (4.0 percent) and not significantly different from the rate in 2002 (4.7 percent). Across age groups, the rate of driving under the influence of illicit drugs in 2009 was highest among young adults aged 18 to 25 (12.8 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 2008 and 2009 show that over half of the nonmedical users of prescription-type pain relievers, tranquilizers, stimulants, and sedatives aged 12 or older got the prescription 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 2008-2009 who used pain relievers nonmedically in the past 12 months, 55.3 percent got the pain relievers they most recently used from a friend or relative for free. Another 9.9 percent bought them from a friend or relative, and 5.0 percent took them from a friend or relative without asking. More than one in six (17.6 percent) indicated that they got the drugs they most recently used through a prescription from one doctor. About 1 in 20 users (4.8 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 80.0 percent of the instances in 2008-2009 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 1.9 percent reported that the friend or relative had bought the drugs from a drug dealer or other stranger.
- In 2008-2009, 40.9 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. About three tenths (29.2 percent) bought the methamphetamine they used most recently from a friend or relative, and 21.2 percent bought it from a drug dealer or other stranger.

## 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 concerned particularly 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.

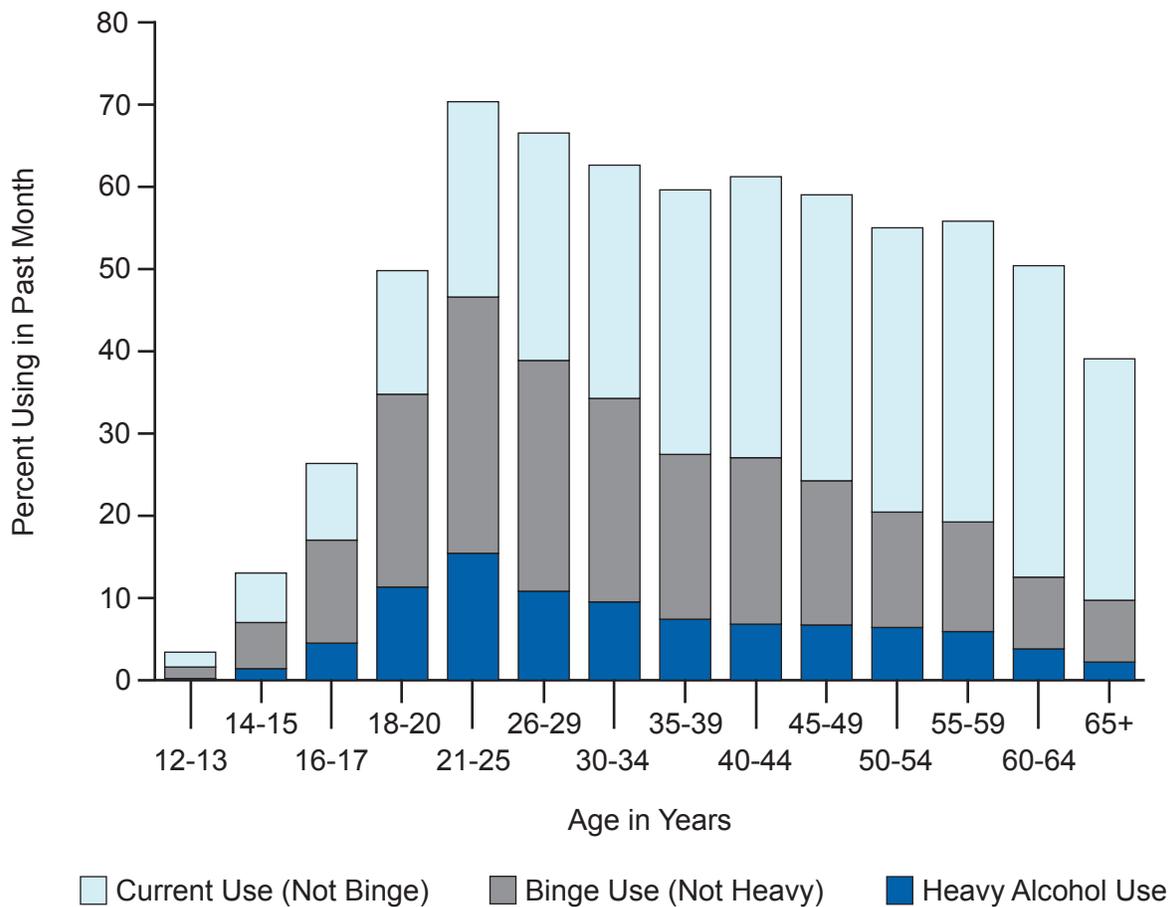
### 3.1. Alcohol Use among Persons Aged 12 or Older

- Slightly more than half of Americans aged 12 or older reported being current drinkers of alcohol in the 2009 survey (51.9 percent). This translates to an estimated 130.6 million people, which is similar to the 2008 estimate of 129.0 million people (51.6 percent).
- Nearly one quarter (23.7 percent) of persons aged 12 or older participated in binge drinking at least once in the 30 days prior to the survey in 2009. This translates to about 59.6 million people. The rate in 2009 is similar to the rate in 2008 (23.3 percent).
- In 2009, heavy drinking was reported by 6.8 percent of the population aged 12 or older, or 17.1 million people. This percentage is similar to the rate of heavy drinking in 2008 (6.9 percent).

## Age

- In 2009, rates of current alcohol use were 3.5 percent among persons aged 12 or 13, 13.0 percent of persons aged 14 or 15, 26.3 percent of 16 or 17 year olds, 49.7 percent of those aged 18 to 20, and 70.2 percent of 21 to 25 year olds (Figure 3.1). These estimates are similar to the rates reported in 2008.
- Among older age groups, the prevalence of current alcohol use decreased with increasing age, from 66.4 percent among 26 to 29 year olds to 50.3 percent among 60 to 64 year olds and 39.1 percent among people aged 65 or older.

**Figure 3.1 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 or Older, by Age: 2009**



- Rates of binge alcohol use in 2009 were 1.6 percent among 12 or 13 year olds, 7.0 percent among 14 or 15 year olds, 17.0 percent among 16 or 17 year olds, 34.7 percent among persons aged 18 to 20, and peaked among those aged 21 to 25 at 46.5 percent.
- The rate of binge drinking was 41.7 percent for young adults aged 18 to 25. Heavy alcohol use was reported by 13.7 percent of persons aged 18 to 25. These rates are similar to the rates in 2008 (41.0 and 14.5 percent, respectively).
- The binge drinking rate decreased beyond young adulthood from 36.3 percent of 26 to 34 year olds to 19.2 percent of persons aged 35 or older.
- The rate of binge drinking among persons aged 65 or older was 9.8 percent, while the rate of heavy drinking was 2.2 percent in this age group.
- The rate of current alcohol use among youths aged 12 to 17 was 14.7 percent in 2009. Youth binge and heavy drinking rates were 8.8 and 2.1 percent, respectively. These rates are similar to those reported in 2008 (14.6, 8.8, and 2.0 percent, respectively).

### **Gender**

- In 2009, 57.6 percent of males aged 12 or older were current drinkers, higher than the rate for females (46.5 percent). However, among youths aged 12 to 17, the percentage of males who were current drinkers (15.1 percent) was similar to the rate for females (14.3 percent).
- Among young adults aged 18 to 25, an estimated 57.7 percent of females and 65.9 percent of males reported current drinking in 2009. These rates are similar to those reported in 2008 (58.0 and 64.3 percent, respectively).

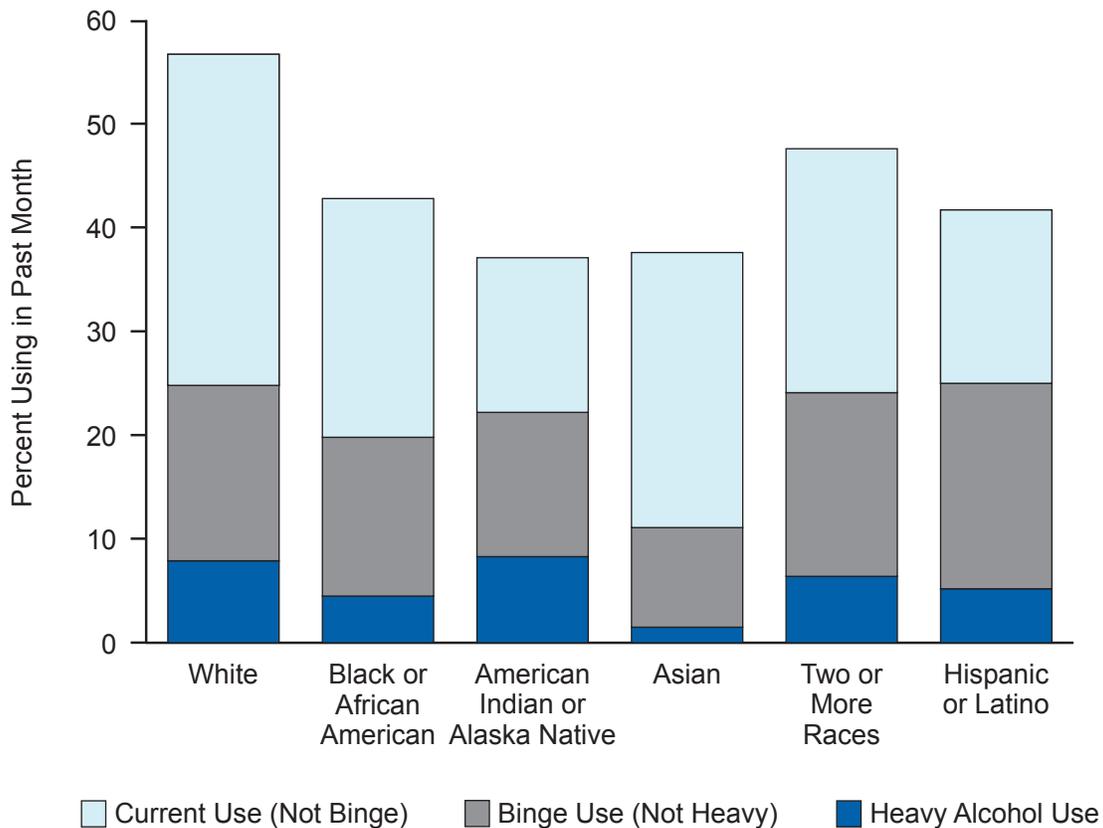
### **Pregnant Women**

- Among pregnant women aged 15 to 44, an estimated 10.0 percent reported current alcohol use, 4.4 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 (54.4, 24.5, and 5.5 percent, respectively). Binge drinking during the first trimester of pregnancy was reported by 11.9 percent of pregnant women aged 15 to 44. All of these estimates by pregnancy status are based on data averaged over 2008 and 2009. The 2008-2009 estimate for first-trimester binge drinking is higher than in 2006-2007, when it was 6.6 percent.

## Race/Ethnicity

- Among persons aged 12 or older, whites in 2009 were more likely than other racial/ethnic groups to report current use of alcohol (56.7 percent) (Figure 3.2). The rates were 47.6 percent for persons reporting two or more races, 42.8 percent for blacks, 41.7 percent for Hispanics, 37.6 percent for Asians, and 37.1 percent for American Indians or Alaska Natives.
- The rate of binge alcohol use was lowest among Asians (11.1 percent). Rates for other racial/ethnic groups were 19.8 percent for blacks, 22.2 percent for American Indians or Alaska Natives, 24.1 percent for persons reporting two or more races, 24.8 percent for whites, and 25.0 percent for Hispanics.
- Among youths aged 12 to 17 in 2009, Asians had lower rates of current alcohol use than any other racial/ethnic group (6.5 percent), while 10.6 percent of black youths, 11.9 percent of American Indian or Alaska Native youths, 15.2 percent of Hispanic youths, 16.1 percent of white youths, and 16.7 percent of youths reporting two or more races were current drinkers.

**Figure 3.2 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 or Older, by Race/Ethnicity: 2009**



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, 35.2 percent were current drinkers in 2009, significantly lower than the 68.4 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 (20.6 and 5.1 percent, respectively) than among those who had not completed college (23.2 vs. 6.7 percent, respectively).

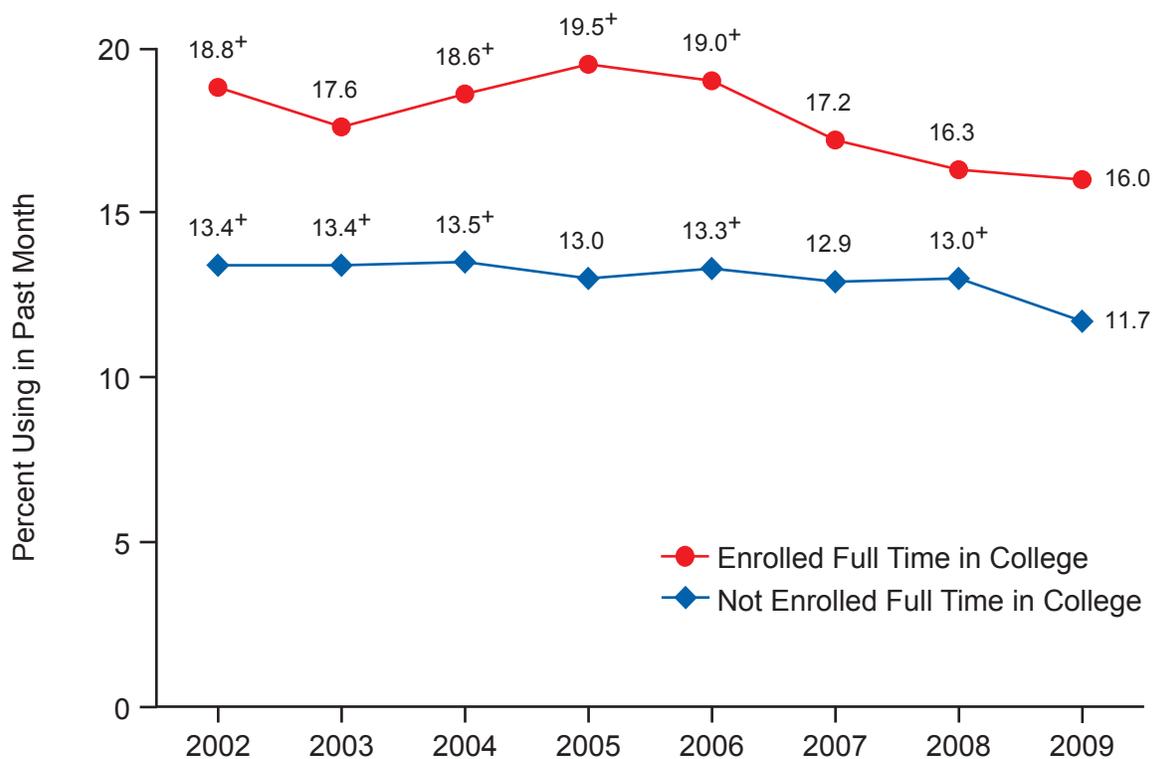
## College Students

- 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 2009, 63.9 percent were current drinkers, 43.5 percent were binge drinkers, and 16.0 percent were heavy drinkers. Among those not enrolled full time in college, these rates were 53.5, 37.8, and 11.7 percent, respectively.
- Current and binge drinking rates among full-time college students increased from 2008, when the rates were 61.0 and 40.5 percent, respectively, while the rate of heavy drinking among those not enrolled full time in college decreased from 13.0 percent in 2008 to 11.7 percent in 2009.
- 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 63.9 percent for full-time employed adults aged 18 or older in 2009, higher than the rate for unemployed adults (58.3 percent). However, the rates of binge and heavy drinking among unemployed persons (33.5 and 11.3 percent, respectively) were higher than among full-time employed persons (30.1 and 8.5 percent).
- Most binge and heavy alcohol users were employed in 2009. Among 57.4 million adult binge drinkers, 42.7 million (74.4 percent) were employed either full or part time. Among 16.6 million heavy drinkers, 12.4 million (74.9 percent) were employed.
- Rates of binge and heavy alcohol use did not change significantly between 2008 and 2009 for full-time employed or unemployed adults. However, the number of full-time employed binge and heavy drinkers decreased (from 37.0 million to 34.5 million for binge use and from 10.8 million to 9.8 million for heavy use). At the same time, the number of unemployed binge and heavy drinkers increased (from 3.0 million to 4.9 million for binge use and from 1.2 million to 1.7 million for heavy use).

**Figure 3.3 Heavy Alcohol Use among Adults Aged 18 to 22, by College Enrollment: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

### Geographic Area

- The rate of past month alcohol use for people aged 12 or older in 2009 was lower in the South (47.6 percent) than in the Northeast (56.7 percent), Midwest (54.8 percent), or West (52.0 percent).
- Among people aged 12 or older, the rate of past month alcohol use in large metropolitan areas (54.3 percent) was higher than the 50.9 percent in small metropolitan areas and 45.8 percent in nonmetropolitan areas. Binge drinking was equally prevalent in small metropolitan areas (23.5 percent), large metropolitan areas (24.0 percent), and nonmetropolitan areas (22.7 percent).
- The rates of binge alcohol use among youths aged 12 to 17 were 8.6 percent in nonmetropolitan areas, 9.0 percent in small metropolitan areas, and 8.8 percent in large metropolitan areas.

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

- The level of alcohol use was associated with illicit drug use in 2009. Among the 17.1 million heavy drinkers aged 12 or older, 33.2 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 (3.7 percent) than those who reported (a) current use of alcohol but did not meet the criteria for binge or heavy use (5.6 percent), (b) binge use but did not meet the criteria for heavy use (17.9 percent), or (c) heavy use of alcohol (33.2 percent).
- Alcohol consumption levels also were associated with tobacco use. Among heavy alcohol users aged 12 or older, 56.3 percent smoked cigarettes in the past month, while only 18.5 percent of non-binge current drinkers and 15.9 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 17.6 percent, respectively) than among non-binge drinkers (2.2 and 4.2 percent) and nondrinkers (1.7 and 2.3 percent).

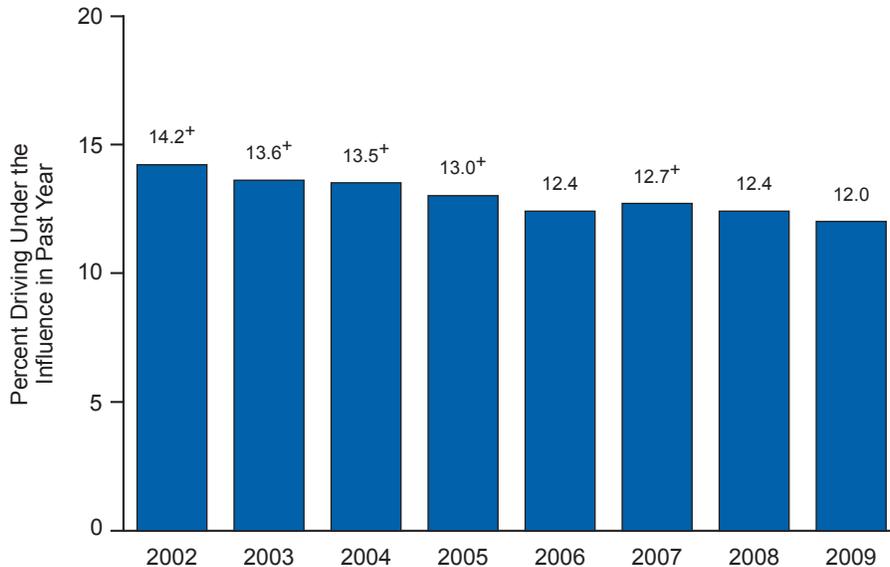
## **Driving Under the Influence of Alcohol**

- In 2009, an estimated 12.0 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 2009 estimate corresponds to 30.2 million persons.
- Driving under the influence of alcohol was associated with age in 2009. The rate was highest among persons aged 21 to 25 (24.8 percent) (Figure 3.5). An estimated 6.3 percent of 16 or 17 year olds and 16.6 percent of 18 to 20 year olds reported driving under the influence of alcohol in the past year. Beyond age 25, these rates showed a general decline with increasing age.
- Among persons aged 12 or older, males were more likely than females (15.6 vs. 8.6 percent) to drive under the influence of alcohol in the past year.

## **3.2. Underage Alcohol Use**

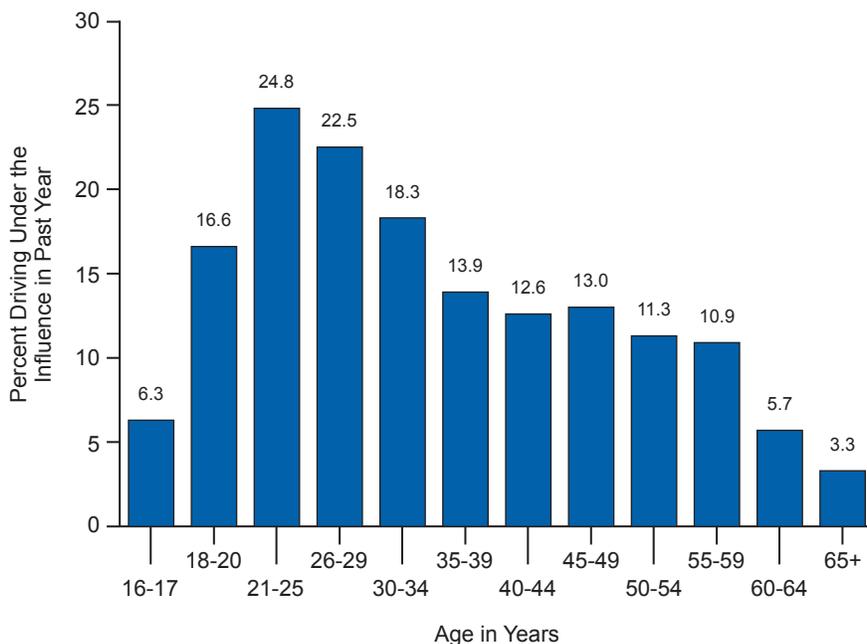
- In 2009, about 10.4 million persons aged 12 to 20 (27.2 percent of this age group) reported drinking alcohol in the past month. Approximately 6.9 million (18.1 percent) were binge drinkers, and 2.1 million (5.4 percent) were heavy drinkers. The rates for current, binge, and heavy alcohol use are similar to those obtained in 2008, when they were 26.4, 17.4, and 5.5 percent, respectively.
- Rates of current, binge, and heavy alcohol use among underage persons declined between 2002 and 2008, but the 2009 estimates indicate that this trend has ended. This pattern occurred for current alcohol use among ages 12 or 13, 14 or 15, and 16 or 17 (Figure 3.6), for binge drinking among ages 14 or 15 and 16 or 17; and for heavy drinking among persons aged 18 to 20.

