State Estimates of Substance Use from the 2006–2007 National Surveys on Drug Use and Health

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
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Table of Contents

Chapter **Page**

Table of Contents (continued)

List of Figures

List of Figures (continued)

List of Figures (continued)

Figure **Page**

List of Figures (continued)

List of Figures (continued)

Figure **Page**

List of Figures (continued)

Figure **Page**

List of Figures (continued)

Figure **Page**

List of Figures (continued)

Figure **Page**

List of Tables

List of Tables (continued)

List of Tables (continued)

List of Tables (continued)

List of Tables (continued)

Table **Page**

Highlights

This report presents State estimates for 23 measures of substance use or mental health problems based on the 2006 and 2007 National Surveys on Drug Use and Health (NSDUHs). Sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA), NSDUH is an ongoing survey of the civilian, noninstitutionalized population of the United States aged 12 years or older. Interview data from 135,672 persons were collected in 2006-2007 (Table A.9). Separate estimates have been produced for four age groups: 12 to 17, 18 to 25, 26 or older, and all persons 12 or older. Also in this report are estimates for persons aged 12 to 20 for two of the measures—past month alcohol use and binge alcohol use. Although estimates for persons 18 or older are not a part of this report, they are available at http://www.oas.samhsa.gov/states.cfm. For each measure, States have been ranked and categorized into quintiles, or fifths, in order to simplify the discussion. Estimates presented in this report are based on a hierarchical Bayes estimation method that combines survey data with a national model. Note that these estimates are benchmarked to the national design-based estimates (for details, see Section A.4 in Appendix A).

In addition to presenting State estimates for 2006-2007, this report compares the 2005-2006 prevalence rates with the 2006-2007 prevalence rates and determines whether the differences between the two are statistically significant for all measures. Please note that the difference between 2005-2006 and 2006-2007 prevalence rates can be viewed as the average annual change between 2005 and 2007; therefore, the total change for that period is approximately twice the average annual change. Changes are discussed only if they are significant at the 0.05 level.

Illicit Drug Use

- In 2006-2007, 8.1 percent of the U.S. population aged 12 or older had used an illicit drug in the past month; the percentage was similar in 2005-2006 (8.2 percent). Estimates of past month use of illicit drugs ranged from a low of 5.2 percent in Iowa to a high of 12.5 percent in Rhode Island for all persons aged 12 or older. (*Tables B.1 and C.1*)

- Nationally in 2006-2007, 10.2 percent of all persons aged 12 or older reported marijuana use in the past year. Eight States showed significant changes in the past year use of marijuana among all persons aged 12 or older between 2005-2006 and 2006-2007: Connecticut, Kansas, Montana, Pennsylvania, and Utah had decreases, whereas Kentucky, North Dakota, and Virginia had increases. Iowa had the lowest rate of past month use of marijuana in 2006-2007 (3.8 percent) in the 12 or older population, and Rhode Island had the highest rate (10.3 percent). Nine of the 10 States in the top fifth for past month use of an illicit drug among persons aged 12 or older also were ranked in the top fifth for past month use of marijuana. (*Tables B.2, B.3, and C.2; Figures 2.1 and 2.9*)

- The national percentage of persons aged 12 or older perceiving a great risk of using marijuana once a month remained unchanged between 2005-2006 and 2006-2007 (both at 38.9 percent). Seven States showed a significant change in perceived risk of using marijuana once a month among persons 12 or older: Arkansas, Colorado, and South Dakota showed decreases, whereas Idaho, Kansas, Nebraska, and Wisconsin had increases. (*Table C.4*)

- For the combined years 2006-2007, the national marijuana incidence rate for all persons aged 12 or older was 1.6 percent. Vermont had the highest rate, 2.5 percent, and Utah had the lowest rate, 1.2 percent. Seven States showed significant changes in marijuana incidence rates among persons 12 or older between 2005-2006 and 2006-2007: Delaware and Utah showed declines, and Colorado, Kentucky, North Dakota, Ohio, and Rhode Island showed increases. (*Tables B.5 and C.5*)

- The national estimate of past month use of illicit drugs other than marijuana among persons aged 12 or older was 3.8 percent for 2006-2007 combined. Iowa, North Dakota, and South Dakota had the lowest rate (2.6 percent) of past month use of an illicit drug other than marijuana among persons 12 or older, and Arizona and Rhode Island had the highest rate (5.5 percent). The rate of past month use of illicit drugs other than marijuana decreased between 2005-2006 and 2006-2007 among all persons aged 18 to 25 (from 8.8 to 8.5 percent). (*Tables B.6 and C.6*)

- The 2006-2007 national prevalence rate for cocaine use in the past year among all persons aged 12 or older was 2.4 percent. The District of Columbia had the highest rate of past year cocaine use (5.1 percent) among persons aged 12 or older; Mississippi had the lowest rate (1.6 percent) in that population. (*Table B.7*)

- In 2006-2007, 5.1 percent of all persons aged 12 or older reported having used pain relievers nonmedically in the past year, a percentage that remained relatively unchanged from 2005-2006 (5.0 percent). Nine States showed significant changes in the nonmedical use of pain relievers in the past year between 2005-2006 and 2006-2007: Connecticut, Florida, Iowa, Nebraska, and Utah had declines, and Arizona, Arkansas, Ohio, and Wisconsin showed increases. (*Table C.8*)

Alcohol Use

- In 2006-2007, the rate of past month alcohol use in States among all persons aged 12 or older ranged from a low of 30.9 percent in Utah to a high of 63.1 percent in Rhode Island. Two States showed significant increases from 2005-2006 to 2006-2007 in the percentage of all persons aged 12 or older who used alcohol in the past month: Delaware and Massachusetts; and four States showed a significant decrease: Alabama, Arizona, Idaho, and Texas. (*Tables B.9 and C.9*)

- Nationally, almost a quarter (23.2 percent) of all persons aged 12 or older participated in binge use of alcohol in the past month in 2006-2007. Four States showed significant changes in binge alcohol use between 2005-2006 and 2006-2007 among persons 12 or older. Of these, Delaware was the only State to have a significant increase, whereas Idaho, Nebraska, and Texas had declines. (*Tables B.10 and C.10*)

- In 2006-2007, 42.1 percent of all persons aged 12 or older perceived a great risk of binge drinking. Seven of the 10 States (Iowa, Massachusetts, Minnesota, North Dakota, South Dakota, Wisconsin, and Wyoming) with the highest rates of binge use of alcohol in 2006-2007 among persons 12 or older also were States with the lowest perceived risk of binge drinking for the population aged 12 or older. Between 2005-2006 and 2006-2007, there was an increase in the Northeast region among young adults aged 18 to 25 in the perception of great risk of binge drinking from 29.7 to 30.9 percent. (*Tables B.11 and C.11, Figures 3.5 and 3.9*)

- Past month use of alcohol among persons aged 12 to 20 (underage use of alcohol) ranged from a low of 17.3 percent in Utah to a high of 40.0 percent in North Dakota. Utah (13.3 percent) also had the lowest rate for past month underage binge use of alcohol, and North Dakota also had the highest rate for this measure (29.5 percent). (*Table B.12*)

Tobacco Use

- Tobacco is the second most commonly used substance in the United States next to alcohol. Nationally among persons aged 12 or older, the rate for past month use of tobacco in 2006-2007 was 29.1 percent. Eight States showed changes in past month tobacco use among persons 12 or older between 2005-2006 and 2006-2007: Colorado had an increase (from 26.5 to 29.8 percent), while Idaho, Massachusetts, Michigan, Montana, New York, Utah, and West Virginia had declines. The Northeast region had a decrease in tobacco use as well (from 28.1 to 27.1 percent). (*Tables B.13 and C.13*)