**Figure 3.4 Driving Under the Influence of Alcohol in the Past Year among Persons Aged 12 or Older: 2002-2009**



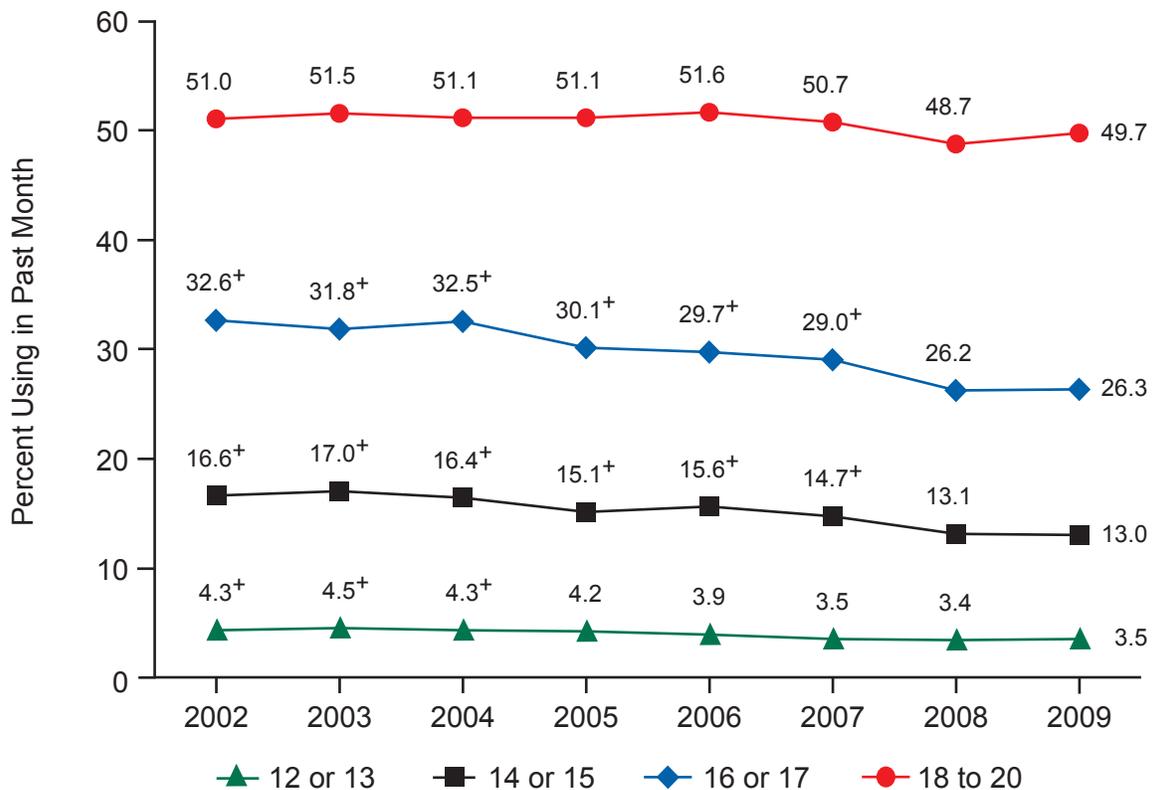
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

**Figure 3.5 Driving Under the Influence of Alcohol in the Past Year among Persons Aged 16 or Older, by Age: 2009**



- Rates of current alcohol use increased with increasing age among underage persons. In 2009, 3.5 percent of persons aged 12 or 13, 13.0 percent of persons aged 14 or 15, 26.3 percent of 16 or 17 year olds, and 49.7 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).

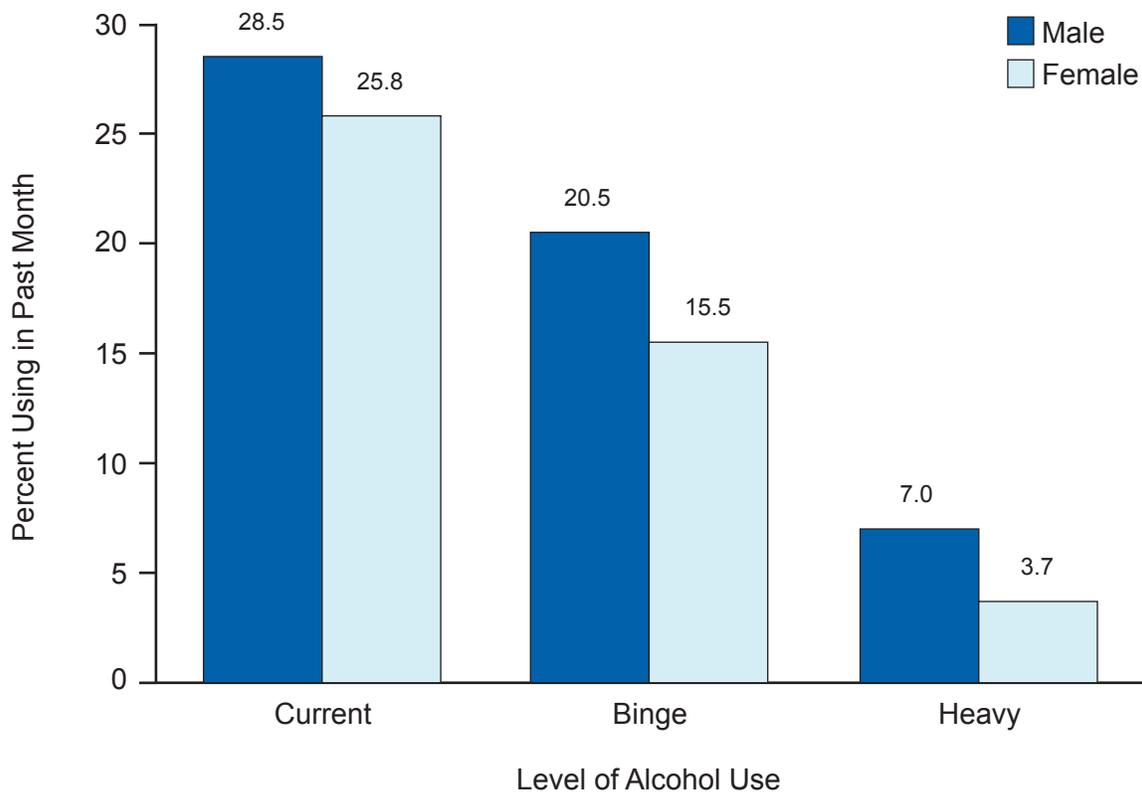
**Figure 3.6 Current Alcohol Use among Persons Aged 12 to 20, by Age: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- More males than females aged 12 to 20 reported current alcohol use (28.5 vs. 25.8 percent), binge drinking (20.5 vs. 15.5 percent), and heavy drinking (7.0 vs. 3.7 percent) in 2009 (Figure 3.7).
- Among persons aged 12 to 20, past month alcohol use rates in 2009 were 16.1 percent among Asians, 20.4 percent among blacks, 22.0 percent among American Indians or Alaska Natives, 25.1 percent among Hispanics, 27.5 percent among those reporting two or more races, and 30.4 percent among whites.
- In 2009, among persons aged 12 to 20, binge drinking was reported by 21.0 percent of whites, 18.3 percent of persons reporting two or more races, 17.1 percent of Hispanics, and 16.8 percent of American Indians or Alaska Natives, but only 10.1 percent of blacks and 9.1 percent of Asians reported binge drinking.

**Figure 3.7 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Gender: 2009**



- Across geographic regions in 2009, underage current alcohol use rates were higher in the Northeast (31.9 percent) than in the Midwest (27.6 percent), West (25.7 percent), and South (25.6 percent).
- In 2009, underage current alcohol use rates were similar in small metropolitan areas (28.5 percent), large metropolitan areas (26.7 percent), and nonmetropolitan areas (26.2 percent).
- In 2009, 81.5 percent of current drinkers aged 12 to 20 were with two or more other people the last time they drank alcohol, 13.4 percent were with one other person the last time they drank, and 5.2 percent were alone.
- A majority of underage current drinkers in 2009 reported that their last use of alcohol in the past month occurred either in someone else's home (55.9 percent) or their own home (29.2 percent). Underage females were more likely than males to have been in a restaurant, bar, or club on their last drinking occasion (10.5 vs. 7.0 percent).
- Among underage current drinkers in 2009, 30.3 percent paid for the alcohol the last time they drank, including 9.0 percent who purchased the alcohol themselves and 21.3 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 (37.1 percent). Other underage persons provided the alcohol on the last occasion 19.9 percent of the time. Parents, guardians, or other adult family members provided the alcohol 20.6 percent of the time. Other sources of alcohol for underage drinkers included (a) took the alcohol from home (6.0 percent), (b) took it from someone else's home (3.7 percent), and (c) got it some other way (7.1 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 (17.5 vs. 5.0 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 16.9 percent of current underage drinkers (1.7 million persons) on their last drinking occasion.

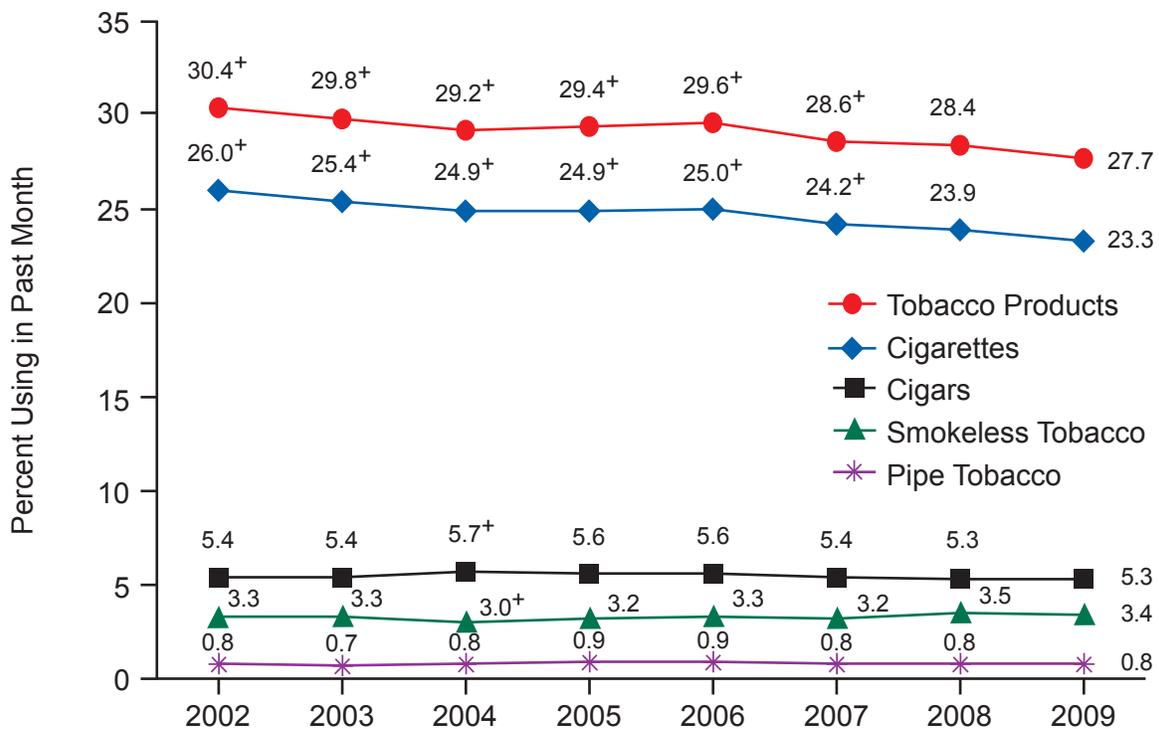


## 4. Tobacco Use

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 2009, an estimated 69.7 million Americans aged 12 or older were current (past month) users of a tobacco product. This represents 27.7 percent of the population in that age range. In addition, 58.7 million persons (23.3 percent of the population) were current cigarette smokers; 13.3 million (5.3 percent) smoked cigars; 8.6 million (3.4 percent) used smokeless tobacco; and 2.1 million (0.8 percent) smoked tobacco in pipes (Figure 4.1).

**Figure 4.1 Past Month Tobacco Use among Persons Aged 12 or Older: 2002-2009**



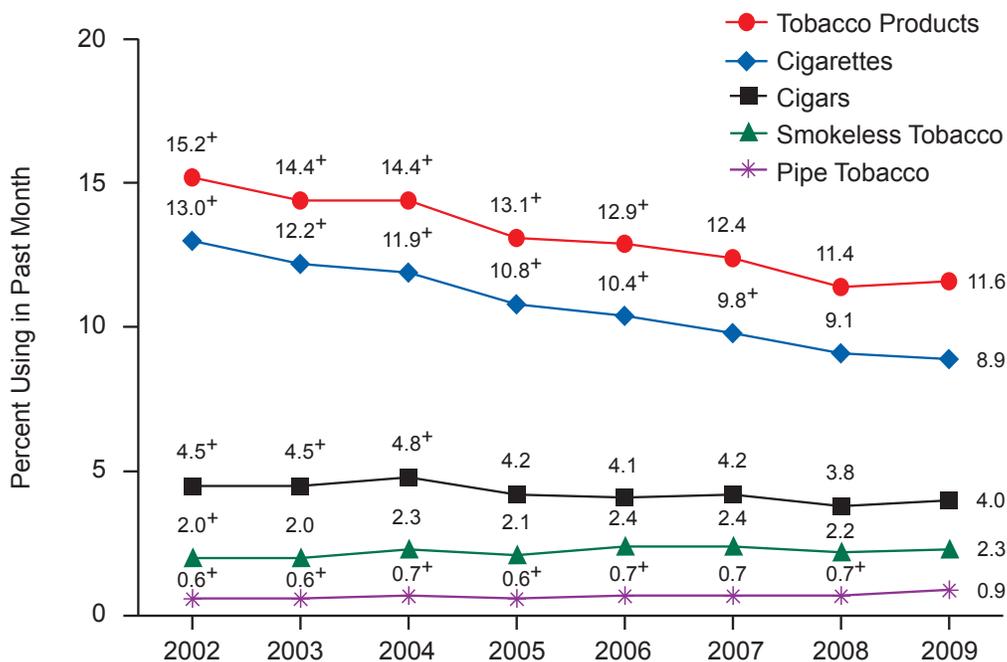
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- The rate of current use of any tobacco product among persons aged 12 or older remained steady from 2008 to 2009 (28.4 and 27.7 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 2009, past month use of any tobacco product decreased from 30.4 to 27.7 percent, and past month cigarette use declined from 26.0 to 23.3 percent. Rates of past month use of cigars, smokeless tobacco, and pipe tobacco were similar in 2002 and 2009.

## Age

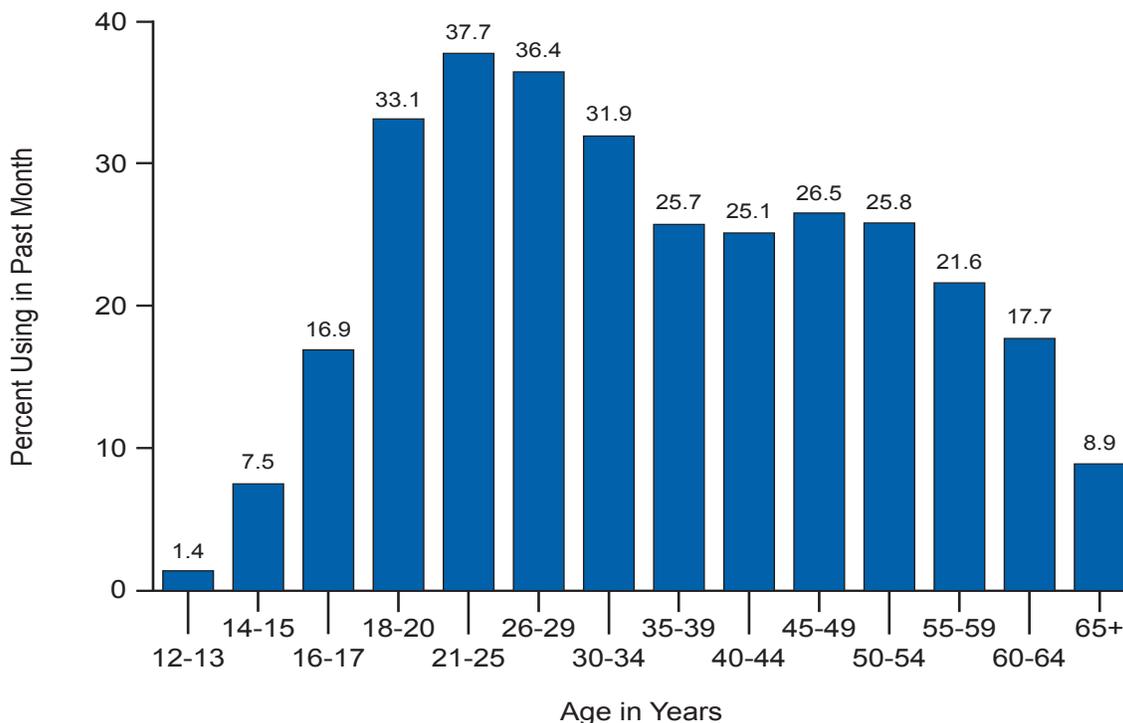
- In 2009, young adults aged 18 to 25 had the highest rate of current use of a tobacco product (41.6 percent) compared with youths aged 12 to 17 and adults aged 26 or older (11.6 and 27.3 percent, respectively). Young adults had the highest usage rates of each of the specific tobacco products as well. In 2009, the rates of past month use among young adults were 35.8 percent for cigarettes, 11.4 percent for cigars, 6.1 percent for smokeless tobacco, and 1.7 percent for pipe tobacco. The rate of current use of a tobacco product by young adults was similar in 2008 and 2009 (41.4 and 41.6 percent, respectively), as was the rate of cigarette use between 2008 and 2009 (35.7 and 35.8 percent, respectively). Between 2002 and 2009, 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 remained steady from 2008 to 2009 (11.4 and 11.6 percent, respectively) (Figure 4.2). The rate of past month cigarette use among 12 to 17 year olds declined from 13.0 percent in 2002 to 8.9 percent in 2009. The rate of past month smokeless tobacco use among 12 to 17 year olds increased from 2.0 percent in 2002 to 2.3 percent in 2009, or almost 600,000 youths.
- The percentage of current cigarette smokers among 12 or 13 year olds dropped from 2.1 percent in 2008 to 1.4 percent in 2009 (Figure 4.3). The percentage of current cigarette smokers remained steady among 14 or 15 year olds (7.6 percent in 2008 and 7.5 percent in 2009) and among 16 or 17 year olds (16.8 percent in 2008 and 16.9 percent in 2009). Across age groups, current cigarette use peaked among persons aged 21 to 25 (37.7 percent) and those aged 26 to 29 (36.4 percent). About one third of 18 to 20 year olds and one third of 26 to 34 year olds (33.1 and 34.0 percent, respectively) smoked cigarettes in the past month. About one fifth (20.4 percent) of persons aged 35 or older in 2009 smoked cigarettes in the past month.

**Figure 4.2 Past Month Tobacco Use among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

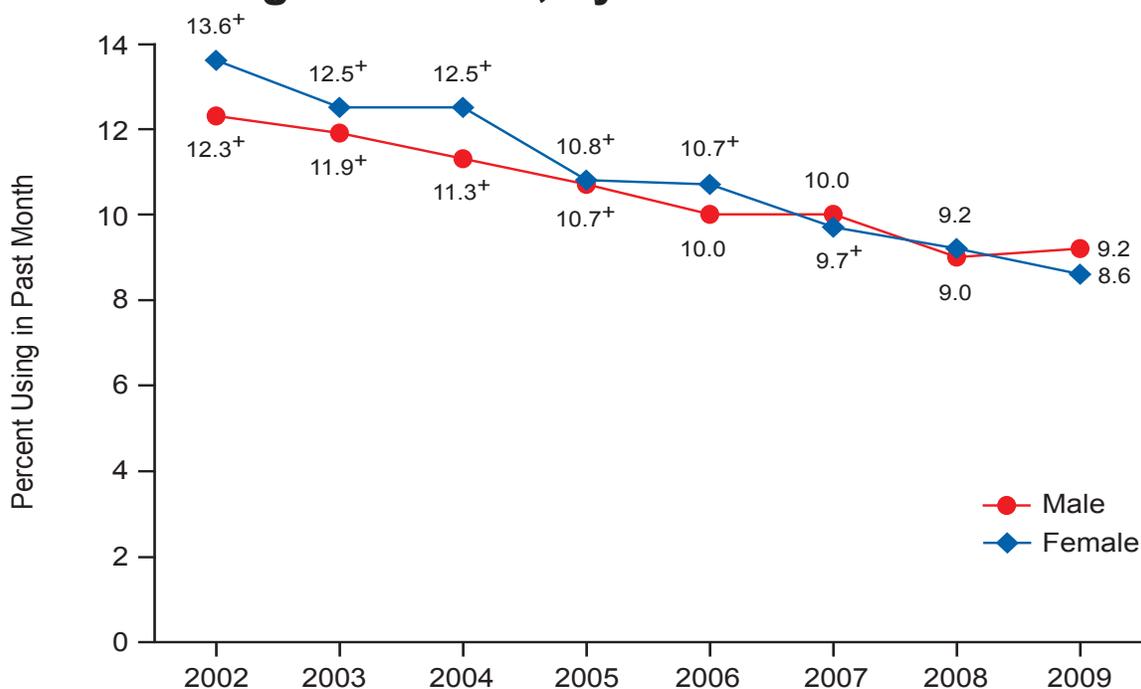
**Figure 4.3 Past Month Cigarette Use among Persons Aged 12 or Older, by Age: 2009**



## Gender

- In 2009, current use of a tobacco product among persons aged 12 or older was reported by a higher percentage of males (33.5 percent) than females (22.2 percent). Males also had higher rates of past month use than females of each specific tobacco product: cigarettes (25.3 percent of males vs. 21.4 percent of females), cigars (8.7 vs. 2.0 percent), smokeless tobacco (6.7 vs. 0.3 percent), and pipe tobacco (1.4 vs. 0.2 percent).
- Among youths aged 12 to 17, the rate of current cigarette smoking in 2009 was slightly higher for males than for females (9.2 percent for males vs. 8.6 percent for females), but the difference was not statistically significant (Figure 4.4). The rate held steady for males between 2008 and 2009 (9.0 vs. 9.2 percent) and declined slightly for females (9.2 vs. 8.6 percent), although the decline for females was not statistically significant. From 2002 to 2009, the rate of current cigarette smoking among youths decreased for both males (from 12.3 to 9.2 percent) and females (from 13.6 to 8.6 percent).