- In 2006-2007, the national rate for past month cigarette use among persons aged 12 or older was 24.6 percent, which was similar to the national rate in 2005-2006 (25.0 percent). West Virginia had the highest rate of past month cigarette use in the Nation (31.1 percent), and Utah had the lowest rate (17.5 percent) for all persons aged 12 or older. (*Tables B.14 and C.14*)

- The rates of perception of great risk of smoking one or more packs of cigarettes a day remained almost the same from 74.1 percent in 2005-2006 to 73.9 percent in 2006-2007 among persons 12 or older. Montana had a significant increase from 71.3 to 74.5 percent, whereas Ohio had a decrease from 70.6 to 69.0 percent. (*Table C.15*)

Substance Dependence, Abuse, and Treatment Need

- In 2006-2007, 7.6 percent of the population aged 12 or older was classified with dependence on or abuse of alcohol nationwide in the past year. At the State level, the District of Columbia had the highest rate (10.1 percent) among persons aged 12 or older, and West Virginia had the lowest rate (6.1 percent). (*Table B.16*)

- In 2006-2007, 3.4 percent of persons aged 12 or older nationwide were estimated to be dependent on alcohol in the past year. Wyoming's past year alcohol dependence rate increased from 2.7 percent in 2005-2006 to 3.4 percent in 2006-2007 among persons aged 26 or older. The rate for Wisconsin's 12 or older age group increased from 3.2 percent in 2005-2006 to 3.8 percent in 2006-2007. (*Tables B.17 and C.17*)

- In 2006-2007 the highest rates for past year illicit drug dependence or abuse occurred in the 18 to 25 age group (7.9 percent nationally). Among the 18 to 25 year olds, decreases in the rates of past year illicit drug dependence or abuse between 2005-2006 and 2006-2007 occurred in Connecticut, Pennsylvania, and West Virginia. Increases occurred in Kentucky and Ohio. (*Tables B.18 and C.18*)

- The percentage of persons aged 12 or older in 2006-2007 estimated to be dependent on illicit drugs in the past year was 1.9 percent. The District of Columbia had the highest percentage of persons aged 12 or older who were dependent on illicit drugs in the past year (3.1 percent). Hawaii and South Dakota had the lowest rate (1.4 percent). (*Table B.19*)

- Among all persons aged 12 or older, the rate of past year dependence on or abuse of alcohol or illicit drugs nationwide remained nearly constant at 9.2 and 9.1 percent, respectively, in 2005-2006 and 2006-2007. The only significant national change occurred among young adults aged 18 to 25, where there was a decrease from 21.6 percent in 2005-2006 to 21.0 percent in 2006-2007. At the State level, decreases were noted among this age group in Connecticut, Michigan, Nebraska, and Texas. (*Table C.20*)

- In 2006-2007, Rhode Island had the highest percentage of persons aged 12 or older (3.7 percent), 12 to 17 (5.2 percent), and 18 to 25 (12.1 percent) who were needing but not receiving treatment for an illicit drug use problem. Iowa, Kansas, New Jersey, and North Dakota shared the lowest rate among persons 12 or older (1.9 percent). North Dakota had the lowest rate among youths aged 12 to 17 (3.4 percent), among young adults aged 18 to 25 (5.3 percent), and among persons 26 or older (0.9 percent). (*Table B.21*)

- States in the top fifth for needing but not receiving treatment for alcohol problems among persons aged 12 or older in 2006-2007 were primarily Midwestern (Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin) or Western (Colorado, Montana, and Wyoming). The District of Columbia and Massachusetts rounded out the top 10. Among persons aged 12 or older needing but not receiving treatment for an alcohol problem, there was no significant change between 2005-2006 (7.3 percent) and 2006-2007 (7.2 percent) for the Nation as a whole; however, there was a significant decrease in Texas and a significant increase in Hawaii. (*Table C.22, Figure 5.25*)

Mental Health Problems

- In 2006-2007, serious psychological distress (SPD) was present in 11.1 percent of the population aged 18 or older, which was statistically unchanged from the rate in 2005-2006 (11.3 percent). Hawaii, Vermont, and Washington showed significant declines in SPD between 2005-2006 and 2006-2007 among young adults aged 18 to 25. *(Table C.23)*

- In 2006-2007, 7.3 percent of all persons aged 18 or older experienced having major depressive episode (MDE) in the past year, a rate that remained unchanged from the one in 2005-2006. For the 18 or older population, Tennessee had the highest rate (9.8 percent) of having MDE in the past year in 2006-2007, and Hawaii had the lowest rate (5.0 percent). Nationally, there was a decrease among persons aged 18 to 25 who experienced MDE in the past year from 2005-2006 (9.4 percent) to 2006-2007 (9.0 percent). (*Tables B.24 and C.24*)

1. Introduction

This report presents State estimates for 23 measures of substance use or mental health problems based on the 2006 and 2007 National Surveys on Drug Use and Health (NSDUHs) and determines whether changes in these measures between 2005-2006 and 2006-2007 are statistically significant.[1] Sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA), NSDUH is an ongoing survey of the civilian, noninstitutionalized population of the United States aged 12 years or older. Interview data from 135,672 persons were collected in 2006-2007 (Table A.9). State estimates presented in this report have been developed using a small area estimation (SAE) procedure in which State-level NSDUH data are combined with local-area county and census block group/tract-level data from the State. Aggregates of these State estimates are presented as regional and national estimates. Note that these estimates are benchmarked to the national design-based estimate (for details, see Section A.4 in Appendix A). This model-based methodology provides more precise estimates of substance use at the State level than those based solely on the sample, particularly for States with smaller samples.

Starting in 1999, the survey sample was expanded to produce State-level estimates. The samples in each State were selected to represent proportionately the geography and demography of that State. The first report with State estimates was published in 2000 (Office of Applied Studies [OAS], 2000). It utilized the 1999 survey data and the SAE procedure. Because the SAE procedure requires significant preparatory steps for the modeling and extensive computation to generate results, the number of outcome measures estimated has been limited to ones with high policy value. The first report included only seven measures. Subsequent State reports have been published annually, gradually extending the capabilities of the SAE procedure and increasing the number of measures estimated (Hughes, Sathe, & Spagnola, 2008; Wright, 2002a, 2002b, 2003a, 2003b, 2004; Wright & Sathe, 2005, 2006; Wright, Sathe, & Spagnola, 2007). The current practice is to base annual estimates on a 2-year moving average of NSDUH data in order to enhance the precision for States with smaller samples.

State estimates also have been produced for additional measures by combining multiple years of NSDUH data and using sampling weights and direct estimation. The advantage of this approach is that it can be used on any variable in the NSDUH dataset; however, the estimates typically are not as accurate as the estimates based on the SAE methods. These estimates have been included in some reports and in tables on the SAMHSA website.

1.1 Summary of NSDUH Methodology

NSDUH is the primary source of statistical information on the use of illicit drugs by the U.S. civilian 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 their place of residence. The survey is planned and managed

[1] In 2002, the name of the survey was changed from the National Household Survey on Drug Abuse (NHSDA) to NSDUH.

by SAMHSA's OAS, and the data are collected and processed by RTI International.[2] This section briefly describes the national survey methodology. The survey covers residents of households, noninstitutional group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases. Persons excluded from the survey include homeless people who do not use shelters, active military personnel, and residents of institutional group quarters, such as prisons and long-term hospitals.

The 1999 survey marked the first year in which the national sample was interviewed using a computer-assisted interviewing (CAI) method. The survey used a combination of computer-assisted personal interviewing (CAPI) conducted by an interviewer and audio computer-assisted self-interviewing (ACASI). Use of ACASI is designed to provide the respondent with a highly private and confidential means of responding to questions and increases the level of honest reporting of illicit drug use and other sensitive behaviors. For further details on the development of the CAI procedures for the 1999 NHSDA, see OAS (2001).

The 1999 through 2001 NHSDAs and the 2002 through 2007 NSDUHs employed a 50-State design with an independent, multistage area probability sample for each of the 50 States and the District of Columbia. For the 50-State design, 8 States were designated as large sample States (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) with target sample sizes of 3,600 per year or 7,200 over a 2-year period. In 2006-2007, sample sizes in these States ranged from 7,094 to 7,309. For the remaining 42 States and the District of Columbia, the target sample size was 900 per year or 1,800 over a 2-year period. Sample sizes in these States ranged from 1,704 to 1,974 in 2006-2007. This approach ensures there is sufficient sample in every State to support small area estimation (SAE) while at the same time maintaining efficiency for national estimates. The design also oversampled youths and young adults, so that each State's sample was approximately equally distributed among three major age groups: 12 to 17 years, 18 to 25 years, and 26 years or older.

In 2002, several changes were introduced to the survey. Incentive payments of $30 were given to respondents for the first time in order to address concerns about the national and State response rates. Other changes included a change in the survey name, new data collection quality control procedures, and a shift from the 1990 decennial census to the 2000 census as a basis for population count totals and to calculate any census-related predictor variables that are used in the estimation.

An unanticipated result of these changes was that the prevalence rates for 2002 were in general substantially higher than those for 2001—higher than could be attributable to the usual year-to-year trend—and thus are not comparable with estimates for 2001 and prior years.[3] Therefore, the 2002 NSDUH was established as a new baseline for the national, as well as the State, estimates. Given the varying effects of the incentive and other changes, not only are the estimates for 2002 and later years not comparable with prior years, but also the relative rankings of States may have been affected. Therefore, the rankings of States for 2002-2003 or later should not be compared with those for prior years.

[2] RTI International is a trade name of Research Triangle Institute, Research Triangle Park, North Carolina.
[3] For an overview of the impact of these changes, see Section C.2 of Appendix C in OAS (2005).

By combining data across 2 years, the precision of the small area estimates for the small sample States, and thus their rankings, have been improved significantly. In addition, by combining 2 years of data, the impact of the national model on those States has been reduced significantly relative to estimates based on a single year's data.[4]

Nationally in 2006-2007, 278,544 addresses were screened and 135,672 persons responded within the screened addresses (Table A.9). The survey is conducted from January through December each year. The screening response rate for 2006-2007 combined averaged 90.0 percent, and the interviewing response rate averaged 74.1 percent, for an overall response rate of 66.7 percent (Table A.9). The overall response rates for 2006-2007 ranged from 52.4 percent in New York to 76.3 percent in Utah. Estimates in this report have been adjusted to reflect the probability of selection, unit nonresponse, poststratification to known benchmarks, item imputation, and other aspects of the estimation process. These procedures are described in the NSDUH methodological resource books (MRBs) for each survey year (see http://www.oas.samhsa.gov/nsduh/methods.cfm).

1.2 Format of Report and Presentation of Data

The findings in this report are presented in six chapters, including this introductory chapter, along with U.S. maps of estimates for States at the ends of Chapters 2 through 6 and data tables in Appendices B and C at the end of the report. For serious psychological distress (SPD), estimates are provided for those aged 18 to 25, 26 or older, and 18 or older. For major depressive episode (MDE), estimates are provided for those aged 12 to 17, 18 to 25, 26 or older, and 18 or older. For all other outcomes, there are separate estimates for three age groups (12 to 17, 18 to 25, and 26 or older) and a combined estimate for those aged 12 or older. Estimates for past month alcohol use and binge alcohol use also are presented for those aged 12 to 20.

Chapter 2 presents State estimates for the prevalence of illicit drug use, marijuana use, the perceived risk of marijuana use, incidence of marijuana use, illicit drug use other than marijuana, cocaine use, and the nonmedical use of pain relievers. Chapter 3 discusses analogous estimates of alcohol use, binge alcohol use, and the perceived risk of binge alcohol use. Chapter 4 presents estimates for tobacco use, cigarette use, and the perceived risk of heavy cigarette use. Chapter 5 discusses the substance treatment–related measures (i.e., dependence on and abuse of alcohol or illicit drugs and needing but not receiving treatment). Chapter 6 presents estimates of SPD and MDE.

At the ends of Chapters 2 through 6, State model-based estimates are portrayed in U.S. maps showing all 50 States and the District of Columbia. The maps reflect the ranking of States into fifths from lowest to highest for each measure to simplify the discussion in the chapters. Appendix A gives a brief description of the SAE methodology for 2006-2007. For a more detailed discussion of the SAE methodology, see Appendix E of the 2001 State report (Wright, 2003b). Also included in Appendix A are the State sample sizes and response rates for 2005, 2006, 2007, 2005-2006 combined, and 2006-2007 combined (Tables A.1 to A.12). Tables of

[4] Combining data across 2 years permits the estimation of change at the State level by expressing it as the difference of two consecutive 2-year SAE moving averages. Estimates of change between combined 2005-2006 data and the combined 2006-2007 data are presented in this report. This method is similar to the one used in the 2004-2005 and 2005-2006 State reports (Hughes et al., 2008; Wright et al., 2007).

model-based estimates for each substance use or mental health measure are included in Appendix B. The quintile rankings can be determined from these tables that include all 50 States and the District of Columbia, listed in alphabetical order, by four age categories. Estimates of change between 2005-2006 and 2006-2007 are presented in Appendix C. Estimates of change are presented for the four U.S. geographic regions in addition to State and age group. These regions, defined by the U.S. Census Bureau, consist of the following groups of States:

Northeast Region - Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

Midwest Region - Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

South Region - Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

West Region - Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Tables for individual States are available on the SAMHSA website and display all of the estimates discussed in this report by the appropriate age categories (see http://www.oas.samhsa.gov/StatesList.cfm). Also available on the SAMHSA website are tables of the total number of persons associated with each measure corresponding to the estimated percentages or rates for each substance use or mental health measure in Appendix B (see http://www.oas.samhsa.gov/2k7State/toc.cfm). Estimates for all persons aged 18 or older for all 23 measures also are available on the website.

The color of each State on the U.S. maps indicates how the State ranks relative to other States for each measure. States could fall into one of five groups according to their ranking by quintiles. Because there are 51 areas to be ranked for each measure, the middle quintile was assigned 11 areas and the remaining groups 10 each. In some cases, a "quintile" could have more or fewer States than desired because two (or more) States have the same estimate (to two decimal places). When such ties occurred at the "boundary" between two quintiles, all States with the same estimate were assigned to the lower quintile. Those States with the highest rates for a given outcome are in red, with the exception of the perceptions of risk measures, for which the lowest perceptions of great risk are in red. Those States with the lowest estimates are in white, with the exception of the perceptions of risk measures, for which the highest perceptions of great risk are in white.

At the top of each table in Appendix B is a national average that represents the population-weighted mean of the estimates from the 50 States and the District of Columbia. These national averages have been benchmarked in order to agree with the corresponding national estimates calculated as sample-weighted averages or proportions across the entire sample. (For more details, refer to Appendix A, Section A.4.) Associated with each State estimate is a 95 percent prediction interval (PI). These intervals indicate the precision of the estimate. For example, the State with the highest estimated rate of past month use of marijuana

for young adults aged 18 to 25 was Rhode Island, with a rate of 30.1 percent and a 95 percent PI that ranged from 26.4 to 34.1 percent (Table B.3). Therefore, the probability is 0.95 that the true prevalence of past month marijuana use for Rhode Island for persons aged 18 to 25 is between 26.4 and 34.1 percent. The PI indicates the uncertainty due to both sampling variability and model bias.