**Figure 4.4 Past Month Cigarette Use among Youths Aged 12 to 17, by Gender: 2002-2009**



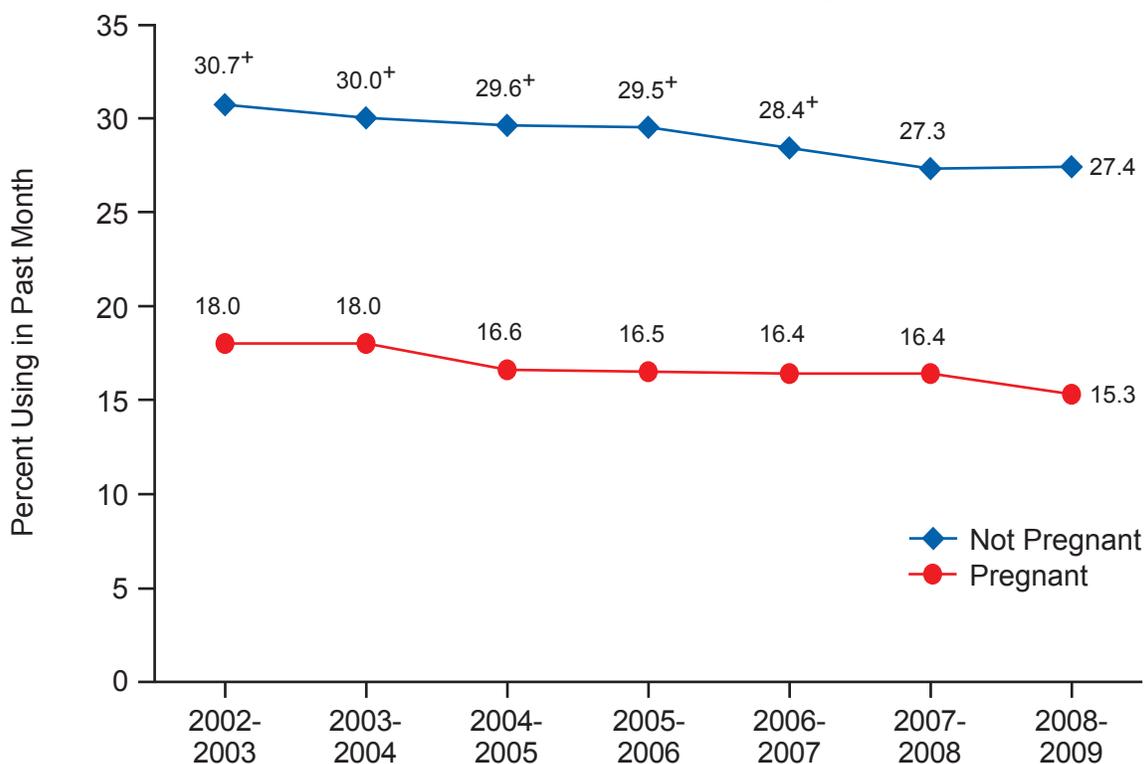
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- 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 in 2008 and 2009 (31.8 and 31.2 percent, respectively). Between 2002 and 2009, the rate of cigarette use among young adults declined for both males (from 44.4 to 40.4 percent) and females (from 37.1 to 31.2 percent).

## Pregnant Women

- Among women aged 15 to 44, combined data for 2008 and 2009 indicated that the rate of past month cigarette use was lower among those who were pregnant (15.3 percent) than it was among those who were not pregnant (27.4 percent). This pattern was also evident among women aged 18 to 25 (22.0 vs. 32.0 percent for pregnant and nonpregnant women, respectively) and among women aged 26 to 44 (10.8 vs. 27.7 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. 13.9 percent).
- Two-year moving average rates from 2002-2003 to 2008-2009 indicate that current cigarette use among women aged 15 to 44 decreased from 30.7 to 27.4 percent for those who were not pregnant and from 18.0 to 15.3 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 2008-2009**



<sup>+</sup> Difference between this estimate and the 2008-2009 estimate is statistically significant at the .05 level.

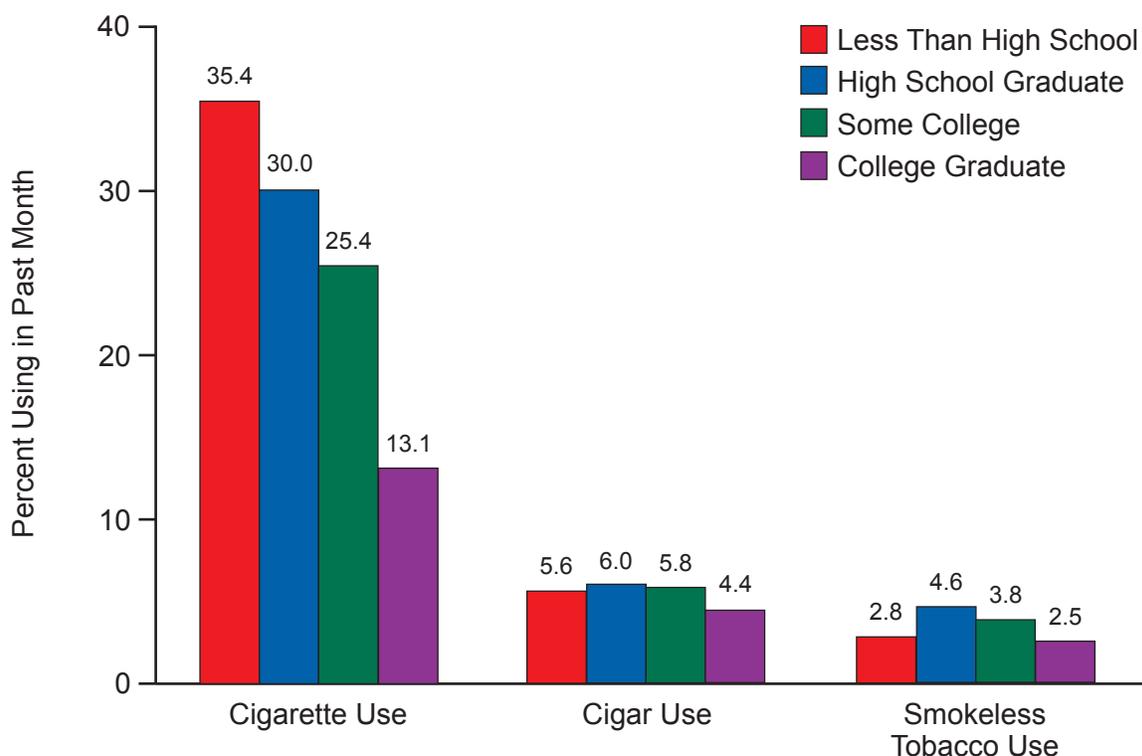
## Race/Ethnicity

- In 2009, the prevalence of current use of a tobacco product among persons aged 12 or older was 11.9 percent for Asians, 23.2 percent for Hispanics, 26.5 percent for blacks, 29.6 percent for whites, 36.6 percent for persons who reported two or more races, and 41.8 percent for American Indians or Alaska Natives. There were no statistically significant changes in past month use of a tobacco product between 2008 and 2009 for any of these racial/ethnic groups. After increasing from 0.7 percent in 2007 to 1.4 percent in 2008, use of smokeless tobacco in the past month among blacks decreased to 0.9 percent in 2009. The decrease in the last year was not statistically significant.
- In 2009, 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. 5.1 percent for youths and 40.5 vs. 27.0 percent for young adults).
- The current smoking rates for Hispanics were 7.5 percent among youths aged 12 to 17, 29.9 percent among young adults aged 18 to 25, and 21.7 percent among those aged 26 or older.
- The smoking rate for Asian young adults aged 18 to 25 increased from 18.0 percent in 2008 to 21.6 percent in 2009, although this did not represent a statistically significant increase. The rates for Asian youths aged 12 to 17 and adults aged 26 or older held steady between 2008 and 2009 (3.8 to 2.5 percent for youths and 11.8 to 9.9 percent for adults, respectively).
- The smoking prevalence rate for American Indian or Alaska Native youths aged 12 to 17 declined dramatically from 18.9 percent in 2008 to 11.6 percent in 2009.

## 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 2009 was reported by 35.4 percent of those who had not completed high school, 30.0 percent of high school graduates who did not attend college, 25.4 percent of persons with some college, and 13.1 percent of college graduates (Figure 4.6).
- The use of smokeless tobacco in the past month dropped from 4.3 percent in 2008 to 2.8 percent in 2009 among persons aged 18 or older who had not completed high school. The rates remained steady among other educational attainment categories; in 2009, the rates were 4.6 percent for those who completed high school but did not attend college and 3.8 percent for those who attended some college. The prevalence among college graduates, 2.5 percent, was lower than among those who had completed high school but had not attended college. Among high school graduates aged 18 to 25 who had attended some college, the use of smokeless tobacco increased from 4.6 percent in 2008 to 6.0 percent in 2009, while the use declined for those 26 or older with less than a high school education (4.0 to 2.2 percent).

**Figure 4.6 Past Month Tobacco Use among Adults Aged 18 or Older, by Education: 2009**



### 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 2009 was reported by 27.1 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 2009, full-time college students and those not enrolled full time in college did not differ significantly in their rates of past month use of smokeless tobacco (12.7 and 11.4 percent, respectively). However, smokeless tobacco use by males in this age range who were enrolled full time in college increased sharply from 2008 (8.5 percent) to 2009 (12.7 percent).

### Employment

- In 2009, current cigarette smoking was more common among unemployed adults aged 18 or older than among adults who were working full time or part time (41.9 vs. 25.6 and 23.9 percent, respectively). Cigar smoking followed a similar pattern, with 10.0 percent of unemployed adults reporting past month use compared with 5.9 percent of full-time workers and 5.2 percent of part-time workers.

- Current use of smokeless tobacco in 2009 was higher among adults aged 18 or older who were employed full time and those who were unemployed (both 4.7 percent) than among adults who were employed part time (2.6 percent), which in turn was higher than those in the "other" employment category, which includes persons not in the labor force (1.7 percent). Use of smokeless tobacco increased among part-time workers from 1.8 percent in 2008 to 2.6 percent in 2009.

### **Geographic Area**

- In 2009, current cigarette smoking among persons aged 12 or older was lower in the West (20.3 percent) and Northeast (21.9 percent) than in the South (24.5 percent) and Midwest (25.7 percent). Use of smokeless tobacco was also higher in the Midwest and South (4.0 and 4.1 percent, respectively) than in the West (2.8 percent), which in turn was higher than in the Northeast (2.1 percent).
- As in past years, the rate of current cigarette use in 2009 was associated with county type among persons aged 12 or older. The rates of cigarette smoking were 21.6 percent in large metropolitan areas, 24.1 percent in small metropolitan areas, and 27.3 percent in nonmetropolitan areas.
- Use of smokeless tobacco in the past month in 2009 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 6.4 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 2009, as in prior years since 2002. Among persons aged 12 or older, 22.4 percent of past month cigarette smokers reported current use of an illicit drug compared with 4.5 percent of persons who were not current cigarette smokers. Past month alcohol use was reported by 67.1 percent of current cigarette smokers compared with 47.2 percent of those who did not use cigarettes in the past month. The association also was found with binge drinking (44.8 percent of current cigarette smokers vs. 17.2 percent of current nonsmokers) and heavy drinking (16.4 vs. 3.9 percent, respectively).

### **Frequency of Cigarette Use**

- Among the 58.7 million current cigarette smokers aged 12 or older in 2009, 35.9 million (61.1 percent) used cigarettes daily. The percentage of daily cigarette smokers increased with age, with 23.1 percent among past month cigarette users aged 12 to 17, 45.6 percent among those aged 18 to 25, and 67.2 percent among those aged 26 or older.
- Daily cigarette use among current smokers aged 18 to 25 dropped from 48.1 percent in 2008 to 45.6 percent in 2009.

- Less than half (45.9 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 17.9 percent among those aged 12 to 17 to 29.7 percent among those aged 18 to 25 to 49.3 percent among those aged 26 or older.
- Among young adults 18 to 25 years old, the percentage of daily smokers who smoked fewer than 6 cigarettes per day increased from 24.7 percent in 2008 to 27.3 percent in 2009, while the percentage who smoked more than one pack per day (26 or more cigarettes) decreased from 6.0 to 4.0 percent during the same time period.



## 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 initiation of substance use (illicit drugs, cigarettes, and alcohol) 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 2009 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 2009) 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 first specific illicit drugs cannot be added to obtain the total number of specific illicit drug initiates because some of the initiates previously had used other drugs. The first 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 illicit drug initiate with marijuana as the first drug 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 first 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 in the 2008 national findings report (OAS, 2009) for details.

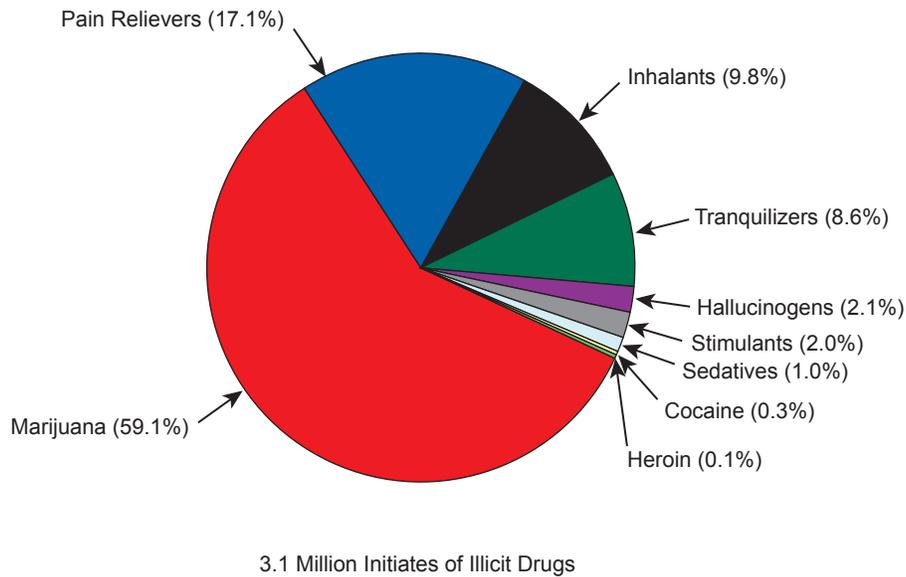
### **Initiation of Illicit Drug Use**

- In 2009, an estimated 3.1 million persons aged 12 or older used an illicit drug for the first time within the past 12 months; this averages to about 8,500 initiates per day. This estimate was not significantly different from the number in 2008 (2.9 million). About three fifths of initiates (56.8 percent) were younger than age 18 when they first used, and 51.8 percent of new users were female. The average age at initiation among persons aged 12 to 49 was 17.6 years, which was significantly lower than the 2008 estimate (18.8 years).
- In 2009, of the 3.1 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 (59.1 percent) (Figure 5.1). Nearly one third initiated with psychotherapeutics (28.6 percent, including 17.1 percent with pain relievers, 8.6 percent with tranquilizers, 2.0 percent with stimulants, and 1.0 percent with sedatives). A sizable proportion reported inhalants (9.8 percent) as their first drug, and a small proportion used hallucinogens as their first illicit drug (2.1 percent). Between 2008 and 2009, the percentage of past year illicit drug initiates whose first drug was pain relievers decreased from 22.5 to 17.1 percent while the percentage whose first drug was tranquilizers increased from 3.2 to 8.6 percent.

### **Comparison, by Drug**

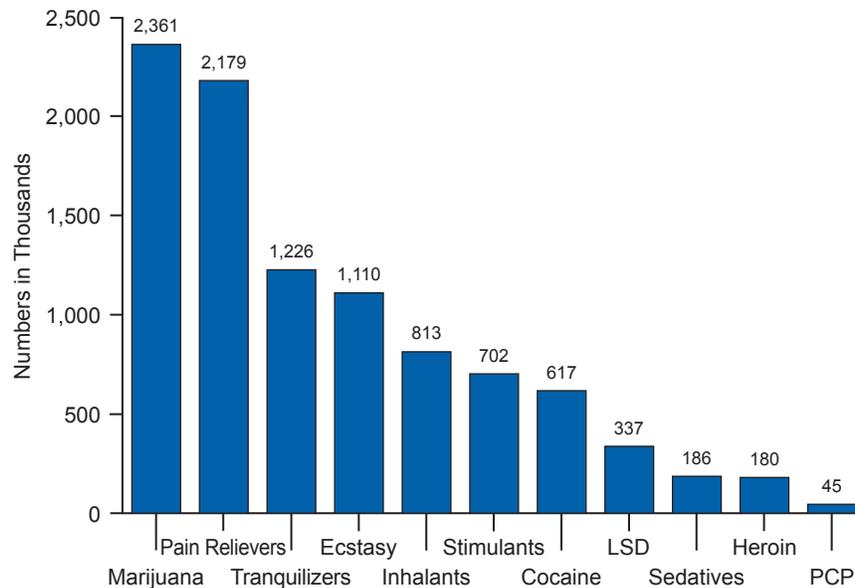
- In 2009, the specific drug categories with the largest number of recent initiates among persons aged 12 or older were marijuana use (2.4 million) and nonmedical use of pain relievers (2.2 million), followed by nonmedical use of tranquilizers (1.2 million), Ecstasy (1.1 million), inhalants (0.8 million), stimulants (0.7 million), and cocaine (0.6 million) (Figure 5.2).

**Figure 5.1 First Specific Drug Associated with Initiation of Illicit Drug Use among Past Year Illicit Drug Initiates Aged 12 or Older: 2009**



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. The first specific drug refers to the one that was used on the occasion of first-time use of any illicit drug.

**Figure 5.2 Past Year Initiates of Specific Illicit Drugs among Persons Aged 12 or Older: 2009**



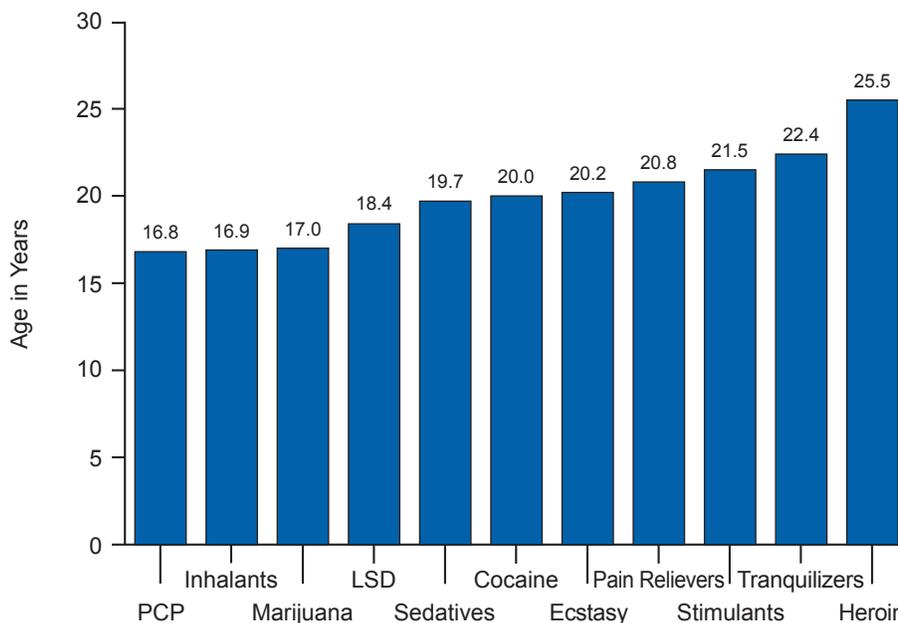
Note: The specific drug refers to the one that was used for the first time, regardless of whether it was the first drug used or not.

- Among persons aged 12 to 49, the average age at first use of inhalants in 2009 was 16.9 years; it was 17.0 years for marijuana, 20.0 years for cocaine, 20.2 years for Ecstasy, 20.8 years for pain relievers, and 22.4 years for tranquilizers (Figure 5.3).

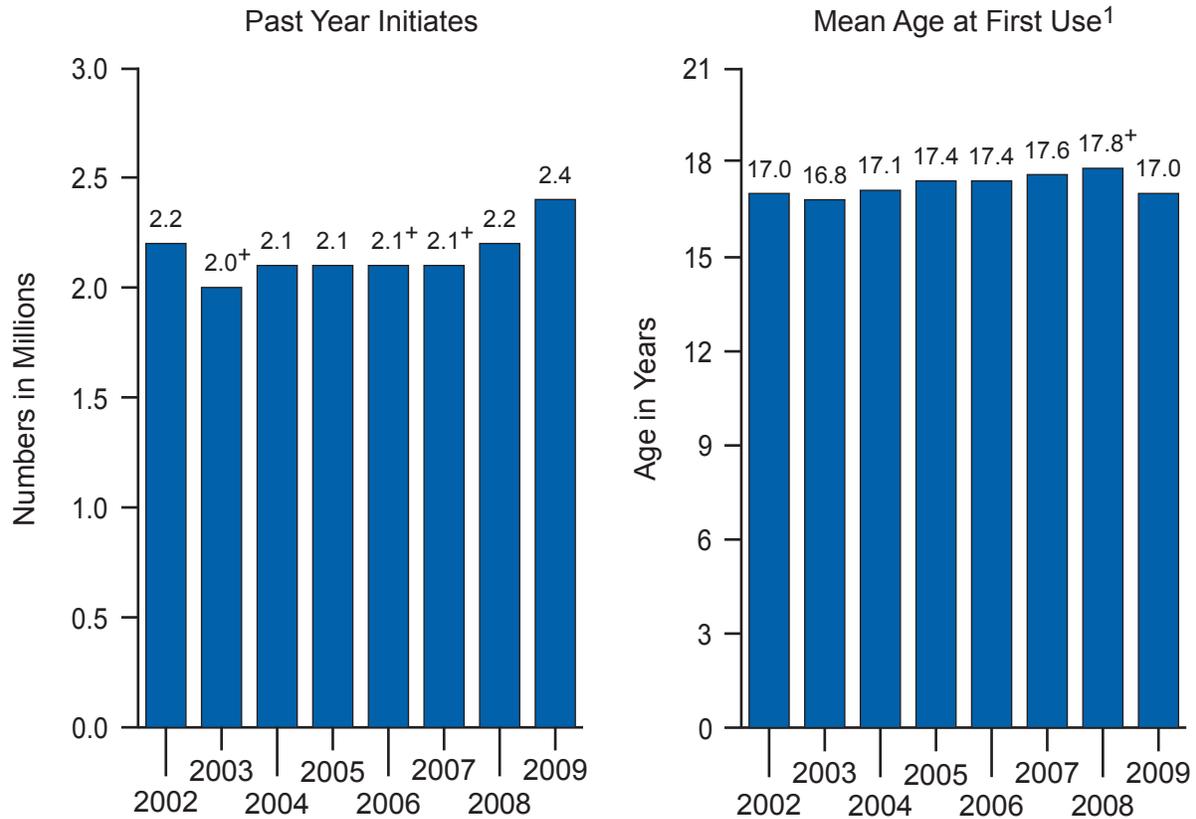
## Marijuana

- In 2009, there were 2.4 million persons aged 12 or older who had used marijuana for the first time within the past 12 months; this averages to about 6,500 initiates per day. This estimate was about the same as the estimate in 2008 (2.2 million) and 2002 (2.2 million), but higher than the estimate in 2007 (2.1 million) (Figure 5.4).
- Most (62.5 percent) of the 2.4 million recent marijuana initiates were younger than age 18 when they first used. Among youths aged 12 to 17, an estimated 5.4 percent had used marijuana for the first time within the past year, similar to the rate in 2008 (5.0 percent).
- In 2009, among persons aged 12 or older, there were an estimated 1.5 million first-time past year marijuana users who initiated prior to the age of 18. This estimate was not significantly different from the corresponding estimate in 2008 (1.4 million), but higher than the estimate in 2007 (1.3 million).
- 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 2009 (6.1 percent) was similar to the rate in 2008 (5.6 percent) but higher than 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: 2009**



**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: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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 2009, the average age at first marijuana use among recent initiates aged 12 to 49 was 17.0 years, which was lower than the average in 2008 (17.8 years) (Figure 5.4). However, the average age at first marijuana use was similar to the age in 2002, when it was 17.0 years. Among recent initiates aged 12 or older who initiated use prior to the age of 21, the mean age at first use was 16.3 years in 2009, which was significantly higher than the estimate (16.1 years) in 2008.