In this report, State rankings are discussed in terms of the range because the latter provides a useful context for the discussion. When comparing two State prevalence rates, two overlapping 95 percent PIs do not imply that their State prevalence rates are statistically equivalent at the 5 percent level of significance. For details on a more accurate test to compare State prevalence rates, see Section A.12 in Appendix A.

Estimates of change between 2005-2006 and 2006-2007 are presented in Appendix C for 23 measures, by age group (see Tables C.1 to C.24). These tables show the estimates for 2005-2006 and 2006-2007 and a *p* value to test the hypothesis that there was "no change" over this period. The report discusses differences only if they are significant at *p* values of 0.05 or less. However, *p* values greater than 0.05 but less than or equal to 0.10 also have been marked to highlight other possible changes because the year-to-year changes are often small and relatively hard to detect, especially for those measures with low prevalence rates. The methodology for estimating change involves estimating one model for 2005-2006 based on the predictor variables and the sample for those years and a separate model for 2006-2007 based on the predictor variables and sample for those years. This methodology can lead to slightly different national models (i.e., models with slightly different model coefficients for the two sets of years). The change between 2005-2006 and 2006-2007 estimates the average yearly change between 2005 and 2007. "Average yearly change" indicates the change between 2005 and 2007 divided by 2. For more details on this topic, see Section A.11 in Appendix A on measuring change in State estimates.

Information on other sources of State-level estimates is provided in Appendix D. This appendix briefly describes the Behavioral Risk Factor Surveillance System (BRFSS). Information on the contributors to this report is provided in Appendix E.

Throughout the report, there are a number of related drug measures, such as marijuana use and illicit drug use. It might appear that one could draw new conclusions by subtracting one from the other (e.g., subtracting the percentage who used marijuana in the past month from the percentage who used illicit drugs in the past month to find the percentage who used an illicit drug other than marijuana in the past month). Because related measures have not been estimated jointly, but with different models, subtracting one measure from another related measure at the State level can give misleading results, perhaps even a "negative" estimate, and should not be done.

1.3 Measures Presented in This Report

Estimates for 2006-2007 were developed for 23 measures of substance use and mental health problems:

- past month use of illicit drugs,

- past year use of marijuana,
- past month use of marijuana,
- perception of great risk of smoking marijuana once a month,
- average annual rate of first use of marijuana,[5]
- past month use of illicit drugs other than marijuana,
- past year use of cocaine,
- past year nonmedical use of pain relievers,
- past month use of alcohol,
- past month binge alcohol use,
- perception of great risk of having five or more drinks of an alcoholic beverage once or twice a week,
- past month use of tobacco products,
- past month use of cigarettes,
- perception of great risk of smoking one or more packs of cigarettes per day,
- past year alcohol dependence or abuse,
- past year alcohol dependence,
- past year illicit drug dependence or abuse,
- past year illicit drug dependence,
- past year dependence on or abuse of illicit drugs or alcohol,
- needing but not receiving treatment for illicit drug use in the past year,
- needing but not receiving treatment for alcohol use in the past year,
- past year serious psychological distress (SPD), and
- past year major depressive episode (MDE).

Estimates of change between 2005-2006 and 2006-2007 were developed for all 23 of these measures.

[5] For details on how the average annual rate of first use of marijuana (incidence of marijuana) is calculated, see Section A.6 of Appendix A.

1.4 Other NSDUH Reports and Products

The national results from the 2007 NSDUH were released in September 2008 (OAS, 2008a). Additional methodological information on the survey, including the questionnaire, is available electronically on the OAS website at http://www.oas.samhsa.gov/nsduh/methods.cfm. Brief descriptive reports and in-depth analytic reports focusing on specific issues or population groups also are produced by OAS. Further information on access to NSDUH publications, detailed tables, and public use files is contained in "Accessing Data from the National Survey on Drug Use and Health (NSDUH)" (OAS, 2004). A complete listing of previously published reports from NSDUH and other data sources is available from OAS. Most of these reports 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). Currently, data files are available for online analysis from the 1979 to 2007 NSDUHs at http://www.datafiles.samhsa.gov.

In 2008, estimates for substate planning areas based on combined 2004-2006 NSDUH data were made available on the SAMHSA website at http://www.oas.samhsa.gov/metro.htm (OAS, 2008b). The substate planning area definitions for all 50 States and the District of Columbia are based on the areas for substate allocation of funds under SAMHSA's Substance Abuse Prevention and Treatment (SAPT) block grant. Substate area estimates based on combined 2004-2006 data are available for each State and the District of Columbia for all 23 measures listed in Section 1.3. Estimates of change between 2002-2004 and 2004-2006 (when the region definitions remained unchanged between the two time periods) also are available for all measures that are defined the same way in both time periods. Along with the substate estimates, comparable State and national estimates are summarized in tables. Maps that indicate the distribution of prevalence rates across the United States are also available. The methodology used for producing substate estimates is similar to the SAE methodology used to produce the State estimates in this report.

2. Illicit Drug Use

The National Survey on Drug Use and Health (NSDUH) obtains information on nine different categories of illicit drug use: marijuana, cocaine, heroin, hallucinogens, inhalants, and 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. Nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, or sedatives is defined as use of at least one of these medications without a prescription belonging to the respondent or use that occurred simply for the experience or feeling the drug caused. Estimates of illicit drug use reflect any of the nine categories listed above.

2.1 Illicit Drugs

In 2005-2006, 8.2 percent of the U.S. population aged 12 or older had used an illicit drug in the past month, and the percentage was similar in 2006-2007 (8.1 percent) (Table C.1). Estimates of past month use of illicit drugs ranged from a low of 5.2 percent in Iowa to a high of 12.5 percent in Rhode Island for all persons aged 12 or older (Table B.1). Colorado, District of Columbia, Montana, Rhode Island, and Vermont were in the highest fifth for all persons aged 12 or older and for each of the age subgroups: 12 to 17, 18 to 25, and 26 or older (Figures 2.1 to 2.4).

Ten States showed significant changes from 2005-2006 to 2006-2007 (at the 5 percent level of significance) in the percentage of all persons aged 12 or older who used an illicit drug in the past month: Connecticut, Iowa, New Jersey, and Pennsylvania had decreases, and Arizona, Kentucky, New Mexico, Rhode Island, Virginia, and Wisconsin had increases. In the Northeast region, the use of illicit drugs among young adults aged 18 to 25 declined from 22.9 percent in 2005-2006 to 21.8 percent in 2006-2007, and among persons 12 or older the prevalence declined from 8.8 to 8.3 percent (Table C.1).

2.2 Marijuana

Marijuana, the most commonly used illicit drug, was used by 5.9 percent of the population in 2006-2007 during the past month (Table B.3). Because marijuana is the predominant drug used among those using an illicit drug, States that had high prevalence rates for illicit drug use also had high prevalence rates for past month use of marijuana. Nine of the 10 States in the top fifth for past month use of an illicit drug among persons aged 12 or older also were ranked in the top fifth for past month use of marijuana. Six States were common to the top fifth for past month marijuana use in all three age groups (12 to 17, 18 to 25, and 26 or older), and among persons 12 or older: Colorado, Maine, Montana, New Hampshire, Rhode Island, and Vermont (Figures 2.1 and 2.9 to 2.12). Iowa had the lowest rate of past month use of marijuana in 2006-2007 (3.8 percent) in the 12 or older population, and Rhode Island had the highest rate (10.3 percent) (Table B.3).