## Cocaine

- In 2009, there were 617,000 persons aged 12 or older who had used cocaine for the first time within the past 12 months; this averages to approximately 1,700 initiates per day. This estimate was similar to the number in 2008 (722,000). The annual number of cocaine initiates declined from 1.0 million in 2002 to 617,000 in 2009. The number of initiates of crack cocaine declined during this period from 337,000 to 94,000.
- Most (71.5 percent) of the 0.6 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 20.0 years, which was similar to the average age in 2008 (19.8 years).
- In 2009, among persons aged 12 or older, there were an estimated 176,000 first-time past year cocaine users who initiated use prior to age 18. This estimate was significantly lower than the estimate in 2008 (239,000). Cocaine initiation among youths under 18 has declined since 2005, when an estimated 328,000 initiates were under age 18.

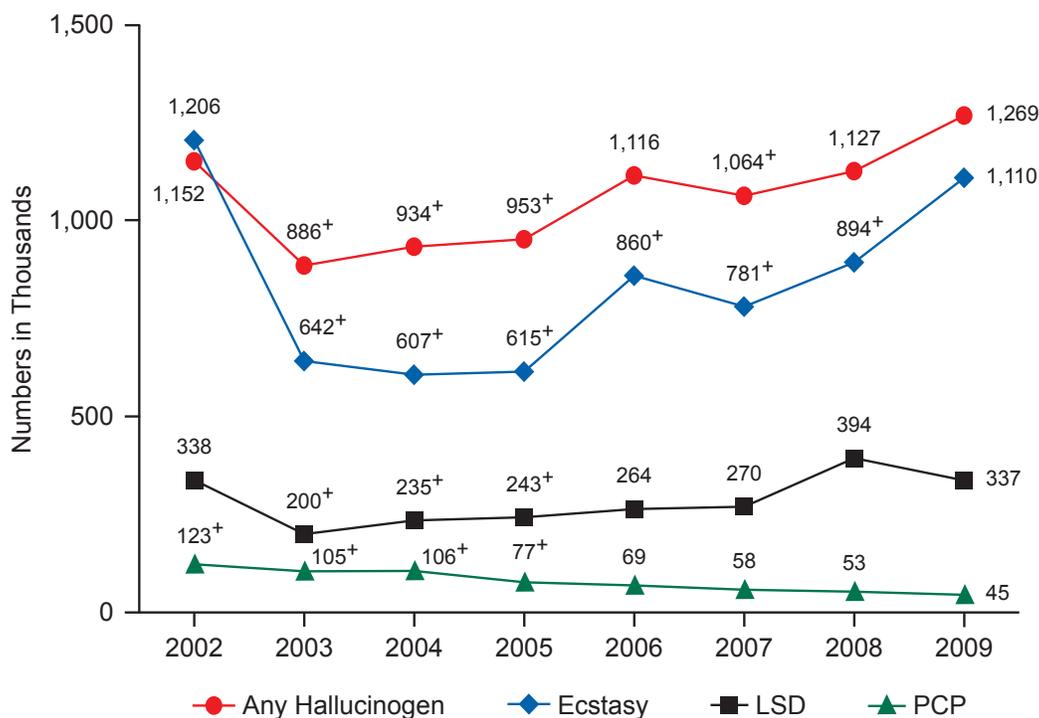
## Heroin

- In 2009, there were 180,000 persons aged 12 or older who had used heroin for the first time within the past 12 months. The number of heroin initiates was significantly higher than the average annual number of heroin initiates during 2002 to 2008 (slightly over 100,000). Estimates during 2002 to 2008 ranged from 91,000 to 118,000 per year. The average age at first use among recent initiates aged 12 to 49 was 25.5 years in 2009, similar to the average age in 2008.

## Hallucinogens

- In 2009, there were 1.3 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 2008 (1.1 million), but was higher than the estimate for 2003 (886,000).
- The number of past year initiates of LSD aged 12 or older was 337,000 in 2009, which was similar to the number in 2008 (394,000), but higher than in 2003, when the estimate was 200,000. Past year initiates of PCP decreased from 123,000 in 2002 to 45,000 in 2009 (Figure 5.5).
- There was a significant increase in the number of past year initiates of Ecstasy between 2008 (894,000) and 2009 (1.1 million) (Figure 5.5). The estimate had been 1.2 million in 2002, declined to 642,000 in 2003, and nearly doubled between 2005 (615,000) and 2009 (1.1 million). Most (66.3 percent) of the recent Ecstasy initiates in 2009 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 2009 was 20.2 years, similar to the average age in 2008 (20.3 years).
- In 2009, among persons aged 12 or older, the number of first-time past year Ecstasy users who initiated use prior to the age of 18 was 375,000. This estimate was significantly higher than the estimate in 2005 (209,000).

**Figure 5.5 Past Year Hallucinogen Initiates among Persons Aged 12 or Older: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

### Inhalants

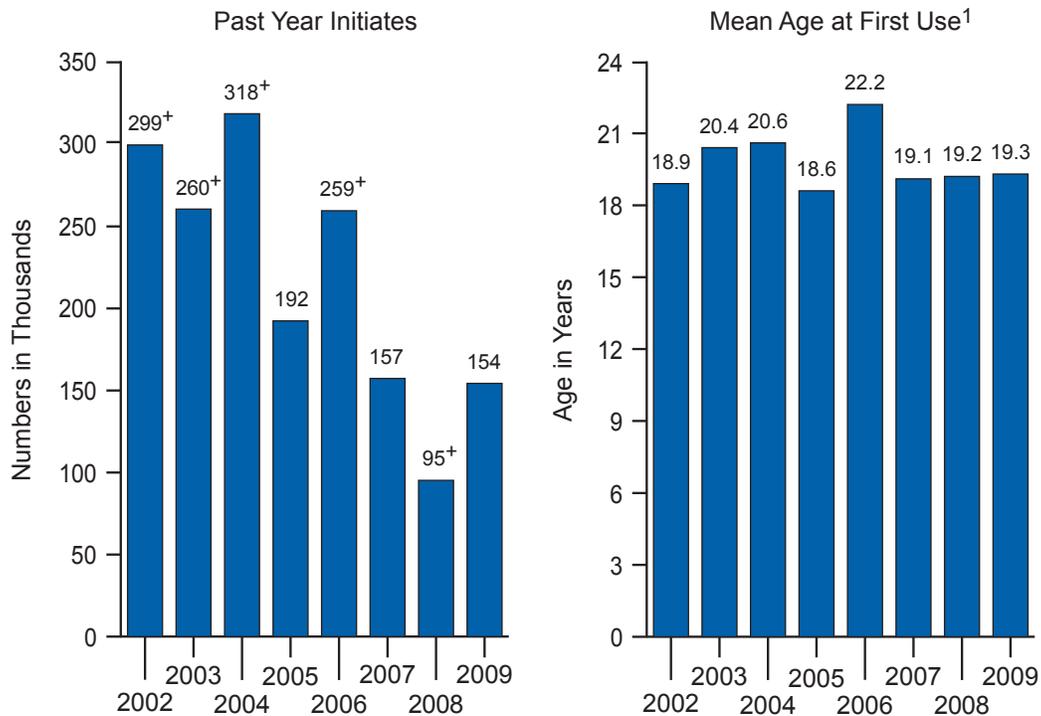
- In 2009, there were 813,000 persons aged 12 or older who had used inhalants for the first time within the past 12 months, which is similar to the numbers in prior years since 2002; 67.9 percent were under age 18 when they first used. The average age at first use among recent initiates aged 12 to 49 was also similar in 2008 and 2009 (15.9 and 16.9 years, respectively).

### Psychotherapeutics

- Psychotherapeutics include the nonmedical use of any prescription-type pain relievers, tranquilizers, stimulants, or sedatives. Over-the-counter substances are not included. In 2009, there were 2.6 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 similar to the estimates in prior years since 2002. In 2009, the numbers of new users of specific classes of psychotherapeutics were 2.2 million for pain relievers, 1.2 million for tranquilizers, 702,000 for stimulants, and 186,000 for sedatives. There were no significant differences in the 2009 estimates for any of the specific classes of psychotherapeutics and corresponding estimates since 2002.

- In 2009, the average age at first nonmedical use of any psychotherapeutics among recent initiates aged 12 to 49 was 21.0 years. More specifically, it was 20.8 years for pain relievers, 22.4 years for tranquilizers, 21.5 years for stimulants, and 19.7 years for sedatives.
- In 2009, the number of new nonmedical users of OxyContin® aged 12 or older was 584,000, with an average age at first use of 22.3 years among those aged 12 to 49. These estimates are similar to those for 2008 (478,000 and 21.8 years, respectively).
- The number of recent new users of methamphetamine among persons aged 12 or older was 154,000 in 2009 (Figure 5.6). This estimate was significantly higher than the estimate for 2008 (95,000), but lower than the estimate for 2002 (299,000). The average age of new methamphetamine users aged 12 to 49 in 2009 was 19.3 years, which was not significantly different from the corresponding estimate for the years between 2002 and 2008.

**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: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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.

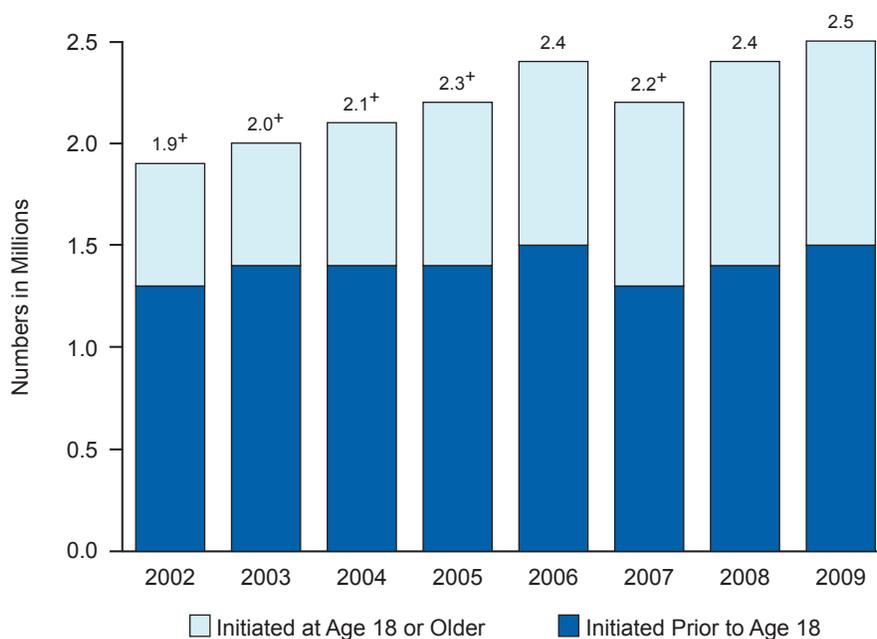
## Alcohol

- In 2009, there were 4.6 million persons aged 12 or older who had used alcohol for the first time within the past 12 months; this averages to approximately 12,500 initiates per day.
- Most (85.5 percent) of the 4.6 million recent alcohol initiates were younger than age 21 at the time of initiation.
- In 2009, the average age at first alcohol use among recent initiates aged 12 to 49 was 16.9 years, similar to the corresponding 2008 estimate (17.0 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 the same as the 2008 estimate.

## Tobacco

- The number of persons aged 12 or older who smoked cigarettes for the first time within the past 12 months was 2.5 million in 2009, which was similar to the estimate in 2008 (2.4 million) but significantly higher than the estimate for 2002 (1.9 million), 2003 (2.0 million), 2004 (2.1 million), 2005 (2.3 million), and 2007 (2.2 million) (Figure 5.7). The 2009 estimate averages out to approximately 6,900 new cigarette smokers every day. Most new cigarette smokers in 2009 were under age 18 when they first smoked cigarettes (58.8 percent).

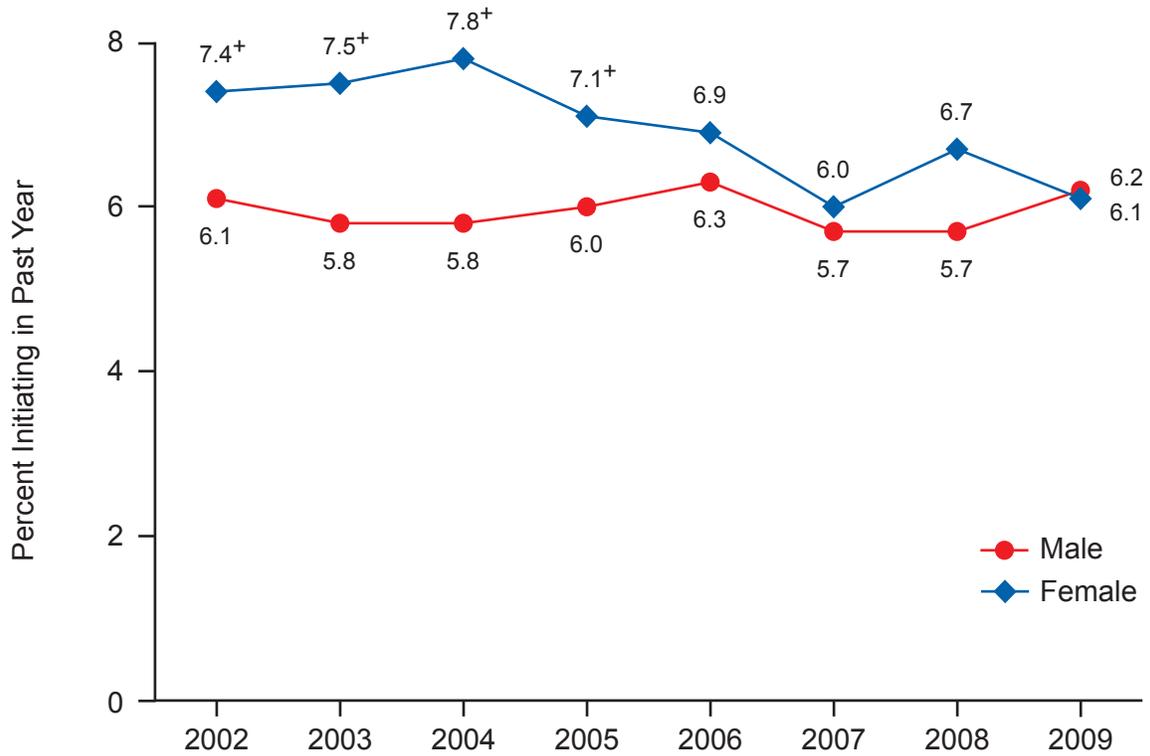
**Figure 5.7 Past Year Cigarette Initiates among Persons Aged 12 or Older, by Age at First Use: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- Between 2002 and 2009, the number of initiates both under age 18 and 18 or older increased (from 1.3 million to 1.5 million and from about 600,000 to 1 million, respectively).
- In 2009, among recent initiates aged 12 to 49, the average age of first cigarette use was 17.5 years, similar to the average in 2008 (17.4 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 2.8 percent in 2009, similar to the rate in 2008 (2.7 percent). Among youths aged 12 to 17 years who had not smoked cigarettes prior to the past year, the incidence rate remained the same in 2008 and 2009 (6.2 percent). Between 2002 and 2009, among males aged 12 to 17 who had never smoked prior to the past year, there was no significant change in the respective past year initiation rate (Figure 5.8). However, between 2002 and 2009, there was a significant decrease in the past year initiation rate among females.
- In 2009, the number of persons aged 12 or older who had started smoking cigarettes daily within the past 12 months was 1.1 million. This estimate was significantly higher than the 2008 estimate (0.9 million), but similar to the estimates for prior years (i.e., 2002 to 2007). Of the new daily smokers in 2009, 35.8 percent, or 403,000 persons, were younger than age 18 when they started smoking daily. This figure averages to approximately 1,100 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 2009 was 20.7 years, similar to the average in 2008 (20.1 years).
- In 2009, there were 3.1 million persons aged 12 or older who had used cigars for the first time in the past 12 months, which was similar to the 2008 estimate (2.9 million). However, the 2009 estimate reflects a significant increase when compared with the 2003 estimate (2.7 million). Among past year cigar initiates aged 12 to 49, the average age at first use was 20.7 years in 2009, which was similar to the estimate in 2008 (20.0 years).
- The number of persons aged 12 or older initiating use of smokeless tobacco in the past year was 1.5 million in 2009, which was not significantly different from the estimates in 2006 (1.3 million), 2007 (1.3 million), and 2008 (1.4 million). However, the estimated number of past year initiates of smokeless tobacco use in 2009 was 54 percent higher than the estimate in 2002 (951,000). About three quarters (75.6 percent) of new initiates in 2009 were male, and a little less than half (48.9 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 2009 was 18.8 years, which was similar to the 2008 estimate (18.9 years). Among both males and females, the average ages at first use of smokeless tobacco were similar in 2008 and 2009 (18.8 and 18.7 years for males, 19.0 and 19.3 years for females).

**Figure 5.8 Past Year Cigarette Initiation among Youths Aged 12 to 17 Who Had Never Smoked Prior to the Past Year, by Gender: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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 2009 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.

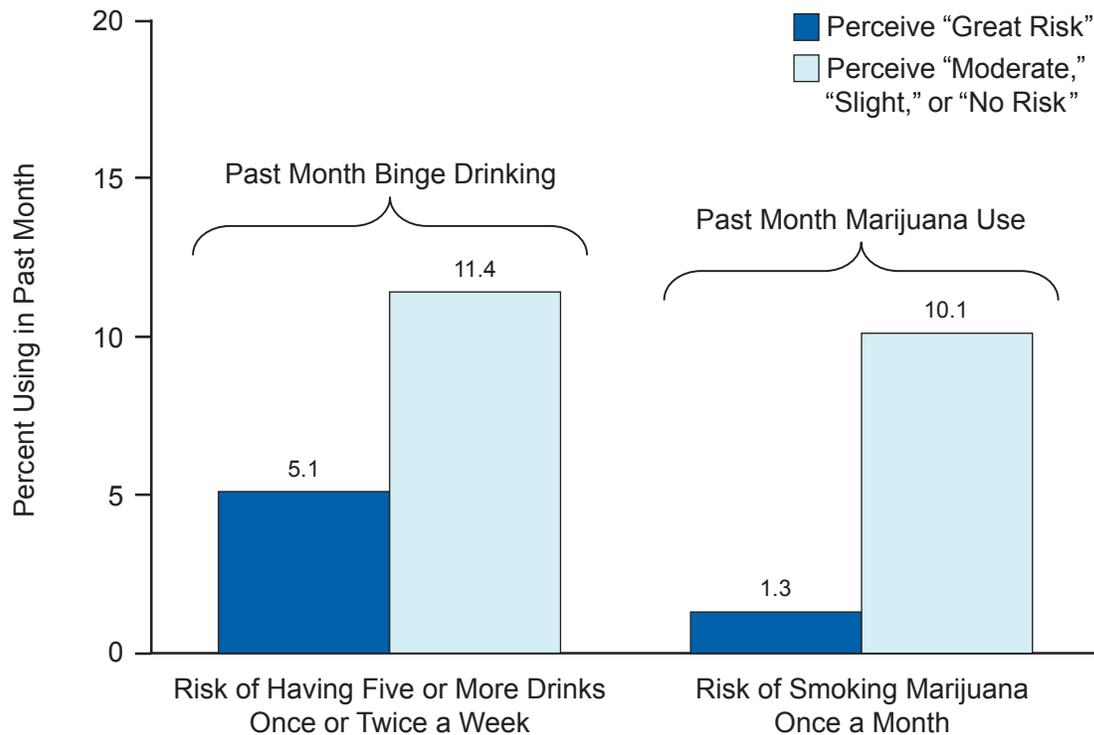
In this chapter, rates of substance use are compared for persons responding differently to questions reflecting risk or protective factors, such as the perceived risk of harm from using a substance. Because the NSDUH data for an individual are collected at only one point in time, it is not possible to 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 past month use among youths aged 12 to 17 decreased between 2002 and 2009, 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."

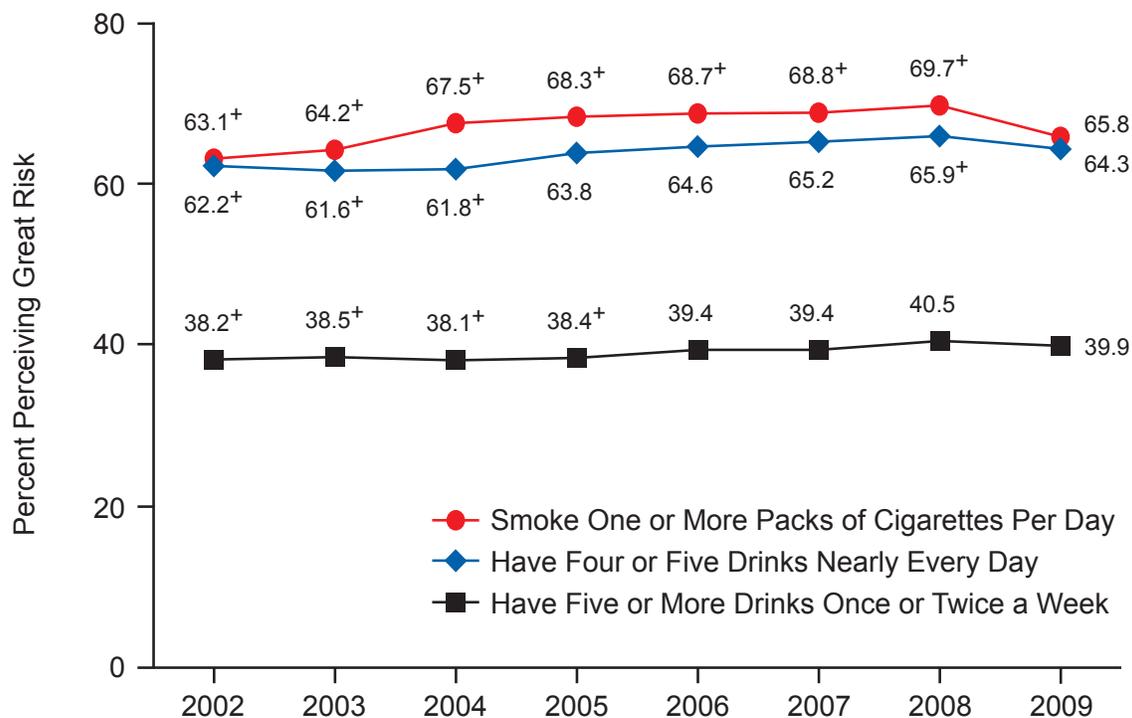
- The percentages of youths reporting binge alcohol use and use of cigarettes and marijuana in the past month were lower among those who perceived great risk in using these substances than among those who did not perceive great risk. For example, in 2009, 5.1 percent of youths aged 12 to 17 who perceived 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 11.4 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 1.3 percent of youths who saw great risk in smoking marijuana once a month compared with 10.1 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: 2009**



- 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 8-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, but it declined between 2008 and 2009 (65.8 percent) (Figure 6.2). During the same period, the rate of past month cigarette smoking among youths aged 12 to 17 dropped from 13.0 percent in 2002 to 9.1 percent in 2008, but it remained statistically unchanged between 2008 and 2009 (8.9 percent).