Nationally in 2006-2007, 10.2 percent of all persons aged 12 or older reported marijuana use in the past year (Table B.2). Young adults aged 18 to 25 reported the highest rate of past year use of marijuana, 27.7 percent. Utah had the lowest rate (7.2 percent) of past year use of

marijuana among persons aged 12 or older. Rhode Island had the highest rate of past year marijuana use in that age group (16.1 percent).

Eight States showed significant changes in the past year use of marijuana among all persons aged 12 or older between 2005-2006 and 2006-2007: Connecticut, Kansas, Montana, Pennsylvania, and Utah had decreases, whereas Kentucky, North Dakota, and Virginia had increases. Ten States showed significant changes in the past month use of marijuana among all persons 12 or older: Connecticut, Iowa, Pennsylvania, and West Virginia had decreases, and the District of Columbia, Kentucky, Michigan, New Mexico, Rhode Island, and Virginia had increases (Tables C.2 and C.3).

2.3 Perceptions of Risk of Marijuana Use

An individual's perception of the risks of substance use has been shown to be inversely related to whether he or she actually uses the substance (e.g., Bachman, Johnston, & O'Malley, 1998). At the State level, 9 of the 10 States that ranked in the lowest fifth of perceived great risk of using marijuana once a month were also among the States that ranked in the highest fifth for past month use of marijuana in 2006-2007 for persons aged 12 or older (Figures 2.9 and 2.13).

Slightly over one quarter (26.2 percent) of all persons aged 12 or older in New Hampshire reported that using marijuana occasionally (once a month) was a great risk (Table B.4). However, in Mississippi slightly more than half (51.4 percent) of all persons aged 12 or older indicated that occasional use of marijuana was a great risk. Although Mississippi (4.6 percent) did not have the lowest rate for past month marijuana use among persons aged 12 or older, it ranked in the lowest fifth for that measure (Table B.3 and Figure 2.9).

The national percentage of persons aged 12 or older perceiving a great risk of using marijuana once a month remained unchanged between 2005-2006 and 2006-2007 (both at 38.9 percent) (Table C.4). Seven States showed a significant change in the perceived risk of using marijuana once a month among persons 12 or older: Arkansas, Colorado, and South Dakota showed decreases, whereas Idaho, Kansas, Nebraska, and Wisconsin had increases.

2.4 Incidence of Marijuana Use

Related to the prevalence of marijuana use is the number of persons in a period of time who used marijuana for the first time ever. When the number of first-time users of a substance increases for a number of consecutive years, the prevalence rate for the substance tends to increase also. The average annual incidence of marijuana for this report is estimated somewhat differently from the method used for the national report (OAS, 2008a).[6] The estimate for a single year is averaged over the 2 most recent years and expressed as a rate per 100 person years of exposure. For the combined years 2006-2007, the national marijuana incidence rate for all persons aged 12 or older was 1.6 percent (Table B.5). Vermont had the highest rate (2.5 percent), and Utah had the lowest rate (1.2 percent).

[6] *Average annual rate* = $100*\{[X_1 \div (0.5 * X_1 + X_2)] \div 2\}$, where X_1 is the number of marijuana initiates in the past 24 months and X_2 is the number of persons who never used marijuana. Note that because the average annual incidence of marijuana was so low for the 26 or older age group and had such an abbreviated range, no map has been included for it; however, Table B.5 includes these estimates. For details on how average annual incidence was calculated, see Section A.6 in Appendix A.

Seven States that were ranked in the top fifth for marijuana incidence in the 12 or older age group also ranked in the top fifth for past month marijuana use (Alaska, Colorado, District of Columbia, Massachusetts, New Hampshire, Rhode Island, and Vermont) (Figures 2.9 and 2.17). Because most initiation of marijuana takes place at age 25 or earlier (Gfroerer, Wu, & Penne, 2002), the rates of initiation in the 26 or older age group were much lower than those in the 18 to 25 and 12 to 17 age groups: The national rates were 0.1, 6.3, and 5.6 percent, respectively (Table B.5). Vermont had the highest rate among youths aged 12 to 17 (8.1 percent) and among young adults aged 18 to 25 (11.5 percent). Utah had the lowest rate among youths aged 12 to 17 (3.4 percent) and among young adults aged 18 to 25 (3.3 percent).

Seven States showed significant changes in marijuana incidence rates among persons 12 or older between 2005-2006 and 2006-2007: Delaware and Utah showed declines, and Colorado, Kentucky, North Dakota, Ohio, and Rhode Island showed increases (Table C.5).

2.5 Illicit Drugs Other Than Marijuana

Illicit drugs other than marijuana include cocaine, heroin, hallucinogens, inhalants, and the nonmedical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives. The national estimate of past month use of illicit drugs other than marijuana among persons aged 12 or older was 3.8 percent for 2006-2007 combined (Table B.6). Iowa, North Dakota, and South Dakota had the lowest rate (2.6 percent) of past month use of an illicit drug other than marijuana among persons 12 or older, and Arizona and Rhode Island had the highest rate (5.5 percent). Five States that were in the top fifth for past month use of an illicit drug among those aged 12 or older also were ranked in the top fifth for past month use of an illicit drug other than marijuana: Colorado, District of Columbia, Oregon, Rhode Island, and Washington (Figures 2.1 and 2.20).

Nationally, the rate of past month use of illicit drugs other than marijuana decreased between 2005-2006 and 2006-2007 among all persons aged 18 to 25 (from 8.8 to 8.5 percent) (Table C.6). Five States showed significant changes among persons aged 12 or older: Connecticut and Iowa had decreases, and Arizona, Rhode Island, and Wisconsin had increases.

2.6 Cocaine

The 2006-2007 national prevalence rate for the use of cocaine in the past year among all persons aged 12 or older was 2.4 percent (Table B.7). Because cocaine is one of the substances included in the "illicit drug use other than marijuana" category, it is useful to compare the rankings of States with respect to these two measures. In 2006-2007, five States (Arizona, Colorado, District of Columbia, Rhode Island, and Tennessee) ranked in the highest fifth for both past month use of an illicit drug other than marijuana (aged 12 or older) and past year use of cocaine (aged 12 or older) (Figures 2.20 and 2.24). The District of Columbia had the highest rate of past year cocaine use (5.1 percent) among persons aged 12 or older; Mississippi had the lowest rate (1.6 percent) in that population (Table B.7). Arizona, Colorado, and Rhode Island ranked in the top fifth for past year cocaine use among all three age groups (12 to 17, 18 to 25, and 26 or older) and among persons 12 or older (Figures 2.24 to 2.27). It is interesting to note that the District of Columbia had the highest rate of past year cocaine use among persons aged 26 or older (5.4 percent), but it had the lowest rate among youths aged 12 to 17 (0.8 percent) along with Mississippi.

Kansas (from 2.9 to 2.2 percent) and Nebraska (from 2.4 to 1.9 percent) showed significant decreases, and Wisconsin (from 1.8 to 2.4 percent) showed a significant increase in past year cocaine use among persons aged 12 or older between 2005-2006 and 2006-2007 (Table C.7).

2.7 Pain Relievers (Nonmedical Use)

Nonmedical use of prescription-type pain relievers is defined as use of these drugs without a prescription or use that occurred simply for the experience or feeling the drug caused. Over-the-counter (OTC) use and legitimate use of prescription-type pain relievers are not included. In 2006-2007, 5.1 percent of all persons aged 12 or older reported having used pain relievers nonmedically in the past year, a percentage that remained relatively unchanged from 2005-2006 (5.0 percent) (Table C.8). In 2006-2007, Arkansas had the highest percentage (7.3 percent) of persons aged 12 or older using pain relievers for nonmedical purposes in the past year, and South Dakota had the lowest rate in the Nation—3.4 percent (Table B.8). Arkansas, Kentucky, Oklahoma, and Tennessee ranked in the top fifth of States for this measure in each of the three age groups (12 to 17, 18 to 25, and 26 or older) and for the total population aged 12 or older (Figures 2.28 to 2.31).