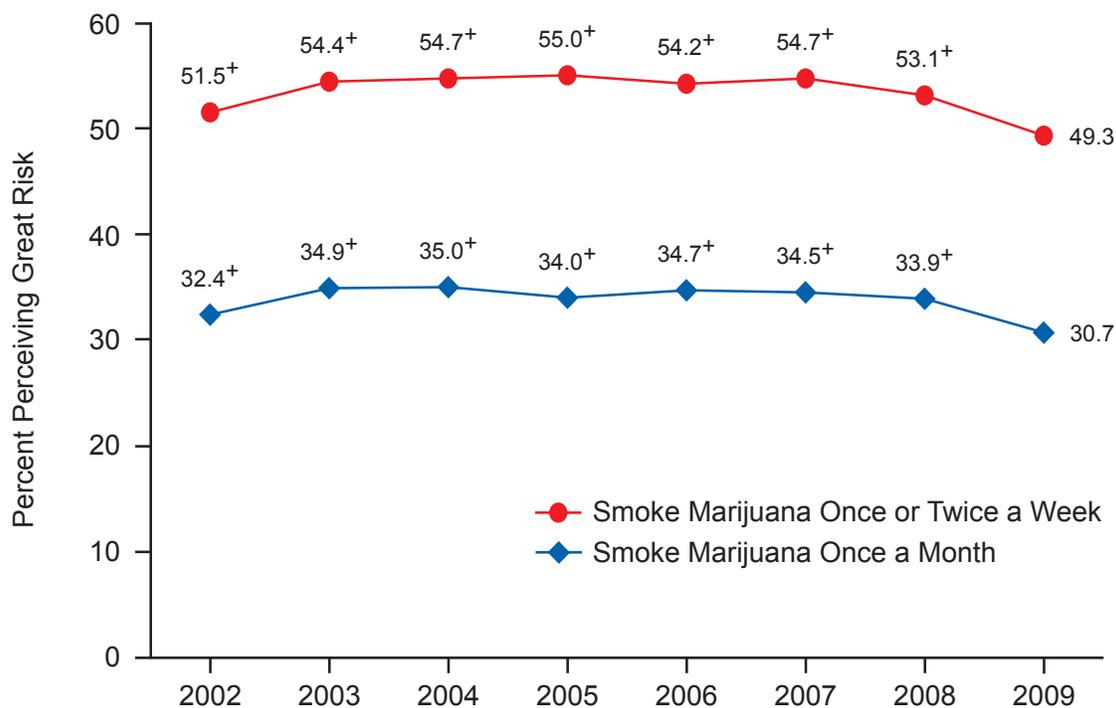
**Figure 6.2 Perceived Great Risk of Cigarette and Alcohol Use among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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, but it decreased between 2008 and 2009 (64.3 percent) (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, but it remained stable between 2008 and 2009 (2.1 percent).
- 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 39.9 percent in 2009 (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 2009.
- 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, remained unchanged between 2003 and 2008 (33.9 percent), then decreased to 30.7 percent in 2009 (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 2009 (49.3 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), remained level until 2008 (6.7 percent), then increased between 2008 and 2009 (7.3 percent).

**Figure 6.3 Perceived Great Risk of Marijuana Use among Youths Aged 12 to 17: 2002-2009**



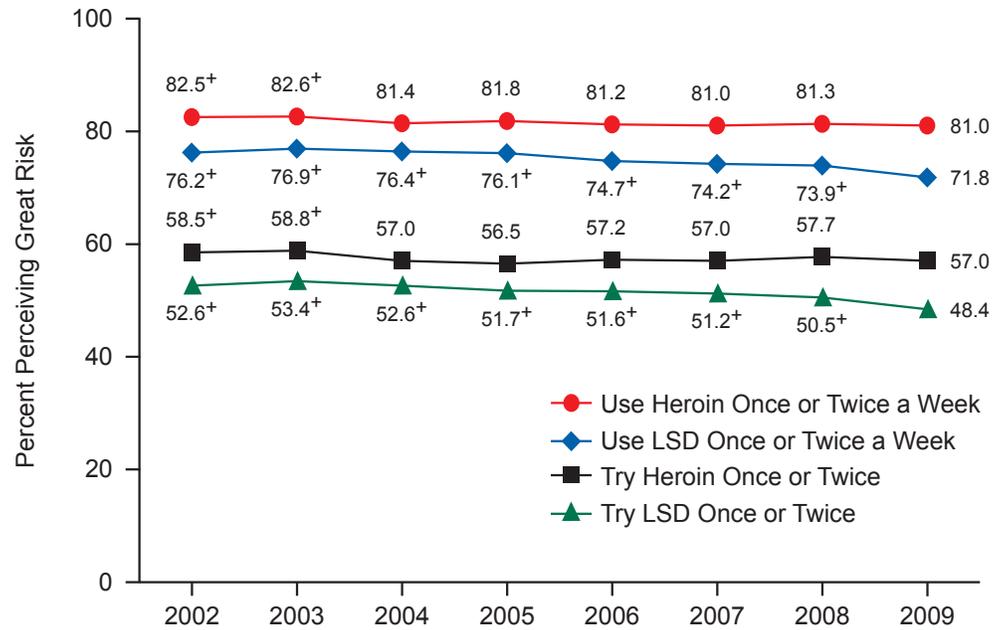
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- Between 2002 and 2009, 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 81.0 percent), trying heroin once or twice (from 58.5 to 57.0 percent), using cocaine once or twice a week (from 79.8 to 78.5 percent), trying LSD once or twice (from 52.6 to 48.4 percent), and using LSD once or twice a week (from 76.2 to 71.8 percent) (Figure 6.4). However, over the same period there were no statistically significant changes in the percentages of youths aged 12 to 17 indicating great risk for using cocaine once a month (50.5 percent in 2002 and 49.5 percent in 2009). Moreover, percentages for the two heroin and the two cocaine perceptions of risk measures remained stable between 2008 and 2009, while the two LSD measures declined during this time period.

### Perceived Availability

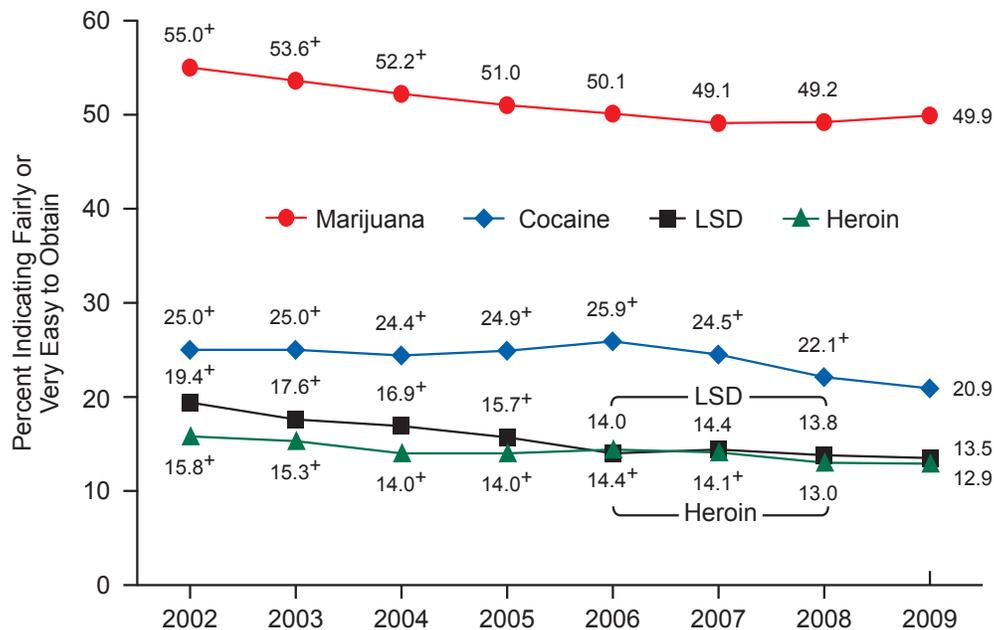
- In 2009, about half (49.9 percent) of the youths aged 12 to 17 reported that it would be "fairly easy" or "very easy" for them to obtain marijuana if they wanted some (Figure 6.5). One in eight (12.9 percent) indicated that heroin would be "fairly" or "very" easily available, and 13.5 percent reported so for LSD. Between 2002 and 2009, there were decreases in the perceived availability of marijuana (from 55.0 to 49.9 percent), cocaine (from 25.0 to 20.9 percent), crack (from 26.5 to 22.1 percent), LSD (from 19.4 to 13.5 percent), and heroin (from 15.8 to 12.9 percent). The perceived availability of cocaine declined from 22.1 percent in 2008 to 20.9 percent in 2009. However, the perceived availability of marijuana, crack, LSD, and heroin did not change significantly during this 2-year period.

**Figure 6.4 Perceived Great Risk of Use of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

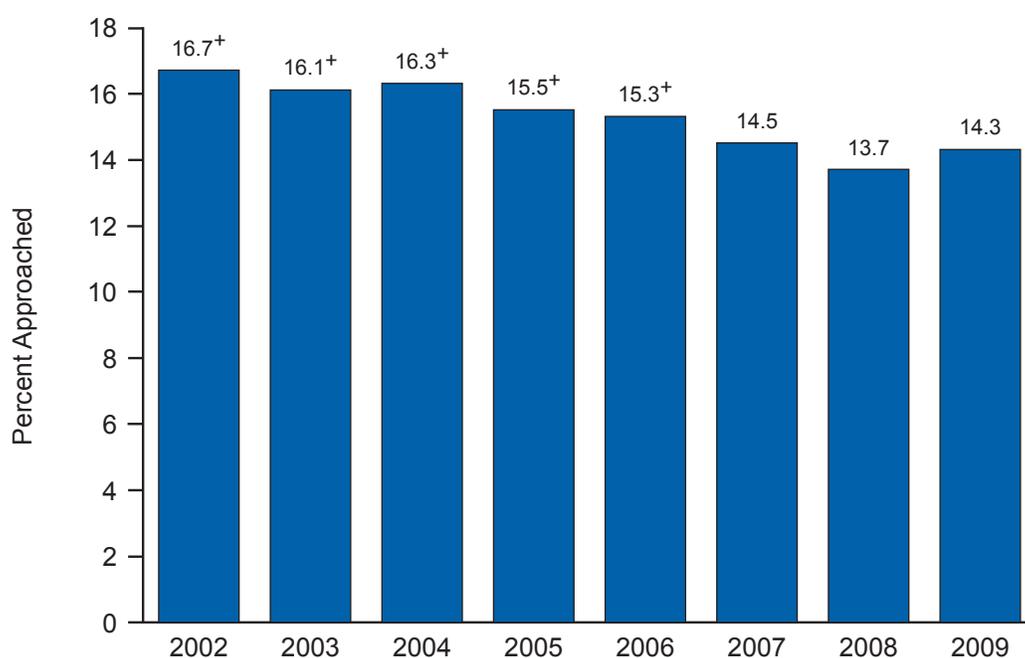
**Figure 6.5 Perceived Availability of Selected Illicit Drugs among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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 2009. For example, 19.8 percent of those aged 12 or 13 said it would be fairly or very easy to obtain marijuana compared with 52.9 percent of those aged 14 or 15 and 72.2 percent of those aged 16 or 17.
- In 2009, 14.3 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 2008 (13.7 percent) and 2009.

**Figure 6.6 Approached in the Past Month by Someone Selling Drugs among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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 2009, 90.5 percent of youths reported that their parents would strongly disapprove of their trying marijuana or hashish once or twice; this was similar to the 90.8 percent reported in 2008, but was higher than the 89.1 percent reported in 2002. Most (90.3 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 rate in 2008 (89.7 percent) and was higher than the rate in 2002 (89.0 percent). In 2009, 92.6 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 92.4 percent reported in 2008, 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 2009, past month cigarette use was reported by 6.5 percent of youths who perceived strong parental disapproval of their smoking one or more packs of cigarettes per day compared with 40.5 percent of youths who believed their parents would not strongly disapprove. Past month 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 (4.8 vs. 31.3 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 2009, 90.1 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 89.6 percent in 2008, but higher than the 87.1 percent in 2002. Also in 2009, 82.0 percent strongly or somewhat disapproved of peers using marijuana or hashish once a month or more, which was similar to the 82.7 percent reported in 2008, but was an increase from the 80.4 percent reported in 2002. In addition, 87.4 percent of youths strongly or somewhat disapproved of peers having one or two drinks of an alcoholic beverage nearly every day in 2009, which was similar to the 87.0 percent reported in 2008, but was higher than the 84.7 percent reported in 2002.
- In 2009, past month marijuana use was reported by 2.6 percent among youths aged 12 to 17 who strongly or somewhat disapproved of their peers using marijuana once a month or more, lower than the 28.7 percent among youths who reported that they neither approve nor disapprove of such behavior from their peers.

### **Fighting and Delinquent Behavior**

- In 2009, 21.1 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 2008 (21.4 percent) and 2002 (20.6 percent). Approximately one in seven youths (14.4 percent) in 2009 had taken part in a group-against-group fight, which was similar to the rate in 2008 (14.5 percent) and lower than the rate in 2002 (15.9 percent). About 1 in 30 (3.2 percent) had carried a handgun at least once in 2009, which was the same as the rate in 2008 (3.2 percent) and was similar to the rate in 2002 (3.3 percent). An estimated 7.2 percent had, in at least one instance, attacked others with the intent to harm or seriously hurt them in 2009, which was similar to the rate in 2008 (7.3 percent) and was similar to the 7.8 percent reported in 2002. An estimated 3.2 percent had sold illegal drugs in 2009, which was similar to the rate of 3.0 percent in 2008, but was lower than the 4.4 percent rate in 2002. In 2009, 4.4 percent had, at least once, stolen or tried to steal something worth more than \$50; this was similar to the rate of 4.6 percent in 2008, but was lower than the rate of 4.9 percent 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 2009, past month illicit drug use was reported by 18.8 percent of youths who had gotten into a serious fight at school or work in the past year compared with 7.7 percent of those who had not engaged in fighting, and by 38.3 percent of those who had stolen or tried to steal something worth over \$50 in the past year compared with 8.7 percent of those who had not attempted or engaged in such theft.

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

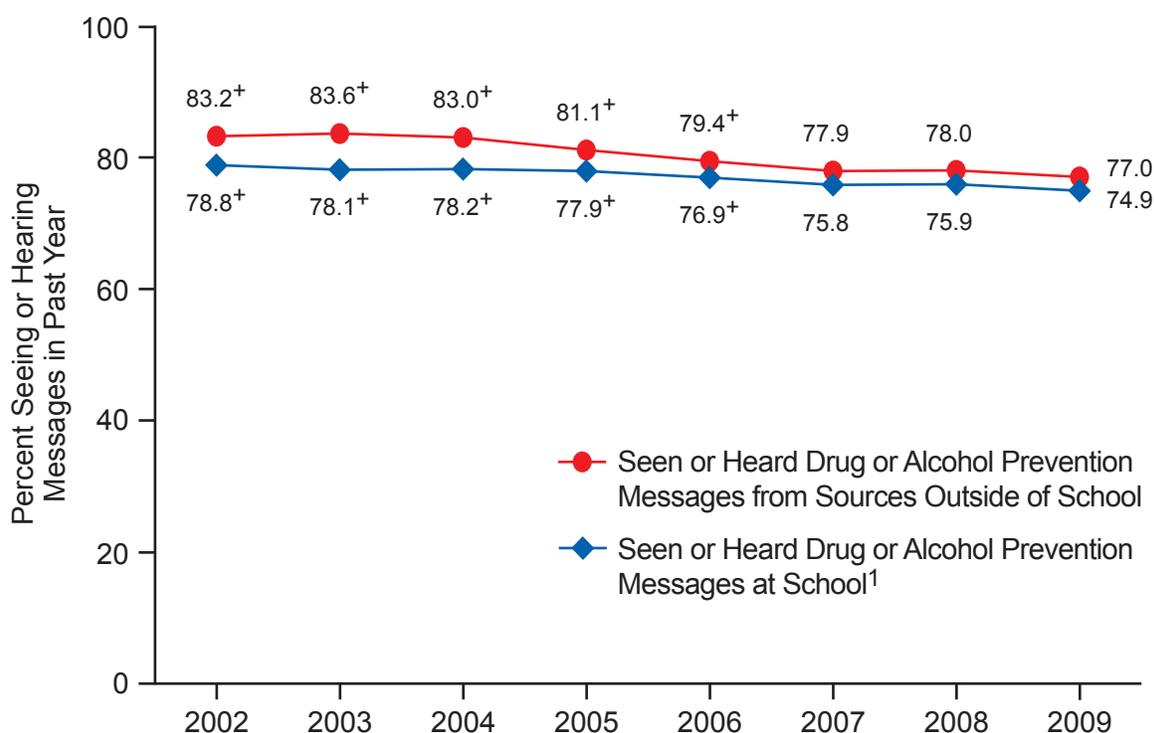
- In 2009, 31.4 percent of youths aged 12 to 17 reported that they had attended religious services 25 or more times in the past year, which was similar to the rate in 2008 (31.7 percent), but was lower than the rate in 2002 (33.0 percent). Also, 74.7 percent agreed or strongly agreed with the statement that religious beliefs are a very important part of their lives, which was similar to the 75.0 percent reported in 2008, but was lower than the 78.2 percent reported in 2002. In 2009, 34.0 percent agreed or strongly agreed with the statement that it is important for their friends to share their religious beliefs, which was similar to the rate in 2008 (33.8 percent) and was lower than the rate in 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 2009, past month illicit drug use was reported by 7.4 percent of those who agreed that religious beliefs are a very important part of life compared with 17.6 percent of those who disagreed with that statement.

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

- In 2009, approximately one in eight youths aged 12 to 17 (12.0 percent) reported that they had participated in drug, tobacco, or alcohol prevention programs outside of school in the past year. This rate was higher than the 11.1 percent reported in 2008, but was similar to the rate reported in 2002 (12.7 percent) and lower than the rate reported in 2003 (13.9 percent). In 2009, the prevalence of past month use of illicit drugs, marijuana, or cigarettes or past month binge alcohol use among those who participated in these prevention programs outside of school was not significantly different (10.5, 6.9, 8.9, or 8.1 percent, respectively) from the prevalence among those who did not (10.0, 7.4, 8.9, or 8.9 percent, respectively).
- In 2009, 77.0 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 78.0 percent reported in 2008, but was lower than the 83.2 percent reported in 2002 (Figure 6.7). In 2009, the prevalence of past month use of illicit drugs was lower among those who reported having such exposure (9.7 percent) than among those who reported having no such exposure (11.3 percent).

- In 2009, 74.9 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 75.9 percent reported in 2008, but was lower than the 78.8 percent reported in 2002 (Figure 6.7). In 2009, the prevalence of past month use of illicit drugs or marijuana was lower among those who reported having such exposure (9.2 and 6.7 percent for illicit drugs and marijuana, respectively) than among those who reported having no such exposure (12.7 and 9.7 percent, respectively).

**Figure 6.7 Exposure to Substance Use Prevention Messages and Programs among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 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 2009, 58.2 percent of youths aged 12 to 17 reported that in the past year they had talked at least once with at least one of their parents about the dangers of drug, tobacco, or alcohol use, which was similar to rates reported in 2008 (58.7 percent) and 2002 (58.1 percent). The prevalence of past month use of illicit drugs, marijuana, or cigarettes or past month binge alcohol use among those who reported having had such conversations with their parents (9.8, 7.3, 8.6, and 8.7 percent, respectively) was not significantly different from that among those who reported having no such conversations (10.4, 7.4, 9.4, and 9.1 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 2009, among youths aged 12 to 17 enrolled in school in the past year, 79.8 percent reported that in the past year their parents always or sometimes checked on whether or not they had completed their homework, and 70.6 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 2009 were similar to those reported in 2008 and remained statistically unchanged from the rates reported in 2002. However, in 2009, 79.9 percent reported that their parents always or sometimes provided help with their homework, which was similar to the rate in 2008 (80.0 percent), but was lower than the rate in 2002 (81.4 percent).
- In 2009, 87.4 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, 85.7 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 2009 were similar to those reported in 2008 and remained statistically unchanged from the rates reported in 2002. In 2009, however, 40.1 percent of youths reported that their parents limited the amount of time that they watched television, which was similar to the rate in 2008 (39.9 percent), but was higher than the 36.9 percent reported in 2002.
- In 2009, 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 8.2 percent for youths whose parents always or sometimes helped with homework compared with 17.5 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 (7.5 and 7.4 percent, respectively) than among youths whose parents did not (15.7 and 15.6 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).