Nine States showed significant changes in the nonmedical use of pain relievers in the past year between 2005-2006 and 2006-2007: Connecticut, Florida, Iowa, Nebraska, and Utah had declines, and Arizona, Arkansas, Ohio, and Wisconsin showed increases (Table C.8).

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Please note that these associated maps will open in separate PDF documents.

3. Alcohol Use

A number of measures of alcohol use are available from the National Survey on Drug Use and Health (NSDUH). This report discusses past month alcohol use, past month binge alcohol use, and the perceived risk of binge alcohol use. Past month alcohol use is the consumption of at least one drink during the past 30 days (includes binge use). Binge alcohol use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the 30 days prior to the survey. 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. Respondents are asked to exclude occasions when only a sip or two is consumed from a drink. Alcohol is the most commonly used substance in the United States. Nationally, about half (51.0 percent) of Americans aged 12 or older reported being past month drinkers of alcohol in 2006-2007 (Table B.9). This figure was similar to the rate in 2005-2006 (51.4 percent) (Table C.9).

In addition to information on alcohol use among persons aged 12 or older and each of the three age groups (12 to 17, 18 to 25, and 26 or older), estimates of past month alcohol use and binge alcohol use for persons aged 12 to 20 are presented in this report to provide information on underage drinking at the State level. Nationally, neither of these underage drinking measures changed significantly between 2005-2006 and 2006-2007; however, there were some changes at the State level (Table C.12).

3.1 Alcohol

In 2006-2007, the rate of past month alcohol use in States among all persons aged 12 or older ranged from a low of 30.9 percent in Utah to a high of 63.1 percent in Rhode Island (Table B.9). The highest rates of past month alcohol use occurred in the 18 to 25 age group, with North Dakota having the highest rate (75.7 percent). Six States ranked in the top fifth for all three age groups (12 to 17, 18 to 25, and 26 or older) and among persons 12 or older: Connecticut, Massachusetts, North Dakota, Rhode Island, Vermont, and Wisconsin (Figures 3.1 to 3.4). Among persons 12 or older, 8 of the 10 States that were ranked in the bottom fifth for past month alcohol use were in the South (Alabama, Arkansas, Kentucky, Mississippi, North Carolina, Oklahoma, Tennessee, and West Virginia) (Figure 3.1).

Two States showed significant increases from 2005-2006 to 2006-2007 in the percentage of all persons aged 12 or older who used alcohol in the past month: Delaware and Massachusetts (Table C.9). Four States showed a significant decrease in past month alcohol use among persons aged 12 or older: Alabama, Arizona, Idaho, and Texas. Four States showed decreases in past month alcohol use in the 12 to 17 year old age group: Idaho, Mississippi, Montana, and Texas. No States showed significant increases in alcohol use among the 12 to 17 year olds.

Past month use of alcohol among persons aged 12 to 20 (underage use of alcohol) ranged from a low of 17.3 percent in Utah to a high of 40.0 percent in North Dakota (Table B.12). Although there was no significant change at the national level in underage alcohol use between 2005-2006 and 2006-2007, 10 States displayed changes (Table C.12): Maine, Montana, New

Jersey, South Dakota, Texas, and Utah had significant decreases. The District of Columbia, Maryland, North Dakota, and Washington had significant increases.

3.2 Binge Alcohol Use

Nationally, almost a quarter (23.2 percent) of all persons aged 12 or older participated in binge use of alcohol in the past month in 2006-2007 (Table B.10). In 2006-2007, the past month rate of binge use of alcohol among persons aged 12 or older ranged from 15.6 percent in Utah to 32.0 percent in North Dakota. Five States were ranked in the top fifth in all three age groups (12 to 17, 18 to 25, and 26 or older) and among persons 12 or older: Minnesota, North Dakota, Rhode Island, Wisconsin, and Wyoming (Figures 3.5 to 3.8). The highest rates of binge use of alcohol occurred among young adults aged 18 to 25. North Dakota (58.1 percent) had the highest rate in this age group, more than double the highest rate among persons aged 26 or older (North Dakota at 28.7 percent) and more than 4 times the highest rate among youths aged 12 to 17 (Connecticut at 13.2 percent) (Table B.10).

Four States showed significant changes in binge alcohol use between 2005-2006 and 2006-2007 among persons 12 or older. Of these, Delaware was the only State to have a significant increase, whereas Idaho, Nebraska, and Texas had declines (Table C.10).

Utah (13.3 percent) had the lowest rate for past month underage (aged 12 to 20) binge use of alcohol, and North Dakota had the highest rate for this measure (29.5 percent) (Table B.12). Eight of the States that ranked in the highest fifth for past month underage use of alcohol also ranked in the highest fifth for past month underage binge use of alcohol: Connecticut, Massachusetts, New Hampshire, North Dakota, Rhode Island, Vermont, Wisconsin, and Wyoming (Figures 3.13 and 3.14). Nationally, the rate of underage binge use of alcohol was 18.8 percent.

Although there was no change at the national level, four States displayed changes between 2005-2006 and 2006-2007 for underage binge use of alcohol. Texas and Utah showed decreases, whereas Connecticut and the District of Columbia showed increases (Table C.12).

3.3 Perceptions of Risk of Binge Alcohol Use

In 2006-2007, 42.1 percent of all persons aged 12 or older perceived a great risk of binge drinking (Table B.11). People's perceptions of the risk of binge drinking were moderately and inversely related to their actual rates of binge drinking at the State level in 2006-2007. Seven of the 10 States (Iowa, Massachusetts, Minnesota, North Dakota, South Dakota, Wisconsin, and Wyoming) with the highest rates of binge use of alcohol in 2006-2007 among persons 12 or older also were States with the lowest perceived risk of binge drinking for the population aged 12 or older (Figures 3.5 and 3.9). Among persons aged 12 or older, New Hampshire had the lowest percentage (33.2 percent) perceiving a great risk of drinking five or more drinks of alcohol on a single occasion, while Utah had the highest rate at 49.5 percent (Table B.11).

Between 2005-2006 and 2006-2007, there was an increase in the Northeast region among young adults aged 18 to 25 in the perception of the risk of binge drinking from 29.7 to 30.9 percent (Table C.11). Only Colorado (decrease from 29.8 to 25.8 percent), Pennsylvania

(increase from 27.7 to 30.2 percent), and Texas (increase from 34.7 to 37.2 percent) showed changes among the States in that age group.

Please use the bookmarks palette to access the U.S. maps for this chapter (Figures 3.1 to 3.14 on pages 40-46).

Please note that these associated maps will open in separate PDF documents.

4. Tobacco Use

Tobacco is the second most commonly used substance in the United States next to alcohol. The National Survey on Drug Use and Health (NSDUH) includes a series of questions on the use of several tobacco products, including cigarettes, smokeless tobacco (chewing tobacco and snuff), cigars, and pipe tobacco. Using 2006 and 2007 NSDUH data, this chapter includes State estimates on past month use of tobacco, past month use of cigarettes, and the perceptions of risk of heavy use of cigarettes. The latter is defined as smoking one or more packs of cigarettes per day.