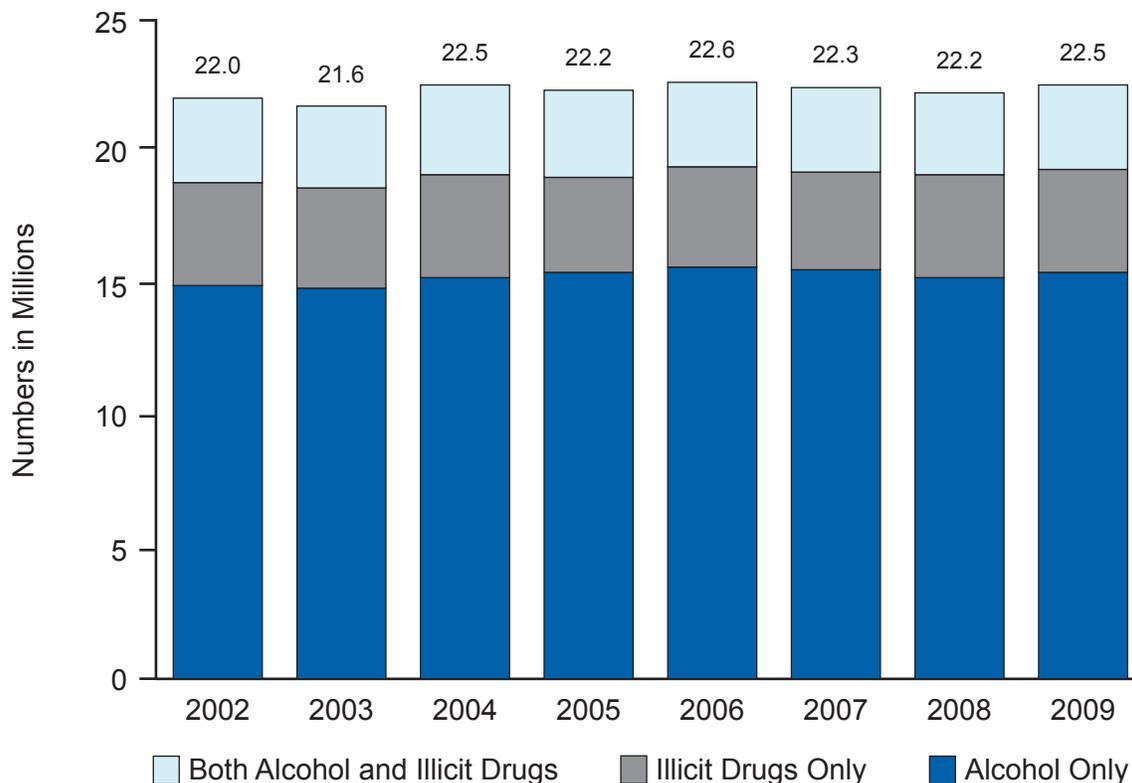
The questions related to dependence ask about health and emotional problems associated with substance use, unsuccessful attempts to cut down on use, tolerance, withdrawal, reducing other activities to use substances, spending a lot of time engaging in activities related to substance use, or using the 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 2009 NSDUH and compares these estimates against the results from the 2002 through 2008 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 2009, an estimated 22.5 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, 3.2 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 15.4 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 2009 (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, 22.2 million in 2008, and 22.5 million in 2009).

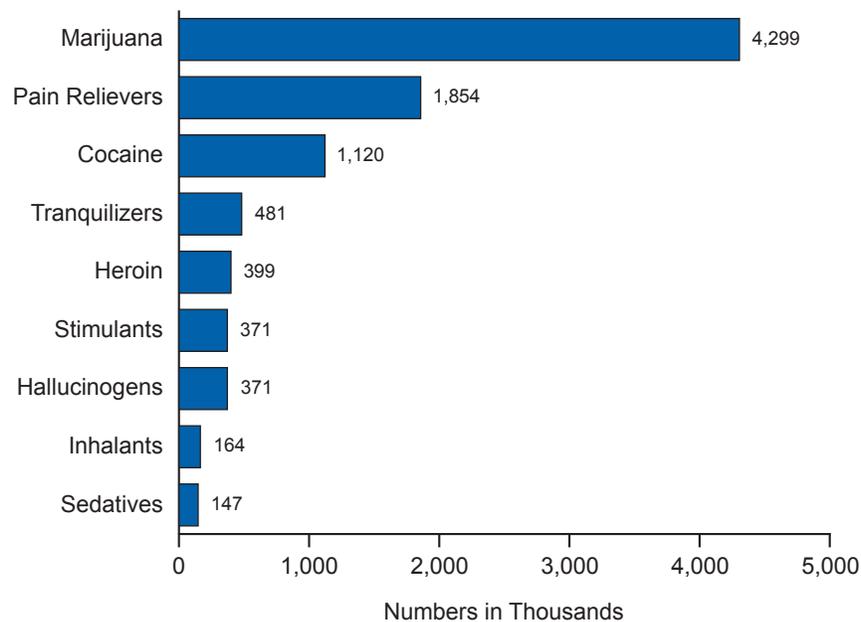
**Figure 7.1 Substance Dependence or Abuse in the Past Year among Persons Aged 12 or Older: 2002-2009**



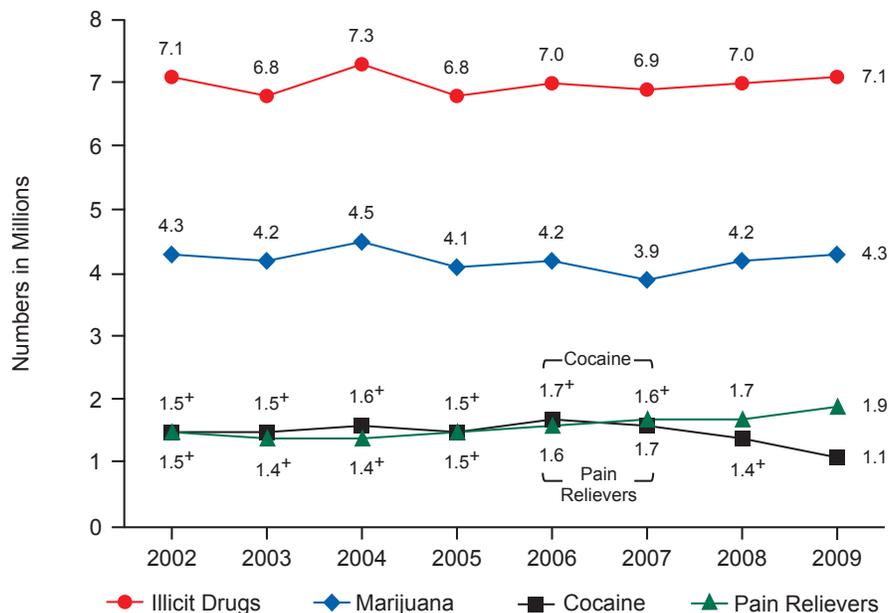
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- In 2009, 18.7 million persons aged 12 or older were classified with dependence on or abuse of alcohol. This represents 7.4 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 2009, followed by pain relievers and cocaine. Of the 7.1 million persons aged 12 or older classified with dependence on or abuse of illicit drugs in 2009, 4.3 million were dependent on or abused marijuana or hashish (representing 1.7 percent of the total population aged 12 or older, and 60.5 percent of all those classified with illicit drug dependence or abuse), 1.9 million persons were classified with dependence on or abuse of pain relievers, and 1.1 million persons were classified with dependence on or abuse of cocaine (Figures 7.2 and 7.3).

**Figure 7.2 Dependence on or Abuse of Specific Illicit Drugs in the Past Year among Persons Aged 12 or Older: 2009**



**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: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

- The rate and the number of persons who were dependent on or were abusing marijuana did not change significantly between 2002 (1.8 percent and 4.3 million) and 2009 (1.7 percent and 4.3 million) and between 2008 (1.7 percent and 4.2 million) and 2009. The rate and the number of persons who were dependent on or were abusing cocaine decreased between 2002 (0.6 percent and 1.5 million) and 2009 (0.4 percent and 1.1 million) and between 2008 (0.6 percent and 1.4 million) and 2009. The rate of persons who were dependent on or were abusing pain relievers remained unchanged between 2002 and 2009 and between 2008 and 2009; however, the number of persons who were dependent on or were abusing pain relievers increased between 2002 (1.5 million) and 2009 (1.9 million), but remained unchanged between 2008 (1.7 million) and 2009. The number of persons who were dependent on or abused heroin increased from 213,000 in 2007 to 399,000 in 2009.
- The percentages of persons aged 12 or older with dependence on or abuse of illicit drugs remained the same between 2008 (2.8 percent) and 2009 (2.8 percent) and were stable between 2002 (3.0 percent) and 2009. During the 8-year period, the percentages of persons with dependence on or abuse of alcohol remained stable as well (7.7 percent in 2002, 7.3 percent in 2008, and 7.4 percent in 2009).

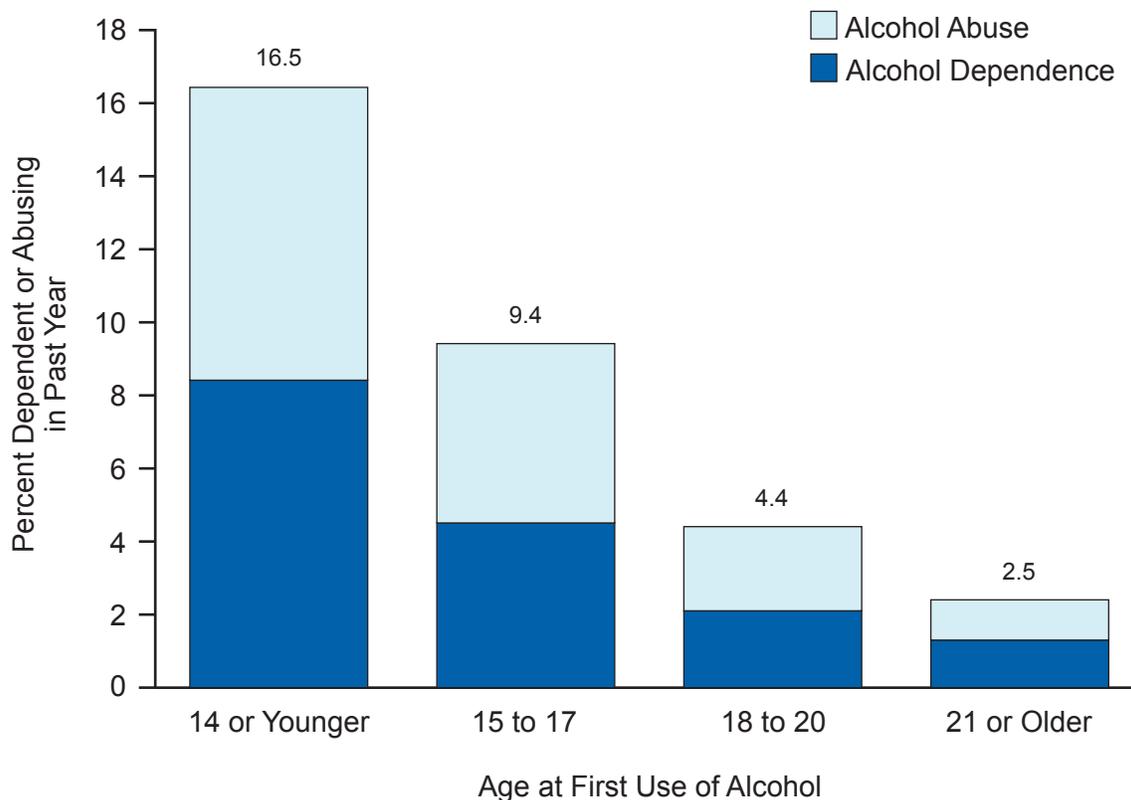
### **Age at First Use**

- In 2009, among adults aged 18 or older, age at first use of marijuana was associated with dependence on or abuse of illicit drugs. Among those who first tried marijuana at age 14 or younger, 12.6 percent were classified with illicit drug dependence or abuse, higher than the 2.1 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, 17.5 percent were classified with alcohol dependence or abuse compared with only 3.7 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 (16.5, 9.4, and 4.4 percent for adults who first used alcohol at age 14 or younger, age 15 to 17, and age 18 to 20, respectively, vs. 2.5 percent for first use at age 21 or older) (Figure 7.4).

### **Age**

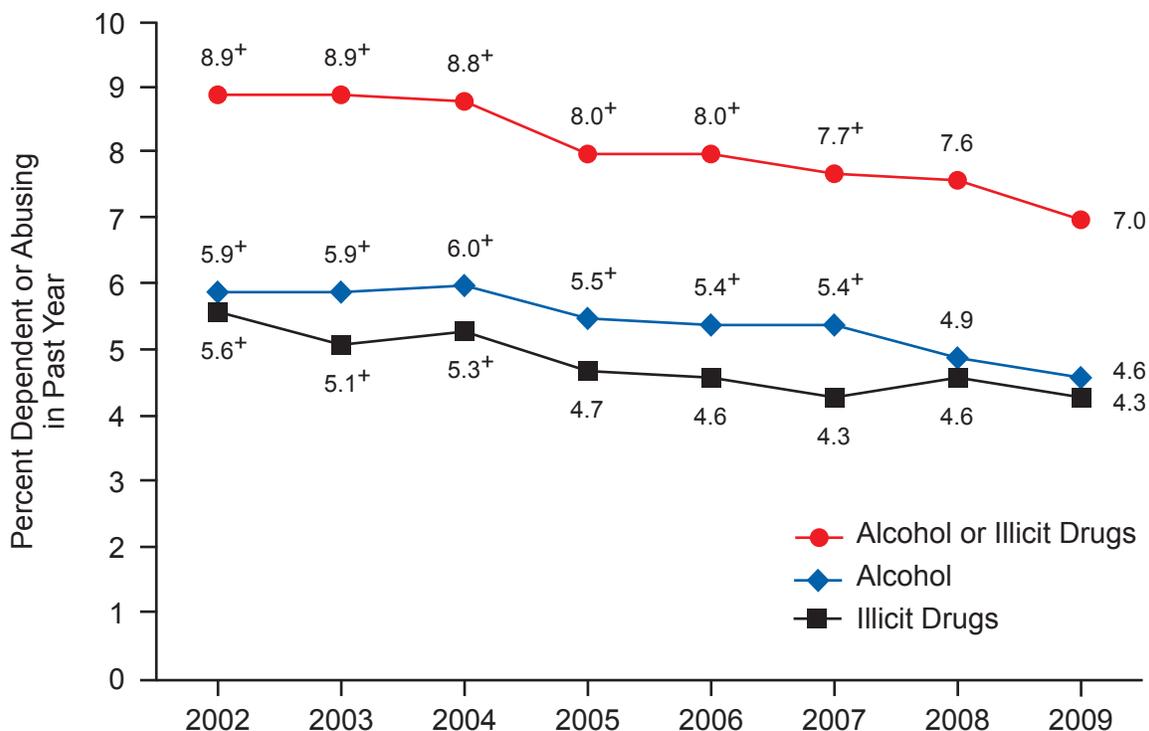
- Rates of substance dependence or abuse were associated with age. In 2009, the rate of substance dependence or abuse among adults aged 18 to 25 (20.0 percent) was higher than that among youths aged 12 to 17 (7.0 percent) and among adults aged 26 or older (7.3 percent). None of these rates changed significantly between 2008 and 2009. From 2002 to 2009, the rate decreased for youths aged 12 to 17 (from 8.9 to 7.0 percent) and for young adults aged 18 to 25 (from 21.7 to 20.0 percent). For adults aged 26 or older, the rate remained stable from 2002 to 2009.

**Figure 7.4 Alcohol Dependence or Abuse in the Past Year among Adults Aged 21 or Older, by Age at First Use of Alcohol: 2009**



- In 2009, among persons with substance dependence or abuse, the proportion with dependence on or abuse of illicit drugs also was associated with age: 61.0 percent of youths aged 12 to 17 were dependent on or abused illicit drugs compared with 38.4 percent of young adults aged 18 to 25 and 24.6 percent of adults aged 26 or older.
- The rate of alcohol dependence or abuse among youths aged 12 to 17 was 4.6 percent in 2009, which was similar to the 4.9 percent reported in 2008 and was down from 5.9 percent in 2002 (Figure 7.5). Among adults aged 26 or older, the rate remained stable between 2008 (6.0 percent) and 2009 (6.3 percent) and between 2002 (6.2 percent) and 2009. Among young adults aged 18 to 25, the rate of alcohol dependence or abuse decreased between 2008 (17.2 percent) and 2009 (16.0 percent) and between 2002 (17.7 percent) and 2009.

**Figure 7.5 Dependence on or Abuse of Alcohol and Illicit Drugs among Youths Aged 12 to 17: 2002-2009**



<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

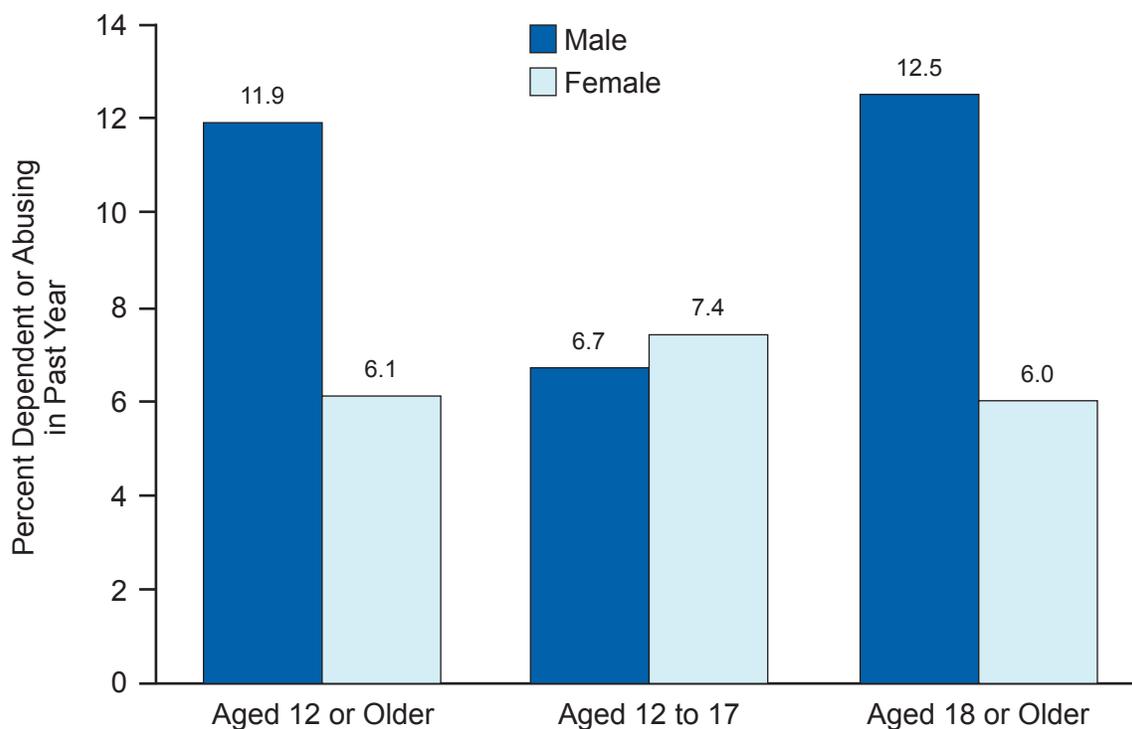
### Gender

- As was the case from 2002 through 2008, the rate of substance dependence or abuse for males aged 12 or older in 2009 was about twice as high as the rate for females. For males in 2009, the rate was 11.9 percent, which was similar to the 11.5 percent in 2008, while for females, it was 6.1 percent in 2009, which did not differ significantly from the 6.4 percent in 2008 (Figure 7.6). Among youths aged 12 to 17, the rate of substance dependence or abuse among males was similar to the rate among females in 2009 (6.7 vs. 7.4 percent).

### Race/Ethnicity

- In 2009, among persons aged 12 or older, the rate of substance dependence or abuse was the lowest among Asians (3.5 percent). The rates for the other racial/ethnic groups were 15.5 percent for American Indians or Alaska Natives, 13.2 percent for persons reporting two or more races, 10.1 percent for Hispanics, 9.0 percent for whites, and 8.8 percent for blacks. These rates in 2009 were similar to the rates in 2002 through 2008.

**Figure 7.6 Substance Dependence or Abuse in the Past Year, by Age and Gender: 2009**



### Education/Employment

- Rates of substance dependence or abuse were associated with level of education in 2009. Among adults aged 18 or older, those who graduated from a college or university had a lower rate of dependence or abuse (7.5 percent) than those who graduated from high school (8.9 percent), those who did not graduate from high school (11.6 percent), and those with some college (9.9 percent).
- Rates of substance dependence or abuse were associated with current employment status in 2009. A higher percentage of unemployed adults aged 18 or older were classified with dependence or abuse (16.6 percent) than were full-time employed adults (9.6 percent) or part-time employed adults (11.2 percent).
- Most adults aged 18 or older with substance dependence or abuse were employed full time in 2009. Of the 20.8 million adults classified with dependence or abuse, 11.0 million (53.0 percent) were employed full time.

## **Criminal Justice Populations**

- In 2009, 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 (24.6 percent) than their counterparts who were not on parole or supervised release during the past year (9.0 percent).
- In 2009, probation status was associated with substance dependence or abuse. The rate of substance dependence or abuse was 36.2 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 (8.5 percent).

## **Geographic Area**

- In 2009, rates of substance dependence or abuse for persons aged 12 or older were similar by region, with 9.5 percent in the West, 8.6 percent in the South, 9.1 percent in the Midwest, and 8.8 percent in the Northeast. Rates for substance dependence or abuse among persons aged 12 or older in 2009 were similar among large metropolitan counties (9.0 percent), nonmetropolitan counties (8.5 percent), and small metropolitan counties (9.1 percent).

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

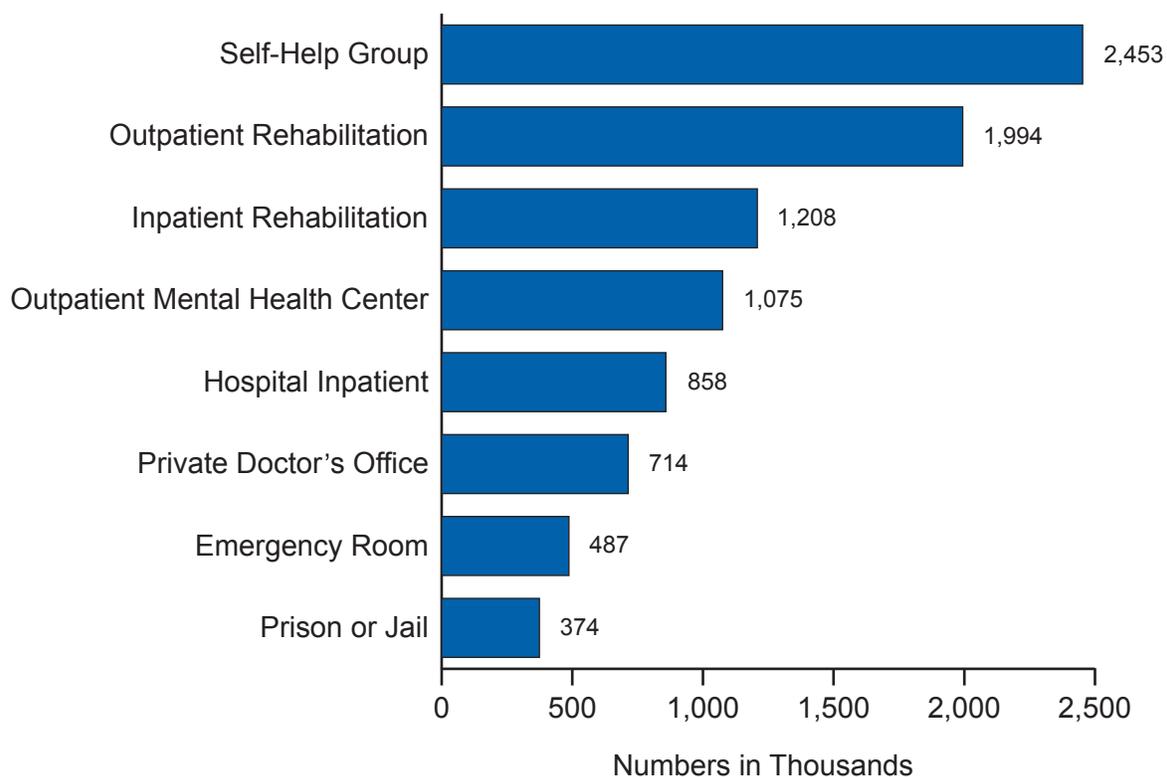
Estimates described in this section refer to treatment received for illicit drug or alcohol use, or for medical problems associated with the use of illicit drugs or alcohol. This includes treatment received in the past year at any location, such as a hospital (inpatient), rehabilitation facility (outpatient 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 alcohol use treatment; however, they were counted in estimates for "drug or alcohol use" treatment.