Most tobacco users are cigarette smokers. However, differences in past month prevalence estimates for cigarettes and tobacco (around 4.5 percent nationally) represent persons who do not smoke cigarettes, but who use one of the other forms of tobacco (chewing tobacco, snuff, cigars, or pipe tobacco) (Tables B.13 and B.14). Nationally, both the percentage of tobacco use and the percentage of cigarette use in the past month were unchanged between 2005-2006 and 2006-2007 for the total population aged 12 or older (Tables C.13 and C.14). However, there were significant declines nationally for both measures among other age groups (from 44.1 to 42.9 percent for past month tobacco use among young adults aged 18 to 25; from 10.6 to 10.1 percent for past month cigarette use among youths aged 12 to 17; and from 38.7 to 37.3 percent for past month cigarette use among persons aged 18 to 25).

4.1 Tobacco

Nationally among persons aged 12 or older, the rate for past month use of tobacco in 2006-2007 was 29.1 percent (Table B.13). The State with the highest prevalence rate for tobacco use among persons aged 12 or older was West Virginia (37.8 percent). Utah had the lowest rate in the Nation for tobacco use among all persons aged 12 or older (20.0 percent). Seven of the top 10 States for past month tobacco use among persons 12 or older were Southern States. Arkansas, Kentucky, Ohio, West Virginia, and Wyoming ranked in the highest fifth for all three age groups (12 to 17, 18 to 25, and 26 or older) and among all persons 12 or older (Figures 4.1 to 4.4).

Eight States showed changes in past month tobacco use among persons 12 or older between 2005-2006 and 2006-2007: Colorado had an increase from 26.5 to 29.8 percent, while Idaho, Massachusetts, Michigan, Montana, New York, Utah, and West Virginia had declines (Table C.13). The Northeast region had a decrease in tobacco use as well (28.1 to 27.1 percent). Across the three age groups (12 to 17, 18 to 25, and 26 or older) and across all States, there were 15 significant changes in past month tobacco use between 2005-2006 and 2006-2007. Most of these changes were declines.

4.2 Cigarettes

In 2006-2007, the national rate for past month use of cigarettes among persons aged 12 or older was 24.6 percent, which was similar to the national rate in 2005-2006 (25.0 percent) (Table C.14). Because cigarettes are the main tobacco product, States that ranked high for past month tobacco use also ranked high for past month cigarette use. In fact, all of the 10 States in the highest fifth for past month use of tobacco also were in the highest fifth for past month cigarette

use among persons aged 12 or older (Figures 4.1 and 4.5). Similarly, all of the 10 States ranked in the lowest fifth among persons 12 or older were the same for both measures. As was the case for past month tobacco use, West Virginia had the highest rate of past month cigarette use in the Nation (31.1 percent), and Utah had the lowest rate (17.5 percent) for all persons aged 12 or older (Table B.14).

Although the national rate for past month use of cigarettes among persons aged 12 or older remained the same between 2005-2006 and 2006-2007, the rate of cigarette use in the 12 to 17 age group had a significant decline, from 10.6 to 10.1 percent, and the rate of cigarette use in the 18 to 25 age group declined from 38.7 to 37.3 percent (Table C.14). Among all persons 12 or older, Colorado was the only State to show an increase in cigarette use (from 22.2 to 24.4 percent), while Idaho, Massachusetts, Michigan, Montana, and New York all showed declines. Across the three age groups (12 to 17, 18 to 25, and 26 or older) and across all States, there were 16 significant changes in cigarette use between 2005-2006 and 2006-2007. With the exception of Colorado, where cigarette use increased among persons aged 26 or older, these changes were all declines.

4.3 Perceptions of Risk of Heavy Cigarette Use

States with high prevalence rates for cigarette use tended to have low rates of perceived risk of heavy cigarette use (i.e., smoking one or more packs a day). Six States (Alabama, Kentucky, Missouri, Ohio, Oklahoma, and West Virginia) that ranked in the lowest fifth for perceptions of great risk of smoking one or more packs of cigarettes a day also were ranked in the highest fifth for past month cigarette use among persons aged 12 or older (Figures 4.5 and 4.9). West Virginia had the lowest rate of perception of great risk for heavy cigarette use (67.9 percent), and the District of Columbia had the highest rate (78.6 percent) among persons aged 12 or older (Table B.15).

The rates of perception of great risk of smoking one or more packs of cigarettes a day remained almost the same from 74.1 percent in 2005-2006 to 73.9 percent in 2006-2007 among persons 12 or older (Table C.15). Among young adults aged 18 to 25, there was a significant increase in the perception of risk of smoking one or more packs of cigarettes a day in the Northeast (from 70.9 to 73.1 percent). Among persons aged 12 or older, Montana had a significant increase from 71.3 to 74.5 percent; whereas Ohio had a decrease from 70.6 to 69.0 percent.

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Please use the bookmarks palette to access the U.S. maps for this chapter (Figures 4.1 to 4.12 on pages 50-55).

Please note that these associated maps will open in separate PDF documents.

5. Substance Dependence, Abuse, and Treatment Need

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 drugs. These questions are used to classify persons as being 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 on dependence ask about health and emotional problems, attempts to cut down on use, tolerance, withdrawal, and other symptoms associated with substances used. 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 reflects a more severe substance problem than abuse, and persons are classified with abuse of a particular substance only if they are not dependent on that substance. For details, see Section A.8 in Appendix A.

Nationally, an estimated 22.5 million persons aged 12 or older in 2006-2007 were classified with dependence on or abuse of any illicit drug or alcohol in the past year. Of these, 6.9 million were dependent on or had abused illicit drugs, and 18.7 million were dependent on or had abused alcohol (see Tables 16, 18, and 20 at http://www.oas.samhsa.gov/2k7state/ageTabs.htm).

5.1 Alcohol Dependence or Abuse

In 2006-2007, 7.6 percent of the population aged 12 or older was classified with dependence on or abuse of alcohol nationwide in the past year (Table B.16). Persons aged 18 to 25 had the highest rate of alcohol dependence or abuse (17.2 percent) in the Nation. At the State level, the District of Columbia had the highest rate (10.1 percent) among persons aged 12 or older, and West Virginia had the lowest rate (6.1 percent). Six States (Colorado, Minnesota, Montana, North Dakota, South Dakota, and Wyoming) ranked in the highest fifth for all three age groups (12 to 17, 18 to 25, and 26 or older) and among all persons 12 or older (Figures 5.1 to 5.4).

Nationally, past year dependence on or abuse of alcohol remained relatively unchanged between 2005-2006 and 2006-2007 at 7.7 percent and 7.6 percent, respectively, for all persons aged 12 or older (Table C.16). Rates of past year dependence on or abuse of alcohol for the 12 to 17, 18 to 25, and 26 or older age groups remained relatively constant during these years as well. Across all age groups (12 to 17, 18 to 25, and 26 or older), including the combined 12 or older age group, there were eight significant changes across six States. Five States exhibited decreases (Michigan, Missouri, Montana, Texas, and Utah). The only increases occurred in Hawaii.

In 2006-2007, 3.4 percent of persons aged 12 or older nationwide were estimated to be dependent on alcohol in the past year, representing about 45 percent of those who were dependent on or had abused alcohol in the past year (Tables B.16 and B.17). State estimates for

alcohol dependence for persons aged 12 or older ranged from a low of 2.8 percent in North Carolina and Pennsylvania to a high of 4.7 percent in the District of Columbia. The highest rates for alcohol dependence occurred in the 18 to 25 age group (7.4 percent nationally). In 2006-2007 among young adults, these rates ranged from a low of 5.8 percent in Georgia to a high of 10.0 percent in Montana. Four States that ranked in the highest fifth in the 12 or older population for dependence on or abuse of alcohol in the past year also were ranked in the highest fifth for past year alcohol dependence (District of Columbia, Iowa, Montana, and Wyoming) (Figures 5.1 and 5.5). Wyoming's past year alcohol dependence rate increased from 2.7 percent in 2005-2006 to 3.4 percent in 2006-2007 among persons aged 26 or older. The rate for Wisconsin's 12 or older age group increased from 3.2 percent in 2005-2006 to 3.8 percent in 2006-2007. No other States experienced a change in the past year alcohol dependence rate between 2005-2006 and 2006-2007 (Table C.17).