- In 2009, 4.3 million persons aged 12 or older (1.7 percent of the population) received treatment for a problem related to the use of alcohol or illicit drugs. Of these, 1.6 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 1.5 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 2008 and 2009 and between 2002 and 2009 (1.7 percent in 2009, 1.6 percent in 2008, and 1.5 percent in 2002). Although the number of persons receiving substance use treatment within the past year remained stable between 2008 (4.0 million) and 2009 (4.3 million), the number increased between 2002 (3.5 million) and 2009.
- In 2009, among the 4.3 million persons aged 12 or older who received treatment for alcohol or illicit drug use in the past year, 2.5 million persons received treatment at a self-help group, and 2.0 million received treatment at a rehabilitation facility as an outpatient (Figure 7.7). There were 1.2 million persons who received treatment at a rehabilitation facility as an inpatient, 1.1 million persons who received treatment at a mental health center as an outpatient, 858,000 at a hospital as an inpatient, 714,000 at a private doctor's office, 487,000 at an emergency room, and 374,000 at a prison or jail. None of these estimates changed significantly between 2008 and 2009 or between 2002 and 2009, except that the number of persons who received treatment at a rehabilitation facility as an inpatient in 2009 was higher than that in 2008 (743,000), but was similar to that in 2002 (1.1 million) and that the number of persons who received treatment at a rehabilitation facility as an outpatient in 2009 was higher than that in 2008 (1.5 million) and 2002 (1.5 million).

**Figure 7.7 Locations Where Past Year Substance Use Treatment Was Received among Persons Aged 12 or Older: 2009**



- In 2009, during their most recent treatment in the past year, 2.9 million persons aged 12 or older reported receiving treatment for alcohol use, and 1.2 million persons reported receiving treatment for marijuana use (Figure 7.8). Accordingly, estimates on receiving treatment for the use of other drugs were 787,000 persons for cocaine, 739,000 for pain relievers, 517,000 for stimulants, 507,000 for heroin, 443,000 for hallucinogens, and 421,000 for tranquilizers. None of these estimates changed significantly between 2008 and 2009 except that the numbers who received treatment for the use of marijuana or hallucinogens in 2009 were higher than in 2008 (947,000 or 287,000, respectively). The numbers who received treatment for the use of alcohol, heroin, hallucinogens, tranquilizers, stimulants, and pain relievers (see Figure 7.9) all increased between 2002 and 2009; the numbers who received treatment for marijuana and cocaine were stable. (Note that respondents could indicate that they received treatment for more than one substance during their most recent treatment.)

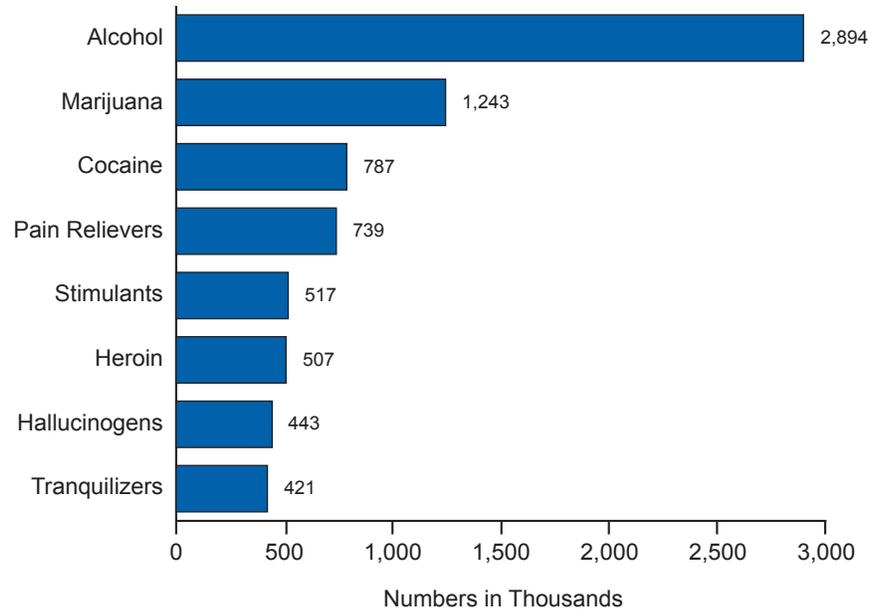
### **7.3. Need for and Receipt of Specialty Treatment**

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.

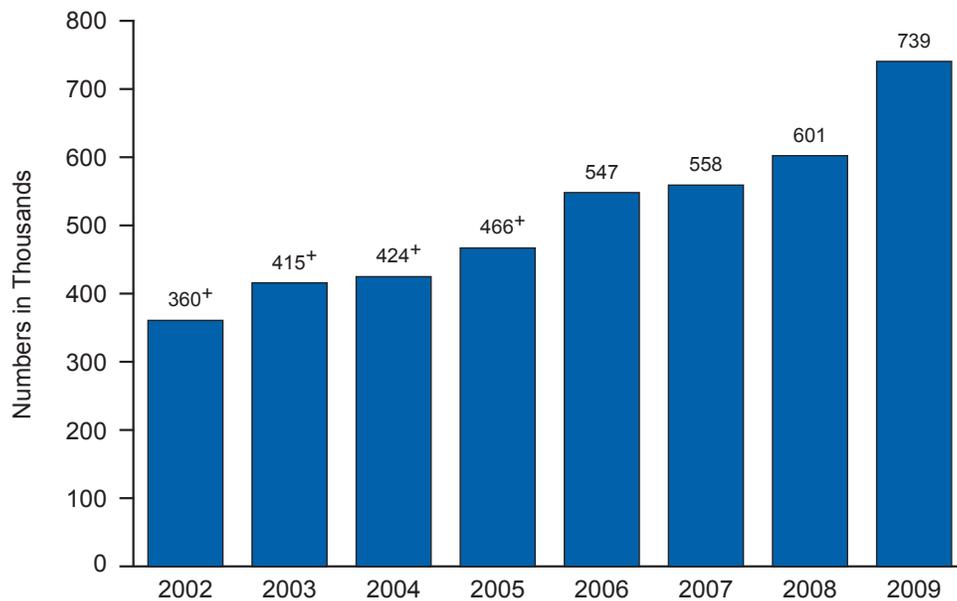
In this section, an individual needing treatment for an illicit drug use problem is defined as receiving treatment for his or her drug use problem only if he or she reported receiving specialty treatment for drug use in the past year. Thus, an individual who needed treatment for illicit drug use but 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.

**Figure 7.8 Substances for Which Most Recent Treatment Was Received in the Past Year among Persons Aged 12 or Older: 2009**



**Figure 7.9 Received Most Recent Treatment in the Past Year for the Use of Pain Relievers among Persons Aged 12 or Older: 2002-2009**

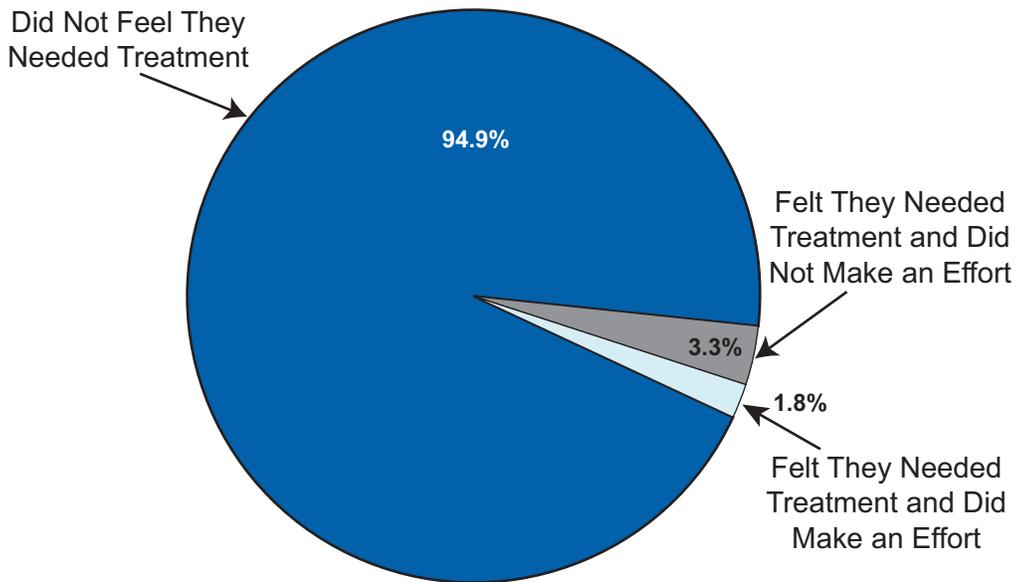


<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

## Illicit Drug or Alcohol Use Treatment and Treatment Need

- In 2009, 23.5 million persons aged 12 or older needed treatment for an illicit drug or alcohol use problem (9.3 percent of persons aged 12 or older). Of these, 2.6 million (1.0 percent of persons aged 12 or older and 11.2 percent of those who needed treatment) received treatment at a specialty facility. Thus, 20.9 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 2008 and for 2002.
- Of the 2.6 million people aged 12 or older who received specialty substance use treatment in 2009, 949,000 received treatment for alcohol use only, 739,000 received treatment for illicit drug use only, and 756,000 received treatment for both alcohol and illicit drug use. These estimates are similar to the estimates for 2008 and for 2002.
- In 2009, among persons who received their most recent substance use treatment at a specialty facility in the past year, 48.4 percent reported using their "own savings or earnings" as a source of payment for their most recent specialty treatment, 34.8 percent reported using private health insurance, 26.7 percent reported using Medicaid, 26.1 percent reported using public assistance other than Medicaid, 19.2 percent reported using Medicare, and 15.9 percent reported using funds from family members. None of these estimates changed significantly between 2008 and 2009 and between 2002 and 2009. (Note that persons could report more than one source of payment.)
- Of the 20.9 million persons aged 12 or older in 2009 who were classified as needing substance use treatment but not receiving treatment at a specialty facility in the past year, 1.1 million persons (5.1 percent) reported that they perceived a need for treatment for their illicit drug or alcohol use problem (Figure 7.10). Of these 1.1 million persons who felt they needed treatment but did not receive treatment in 2009, 371,000 (34.9 percent) reported that they made an effort to get treatment, and 693,000 (65.1 percent) reported making no effort to get treatment. These estimates remained stable between 2008 and 2009.
- 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 2008 (1.9 million, 7.8 percent) and 2009 (1.8 million, 7.2 percent); however, there was a significant decrease between 2002 (2.3 million, 9.1 percent) and 2009. Of the 1.8 million youths who needed treatment in 2009, 150,000 received treatment at a specialty facility (about 8.4 percent of the youths who needed treatment), leaving 1.6 million who needed treatment for a substance use problem but did not receive it at a specialty facility.

**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: 2009**

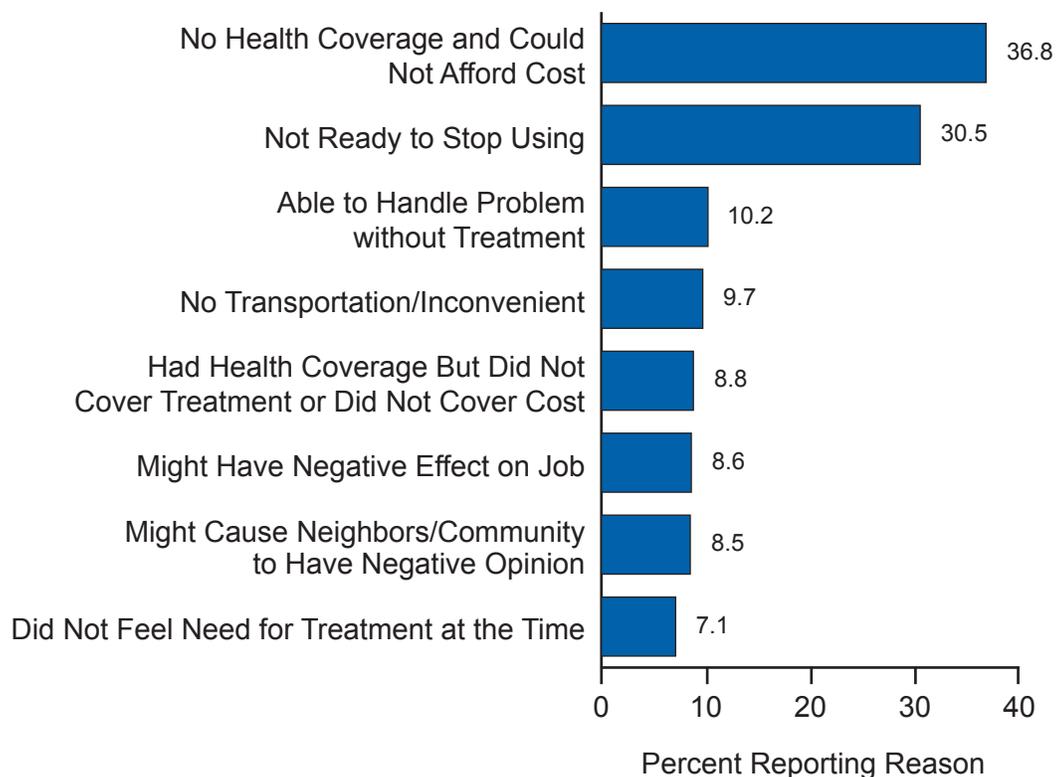


20.9 Million Needing But Not Receiving Treatment for Illicit Drug or Alcohol Use

- Based on 2006-2009 combined data, the six 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 were (a) not ready to stop using (39.8 percent), (b) no health coverage and could not afford cost (33.7 percent), (c) possible negative effect on job (12.4 percent), (d) concern that receiving treatment might cause neighbors/community to have negative opinion (12.0 percent), (e) could handle the problem without treatment (10.9 percent), and (f) not knowing where to go for treatment (10.7 percent).

- Based on 2006-2009 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 (36.8 percent), (b) not ready to stop using (30.5 percent), (c) able to handle the problem without treatment (10.2 percent), (d) no transportation/inconvenient (9.7 percent), (e) had health coverage but did not cover treatment or did not cover cost (8.8 percent), (f) might have negative effect on job (8.6 percent), (g) might cause neighbors/community to have negative opinion (8.5 percent), and (h) did not feel need for treatment at the time (7.1 percent) (Figure 7.11).

**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: 2006-2009 Combined**



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

- In 2009, the number of persons aged 12 or older needing treatment for an illicit drug use problem was 7.8 million (3.1 percent of the total population). Of these, 1.5 million (0.6 percent of the total population and 19.1 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 2009. None of these estimates changed significantly between 2008 and 2009. The percentage of persons needing treatment for an illicit drug use problem remained stable between 2002 (3.3 percent) and 2009 (3.1 percent).
- Of the 6.4 million people aged 12 or older who needed but did not receive specialty treatment for illicit drug use in 2009, 490,000 (7.7 percent) reported that they perceived a need for treatment for their illicit drug use problem. Of the 490,000 persons who felt a need for treatment in 2009, 192,000 (39.2 percent) reported that they made an effort (the number and percentage remained similar to those reported in 2008), and 298,000 (60.8 percent) reported making no effort to get treatment (the number and percentage remained similar to those reported in 2008).
- Among youths aged 12 to 17, there were 1.1 million (4.5 percent) who needed treatment for an illicit drug use problem in 2009. Of this group, only 115,000 received treatment at a specialty facility (10.5 percent of youths aged 12 to 17 who needed treatment), leaving 983,000 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 2006-2009 combined data), the most often reported reasons for not receiving treatment were (a) no health coverage and could not afford cost (40.5 percent), (b) not ready to stop using (31.6 percent), (c) concern that receiving treatment might cause neighbors/community to have negative opinion (15.8 percent), (d) not knowing where to go for treatment (13.5 percent), (e) possible negative effect on job (13.2 percent), and (f) being able to handle the problem without treatment (10.4 percent).

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

- In 2009, the number of persons aged 12 or older needing treatment for an alcohol use problem was 19.3 million (7.7 percent of the population aged 12 or older). Of these, 1.7 million (0.7 percent of the total population and 8.8 percent of the people who needed treatment for an alcohol use problem) received alcohol use treatment at a specialty facility. Thus, there were 17.6 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 2008 and 2009 and between 2002 and 2009.

- Among the 17.6 million people aged 12 or older who needed but did not receive treatment for an alcohol use problem in 2009, there were 676,000 (3.8 percent) who felt they needed treatment for their alcohol use problem. The number and the percentage were similar to those reported in 2008 (651,000 persons and 3.7 percent) and 2002 (761,000 persons and 4.5 percent). Of these, 423,000 (62.5 percent) did not make an effort to get treatment, and 254,000 (37.5 percent) made an effort but were unable to get treatment in 2009.
- In 2009, there were 1.2 million youths (4.8 percent) aged 12 to 17 who needed treatment for an alcohol use problem. Of this group, only 96,000 received treatment at a specialty facility (0.4 percent of all youths and 8.2 percent of youths who needed treatment), leaving almost 1.1 million youths who needed but did not receive treatment.

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

This report presents findings from the 2009 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 2009 estimates are not comparable with estimates from 2001 and earlier surveys. Therefore, the primary focus of this report is on comparisons of measures of substance use across subgroups of the U.S. population in 2009, changes between 2008 and 2009, and changes between 2002 and 2009. 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 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, 2010a, 2010b). 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 2009 is shown in Tables 8.1 and 8.2 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.

## Youths

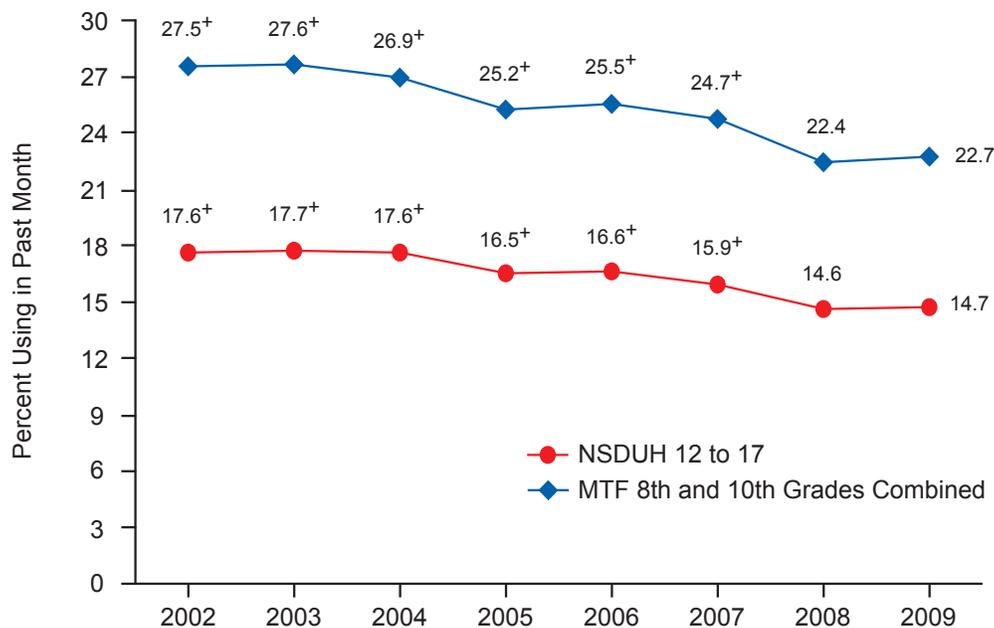
Both surveys generally showed decreases between 2002 and 2009 in the percentages of youths who used marijuana, cocaine, Ecstasy, LSD, alcohol, and cigarettes in the lifetime, past year, and past month (Table 8.1). Exceptions were for the past month use of LSD in both NSDUH and MTF data and the past month use of Ecstasy in the NSDUH data. The hallucinogen trends are discussed in more detail below. Both surveys showed no decrease in the rates of past year and past month inhalant use among youths between 2002 and 2009, and only NSDUH showed a significant decrease in lifetime use.

Despite the long-term (i.e., since 2002) declines in use, both surveys showed recent shifts in these trends, particularly for the three most commonly used substances among youths: alcohol, cigarettes, and marijuana. Between 2002 and 2008, both NSDUH and MTF showed a nearly 20 percent decline in current (i.e., past month) alcohol use, including statistically significant declines between 2007 and 2008. However, no significant changes occurred in either survey between 2008 and 2009 in the rates of current alcohol use (Figure 8.1). A similar result was seen for past month cigarette use. Both studies found that rates of current youth smoking declined by about 30 percent between 2002 and 2008, then remained unchanged in 2009 (Figure 8.2). Rates of past month marijuana use for both studies declined from 2002 to 2006, were similar from 2006 to 2008, then increased between 2008 and 2009 (Figure 8.3). The rate of past year Ecstasy use declined by about 50 percent from 2002 to 2005 according to both surveys. NSDUH data indicated an increase in past year Ecstasy use between 2005 and 2009, but MTF data showed no significant change in Ecstasy use over this same period.

NSDUH and MTF data on perceived risk of harm provide an important context for these trends. The extent to which youths believe that substances might cause them harm is an important factor influencing whether or not they will use these substances. Declining levels of perceived risk among youths historically have been associated with subsequent increases in rates of use, and this association continues to be evident in the most recent data. Among youths aged 12 to 17, the percentage reporting in NSDUH that they thought there was a great risk of harm in smoking marijuana once or twice a week was 54.7 percent in 2007, 53.1 percent in 2008, and 49.3 percent in 2009. MTF data for combined 8th and 10th graders showed a similar decline in perceived harmfulness of regular marijuana use over this time period. NSDUH does not obtain data on perceived harm for Ecstasy, but MTF data showed significant declines among youths who perceived risk in using Ecstasy. For example, the percentage of 8th and 10th graders reporting great risk in occasionally using Ecstasy declined from 69.9 percent in 2004 to 56.6 percent in 2008, then declined again to 53.0 percent in 2009. NSDUH also showed a decline in youths' perceived risk in using LSD between 2002 and 2008. Although the rates of use of alcohol and cigarettes were unchanged between 2008 and 2009, NSDUH showed declines from 2008 to 2009 in youths' perceived risk of harm in having four or five drinks of alcohol nearly every day or smoking one or more packs of cigarettes per day.

NSDUH and MTF use different definitions and questioning strategies to track misuse of prescription drugs. NSDUH data showed a decline in past month nonmedical prescription drug use among youths between 2002 (4.0 percent) and 2008 (2.9 percent), with no significant change between 2008 and 2009 (3.1 percent). However, there was a significant increase in nonmedical use of prescription pain relievers between 2008 and 2009 (from 2.3 to 2.7 percent). Both MTF

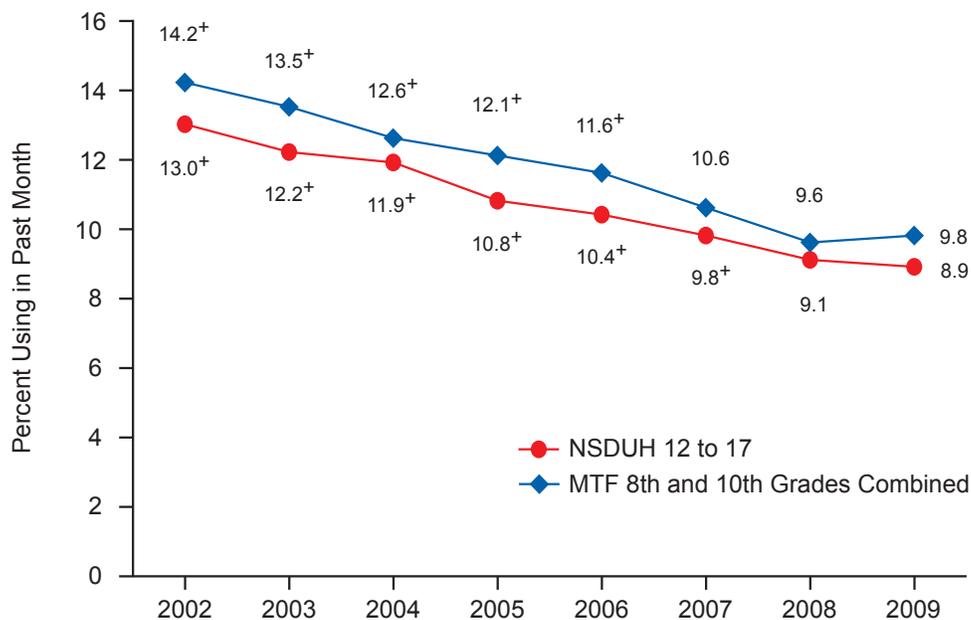
**Figure 8.1 Past Month Alcohol Use among Youths in NSDUH and MTF: 2002-2009**



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

<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

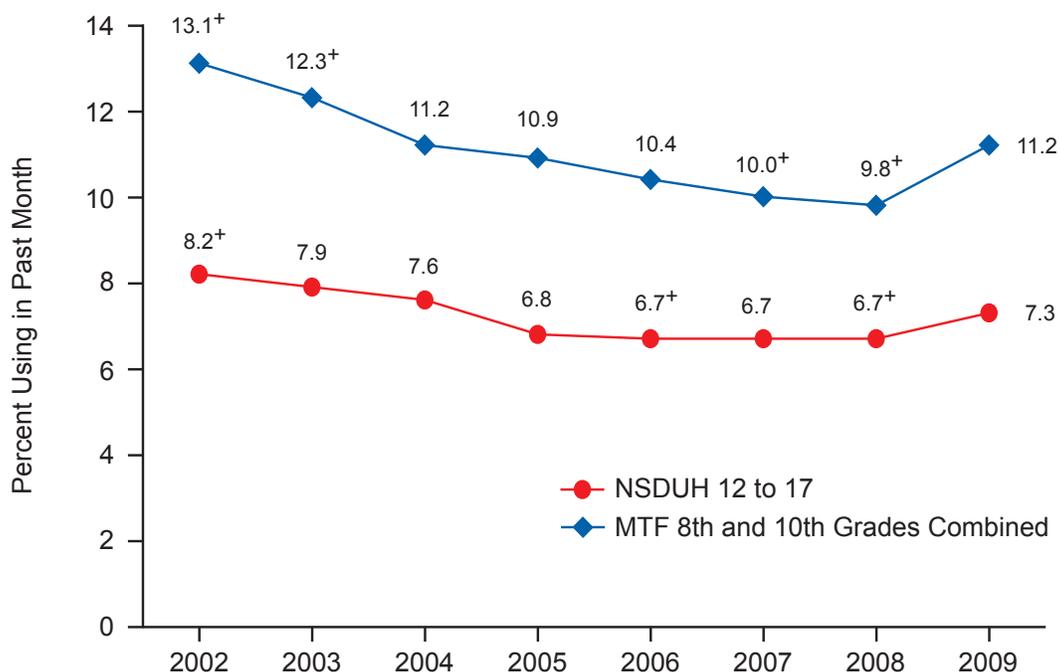
**Figure 8.2 Past Month Cigarette Use among Youths in NSDUH and MTF: 2002-2009**



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

<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

**Figure 8.3 Past Month Marijuana Use among Youths in NSDUH and MTF: 2002-2009**



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

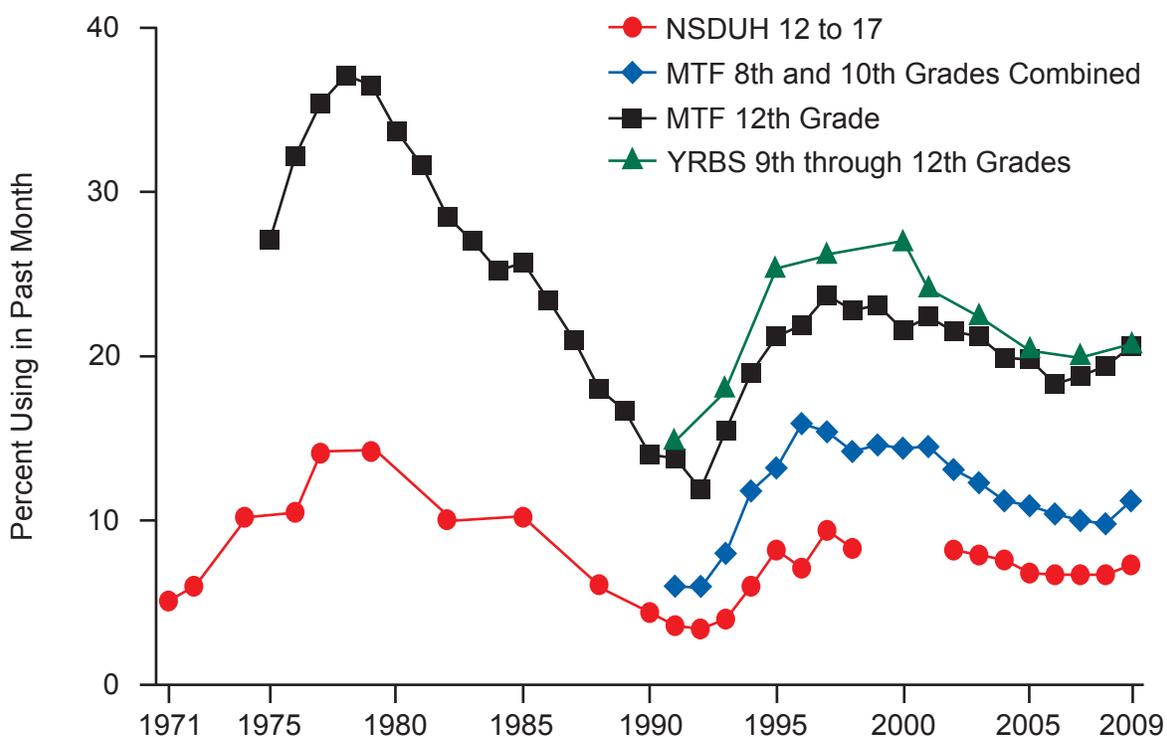
<sup>+</sup> Difference between this estimate and the 2009 estimate is statistically significant at the .05 level.

and NSDUH produce estimates of methamphetamine use. Both surveys showed declines in past year and past month use of methamphetamine between 2002 and 2009, with no indication of increases between 2008 and 2009, although past month methamphetamine use decreased in the MTF.

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 (CDC). YRBS surveys students in the 9th through 12th grades in classrooms every other year during the spring (Eaton et al., 2010). The most recent survey was completed in 2009. Generally, the YRBS has 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 2009 are consistent with NSDUH and MTF (CDC, 2010c; Grunbaum et al., 2002). YRBS data for the combined grades 9 through 12 showed significant decreases in past month alcohol use (47.1 percent in 2001 and 41.8 percent in 2009) and cigarette use (28.5 percent in 2001, 19.5 percent in 2009). YRBS showed a decline in past month marijuana use between 2001 (23.9 percent) and 2007 (19.7 percent), but the rate was 20.8 percent in 2009, an increase consistent with the NSDUH and MTF data, but the NSDUH and YRBS increases were not statistically significant.

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 (but lower than in the late 1970s). This peak in the late 1990s was followed by declines in use after the turn of the 21st century and a leveling in the most recent years (Figure 8.4).

**Figure 8.4 Past Month Marijuana Use among Youths in NSDUH, MTF, and YRBS: 1971-2009**



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 2009 with estimates prior to 1999.

## **Young Adults**

Data on young adults also show similar trends in the two surveys, although not as consistent as for the youth data (Table 8.2). 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 showed 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. Both surveys also showed increases in past month and past year marijuana use between 2008 and 2009, and in this case the NSDUH increases were statistically significant while the MTF increases were not. Both surveys showed no significant change between 2002 and 2009 in the rate of current alcohol use among young adults. Both surveys showed declines in past year and past month cocaine use from 2003 to 2009. Significant increases in past month and past year Ecstasy use between 2007 and 2009 in the NSDUH data were consistent with MTF data; however, the MTF increases were not statistically significant.

## **Summary**

Despite the methodological differences between MTF and NSDUH, the two surveys show remarkably similar recent trends for the most commonly used substances among youths, and longer term trends are generally parallel where comparisons can be made. This lends credence to the belief that the two are measuring the same phenomenon and reaching similar conclusions. Further evidence for these shared conclusions is provided by the findings from the YRBS. For young adults, the differences between NSDUH and MTF are slightly greater, perhaps due to greater methodological variation, yet even with this age group, the trends and patterns are consistent enough to indicate measurement of the same phenomenon.

**Table 8.1 Comparison of NSDUH and MTF Prevalence Estimates among Youths: Percentages, 2002-2009**

Substance/ Time Period	NSDUH (2002)	NSDUH (2003)	NSDUH (2004)	NSDUH (2005)	NSDUH (2006)	NSDUH (2007)	NSDUH (2008)	NSDUH (2009)	MTF (2002)	MTF (2003)	MTF (2004)	MTF (2005)	MTF (2006)	MTF (2007)	MTF (2008)	MTF (2009)
<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	17.0	29.0 <sup>a</sup>	27.0 <sup>a</sup>	25.7 <sup>a</sup>	25.3	23.8	22.6	22.3 <sup>a</sup>	24.0
Past Year	15.8 <sup>a</sup>	15.0 <sup>a</sup>	14.5 <sup>a</sup>	13.3	13.2	12.5 <sup>a</sup>	13.0	13.6	22.5 <sup>a</sup>	20.5	19.7	19.4	18.5	17.5 <sup>a</sup>	17.4 <sup>a</sup>	19.3
Past Month	8.2 <sup>a</sup>	7.9	7.6	6.8	6.7 <sup>a</sup>	6.7	6.7 <sup>a</sup>	7.3	13.1 <sup>a</sup>	12.3 <sup>a</sup>	11.2	10.9	10.4	10.0 <sup>a</sup>	9.8 <sup>a</sup>	11.2
<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 <sup>a</sup>	1.9	1.6	4.9 <sup>a</sup>	4.4 <sup>a</sup>	4.4 <sup>a</sup>	4.5 <sup>a</sup>	4.1	4.2	3.8	3.6
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	1.0	3.2 <sup>a</sup>	2.8 <sup>a</sup>	2.9 <sup>a</sup>	2.9 <sup>a</sup>	2.6	2.7 <sup>a</sup>	2.4	2.2
Past Month	0.6 <sup>a</sup>	0.6 <sup>a</sup>	0.5 <sup>a</sup>	0.6 <sup>a</sup>	0.4 <sup>a</sup>	0.4	0.4	0.3	1.4 <sup>a</sup>	1.1	1.3 <sup>a</sup>	1.3 <sup>a</sup>	1.3 <sup>a</sup>	1.1	1.0	0.9
<b>Ecstasy</b>																
Lifetime	3.3 <sup>a</sup>	2.4	2.1	1.6 <sup>a</sup>	1.9 <sup>a</sup>	1.8 <sup>a</sup>	2.1	2.3	5.5 <sup>a</sup>	4.3	3.6	3.4	3.5	3.8	3.4	3.9
Past Year	2.2 <sup>a</sup>	1.3 <sup>a</sup>	1.2 <sup>a</sup>	1.0 <sup>a</sup>	1.2 <sup>a</sup>	1.3 <sup>a</sup>	1.4	1.7	3.9 <sup>a</sup>	2.6	2.1	2.2	2.1	2.5	2.3	2.5
Past Month	0.5	0.4	0.3 <sup>a</sup>	0.3 <sup>a</sup>	0.3	0.3 <sup>a</sup>	0.4	0.5	1.6 <sup>a</sup>	0.9	0.8	0.8	1.0	0.9	1.0	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	1.0	3.8 <sup>a</sup>	2.8	2.3	2.2	2.2	2.3	2.3	2.4
Past Year	1.3 <sup>a</sup>	0.6	0.6	0.6	0.4 <sup>a</sup>	0.5	0.7	0.6	2.1 <sup>a</sup>	1.5	1.4	1.4	1.3	1.5	1.6	1.5
Past Month	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5
<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	9.2	14.4	14.3	14.9 <sup>a</sup>	15.1 <sup>a</sup>	14.7	14.6	14.3	13.6
Past Year	4.4	4.5 <sup>a</sup>	4.6 <sup>a</sup>	4.5 <sup>a</sup>	4.4 <sup>a</sup>	3.9	3.9	3.9	6.8	7.1	7.8	7.8	7.8	7.5	7.4	7.1
Past Month	1.2	1.3 <sup>a</sup>	1.2	1.2	1.3 <sup>a</sup>	1.2	1.1	1.0	3.1	3.2	3.5 <sup>a</sup>	3.2	3.2	3.2	3.1	3.0
<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 <sup>a</sup>	38.3	38.1	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	47.9
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 <sup>a</sup>	30.8	30.3	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	41.6
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	14.7	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	22.7
<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 <sup>a</sup>	22.9	22.2	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	26.4
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	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	8.9	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	9.6	9.8

-- 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 (2010b). MTF design effects used for variance estimation are reported in Johnston, O'Malley, Bachman, and Schulenberg (2009b).

<sup>a</sup> Difference between this estimate and 2009 estimate is statistically significant at the .05 level.

Sources: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002-2009. University of Michigan, The Monitoring the Future Study, 2002-2009.

**Table 8.2 Comparison of NSDUH and MTF Prevalence Estimates among Young Adults: Percentages, 2002-2009**

Substance/ Time Period	NSDUH (2002)	NSDUH (2003)	NSDUH (2004)	NSDUH (2005)	NSDUH (2006)	NSDUH (2007)	NSDUH (2008)	NSDUH (2009)	MTF (2002)	MTF (2003)	MTF (2004)	MTF (2005)	MTF (2006)	MTF (2007)	MTF (2008)	MTF (2009)
<b>Marijuana</b>																
Lifetime	53.8 <sup>a</sup>	53.9 <sup>a</sup>	52.8	52.4	52.4	50.8 <sup>a</sup>	50.4 <sup>a</sup>	52.2	56.1	56.4 <sup>a</sup>	55.6	54.4	53.8	53.9	53.0	53.8
Past Year	29.8	28.5 <sup>a</sup>	27.8 <sup>a</sup>	28.0 <sup>a</sup>	28.0 <sup>a</sup>	27.5 <sup>a</sup>	27.6 <sup>a</sup>	30.6	34.2	33.0	31.6	31.4	30.9	31.0	30.9	32.1
Past Month	17.3	17.0 <sup>a</sup>	16.1 <sup>a</sup>	16.6 <sup>a</sup>	16.3 <sup>a</sup>	16.4 <sup>a</sup>	16.5 <sup>a</sup>	18.1	19.8	19.9	18.2	17.0	17.0	17.5	17.3	18.5
<b>Cocaine</b>																
Lifetime	15.4	15.0	15.2	15.1	15.7	15.0	14.4	14.8	12.9	14.5 <sup>a</sup>	14.3 <sup>a</sup>	12.6	13.6	12.4	12.2	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	5.3	6.5	7.3 <sup>a</sup>	7.8 <sup>a</sup>	6.9 <sup>a</sup>	7.0 <sup>a</sup>	6.3	6.0	5.7
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 <sup>a</sup>	1.5	1.4	2.5	2.6 <sup>a</sup>	2.4	2.1	2.4	1.9	1.9	1.8
<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	12.4	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	9.4
Past Year	5.8 <sup>a</sup>	3.7 <sup>a</sup>	3.1 <sup>a</sup>	3.1 <sup>a</sup>	3.8 <sup>a</sup>	3.5 <sup>a</sup>	3.9	4.3	8.0 <sup>a</sup>	5.3 <sup>a</sup>	3.3	3.4	3.6	2.8	3.8	3.6
Past Month	1.1	0.7 <sup>a</sup>	0.7 <sup>a</sup>	0.8 <sup>a</sup>	1.0	0.7 <sup>a</sup>	0.9	1.1	1.6 <sup>a</sup>	1.0	0.8	0.6	0.9	0.3	0.9	0.7
<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	6.5	6.8	13.9 <sup>a</sup>	13.8 <sup>a</sup>	10.4 <sup>a</sup>	7.9 <sup>a</sup>	6.7 <sup>a</sup>	5.9	5.6	5.3
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	1.5	2.4	1.5	1.2 <sup>a</sup>	1.1 <sup>a</sup>	1.5	1.4 <sup>a</sup>	1.9	2.1
Past Month	0.1 <sup>a</sup>	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.3	0.3	0.5	0.3
<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	10.4	10.7	11.7 <sup>a</sup>	11.4 <sup>a</sup>	10.6 <sup>a</sup>	9.3	9.7 <sup>a</sup>	7.5	8.4	7.7
Past Year	2.2	2.1	2.1	2.1	1.8	1.6	1.6	1.9	2.2 <sup>a</sup>	1.5	2.3 <sup>a</sup>	1.6	1.8	1.1	1.7	1.2
Past Month	0.5	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.8 <sup>a</sup>	0.3	0.4	0.3	0.4	0.3	0.6	0.2
<b>Alcohol</b>																
Lifetime	86.7	87.1 <sup>a</sup>	86.2	85.7	86.5	85.2	85.6	85.8	88.4 <sup>a</sup>	87.6 <sup>a</sup>	87.2	87.1	87.0	86.0	86.4	85.7
Past Year	77.9	78.1	78.0	77.9	78.8	77.9	78.0	78.8	83.9 <sup>a</sup>	82.3	83.1	82.8	83.2	82.8	82.5	82.0
Past Month	60.5	61.4	60.5	60.9	61.9	61.2	61.2	61.8	67.7	66.3	67.3	66.8	67.0	67.4	67.4	68.1
<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	63.7	--	--	--	--	--	--	--	--
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	45.2	41.8 <sup>a</sup>	40.8 <sup>a</sup>	41.4 <sup>a</sup>	40.2 <sup>a</sup>	37.1	36.2	35.4	35.0
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	35.8	31.4 <sup>a</sup>	29.5 <sup>a</sup>	30.2 <sup>a</sup>	28.7 <sup>a</sup>	26.7 <sup>a</sup>	25.7 <sup>a</sup>	24.3	23.5

-- 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, 2008, 2009a, 2010a).

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 2002, 2004, 2006, and 2008 estimates with 2009 estimates, this assumption results in conservative tests for comparisons of 2003, 2005, and 2007 estimates with 2009 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 2009 estimate is statistically significant at the .05 level.

Sources: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002-2009. University of Michigan, The Monitoring the Future Study, 2002-2009.

# Appendix: 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.

Contributors at SAMHSA listed alphabetically, with chapter authorship noted, include Peggy Barker, Jonaki Bose, James Colliver (Chapter 2), Joseph Gfroerer (Chapters 1 and 8), Beth Han (Chapters 6 and 7), Sarra L. Hedden, Arthur Hughes, Michael Jones (Project Officer) (Chapter 4), Joel Kennet (Chapter 3), Pradip Muhuri (Chapter 5), and Dicy Painter.

Contributors and reviewers at RTI listed alphabetically include Jeremy Aldworth, Kimberly Ault, Ellen Bishop, Stephanie Bruns, Patrick Chen, James R. Chromy, Elizabeth Copello, Devon S. Cribb, David B. Cunningham, Christine Davies, Teresa R. Davis, Ralph E. Folsom, Jr., Misty Foster, Peter Frechtel, Julia Gable, Jennifer Gratton, Wafa Handley, David C. Heller, Erica Hirsch, Ilona Johnson, Rhonda Karg, Phillip S. Kott, Larry A. Kroutil, Mary Ellen Marsden, Martin Meyer, Andrew Moore, Katherine B. Morton, Scott Novak, Lisa E. Packer, Michael Pemberton, Jeremy Porter, Heather Ringeisen, Harley Rohloff, Kathryn Spagnola, Thomas G. Virag (Project Director), Jiantong (Jean) Wang, and Lauren Warren.

Also at RTI, report and Web production staff listed alphabetically include Teresa G. Bass, Cassandra M. Carter, Joyce Clay-Brooks, Kimberly Cone, Valerie Garner, Richard Hair, Andrew Jessup, Shari B. Lambert, Farrah Bullock Mann, Danny Occoquan, Diane E. Philyaw, Brenda K. Porter, Pamela Couch Prevatt, Roxanne Snaauw, Richard S. Straw, and Cheryl Velez. Final report production was provided by Christine Hager and Jane Feldman at SAMHSA.