5.2 Illicit Drug Dependence or Abuse

Nationally in 2006-2007, about 2.8 percent of persons aged 12 or older were dependent on or had abused illicit drugs in the past year (Table B.18). The District of Columbia had the highest rate of past year illicit drug dependence or abuse (4.5 percent) among persons aged 12 or older; Iowa and South Dakota had the lowest rate (2.1 percent). The highest rates for past year illicit drug dependence or abuse occurred in the 18 to 25 age group (7.9 percent nationally), with the highest rate in Rhode Island (13.0 percent) and the lowest rate in Iowa and North Dakota (5.9 percent). Among the 18 to 25 year old age group, decreases in the rates of past year illicit drug dependence or abuse occurred in Connecticut, Pennsylvania, and West Virginia between 2005-2006 and 2006-2007. Increases occurred in Kentucky and Ohio (Table C.18).

The percentage of persons aged 12 or older in 2006-2007 estimated to be dependent on illicit drugs in the past year was 1.9 percent (about two thirds of those who were estimated to be dependent on or had abused illicit drugs in the past year) (Tables B.18 and B.19). The District of Columbia had the highest percentage of persons aged 12 or older who were dependent on illicit drugs in the past year (3.1 percent). Hawaii and South Dakota had the lowest rate (1.4 percent). Among the 18 to 25 year old age group, declines in past year illicit drug dependence occurred in Connecticut, Michigan, and Vermont. There were no significant changes in the 12 to 17 or 26 or older age groups. Among the 12 or older population, Kansas had a significant decline in past year illicit drug dependence rates (Table C.19).

5.3 Alcohol or Illicit Drug Dependence or Abuse

The national rate in 2006-2007 for past year dependence on or abuse of alcohol or illicit drugs among persons aged 12 or older was 9.1 percent (Table B.20). When examining dependence on or abuse of alcohol or illicit drugs at the State level, the States with high rates for alcohol dependence or abuse tended to rank in the top fifth for alcohol and illicit drug dependence or abuse combined because alcohol accounts for most of the substance dependence or abuse. Nine of the 10 States that ranked in the highest fifth for past year alcohol dependence or abuse also ranked in the top fifth for past year dependence on or abuse of alcohol or illicit drugs among persons aged 12 or older (Colorado, District of Columbia, Massachusetts, Minnesota, Montana, North Dakota, South Dakota, Wisconsin, and Wyoming) (Figures 5.1 and 5.17).

State percentages for past year dependence on or abuse of alcohol or illicit drugs among persons aged 12 or older in 2006-2007 ranged from a low of 7.5 percent in New Jersey to a high of 12.6 percent in the District of Columbia (Table B.20). Only three States (Colorado, Minnesota, and Wyoming) were in the highest fifth for all three age groups (12 to 17, 18 to 25, and 26 or older) and among all persons 12 or older (Figures 5.17 to 5.20).

Among all persons aged 12 or older, the rate of past year dependence on or abuse of alcohol or illicit drugs nationwide remained nearly constant at 9.2 and 9.1 percent, respectively, in 2005-2006 and 2006-2007 (Table C.20). The only significant national change occurred among young adults aged 18 to 25, where there was a decrease from 21.6 to 21.0 percent. At the State level, decreases were noted among this age group in Connecticut, Michigan, Nebraska, and Texas.

5.4 Needing But Not Receiving Treatment for Illicit Drug Problems

The definition of a person needing but not receiving treatment for an illicit drug problem is that the person meets the criteria for abuse of or dependence on illicit drugs in the past year according to the DSM-IV, but did not receive specialty treatment for an illicit drug problem in the past year. Specialty treatment is treatment received at a drug or alcohol rehabilitation facility (inpatient or outpatient), hospital (inpatient only), or mental health center. It does not include treatment at an emergency room, private doctor's office, self-help group, prison, or jail, or hospital as an outpatient. The national rate in 2006-2007 for needing but not receiving treatment for an illicit drug problem among persons aged 12 or older was 2.5 percent (Table B.21).

In 2006-2007, Rhode Island had the highest percentage of persons aged 12 or older (3.7 percent), 12 to 17 (5.2 percent), and 18 to 25 (12.1 percent) needing but not receiving treatment for an illicit drug use problem. Iowa, Kansas, New Jersey, and North Dakota shared the lowest rate among persons 12 or older (1.9 percent). North Dakota had the lowest rate among youths aged 12 to 17 (3.4 percent), among young adults aged 18 to 25 (5.3 percent), and among persons 26 or older (0.9 percent) (Table B.21). The States in the top fifth for needing but not receiving treatment for an illicit drug use problem among persons 12 or older were distributed across the West (three States), Northeast (two States), and the South (four States and the District of Columbia) (Figure 5.21).

Among the three age groups, statistically significant declines in the percentage needing but not receiving treatment for illicit drug use between 2005-2006 and 2006-2007 occurred among 12 to 17 year olds in Arkansas, Florida, Maine, and Montana. Among 18 to 25 year olds, decreases were noted in Connecticut and West Virginia; increases were noted in Kentucky and Ohio (Table C.21).

5.5 Needing But Not Receiving Treatment for Alcohol Problems

The definition of a person needing but not receiving treatment for an alcohol problem is that the person meets the criteria for abuse of or dependence on alcohol in the past year according to the DSM-IV, but did not receive specialty treatment for an alcohol problem in the past year. The percentage of persons aged 12 or older needing but not receiving treatment for alcohol problems was 7.2 percent in 2006-2007, which was almost 3 times larger than the

corresponding percentage of persons needing but not receiving treatment for illicit drug problems (2.5 percent) (Tables B.21 and B.22).

States in the top fifth for needing but not receiving treatment for alcohol problems among persons aged 12 or older in 2006-2007 were primarily Midwestern (Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin) or Western (Colorado, Montana, and Wyoming) (Figure 5.25). The District of Columbia and Massachusetts rounded out the top 10. Colorado, the District of Columbia, and Montana were ranked in the highest quintile for both needing but not receiving treatment for an alcohol problem and needing but not receiving treatment for an illicit drug problem among persons aged 12 or older (Figures 5.21 and 5.25). Five States were ranked in the top fifth for needing but not receiving treatment for alcohol problems among persons aged 12 or older and in each of the three age categories (12 to 17, 18 to 25, and 26 or older): Colorado, Minnesota, North Dakota, South Dakota, and Wyoming (Figures 5.25 to 5.28). The District of Columbia had the highest rate of needing but not receiving treatment for an alcohol problem among persons aged 12 or older (9.7 percent), while Kentucky had the lowest rate (5.8 percent) (Table B.22). Although the District of Columbia also had highest rate of needing but not receiving treatment for an alcohol problem among persons aged 26 or older (8.3 percent), it had the lowest rate among 12 to 17 year olds (3.5 percent).

Among persons aged 12 or older needing but not receiving treatment for an alcohol problem, there was no significant change between 2005-2006 (7.3 percent) and 2006-2007 (7.2 percent) for the Nation; however, there was a significant decrease in Texas and a significant increase in Hawaii (Table C.22). Among 12 to 17 year olds, significant decreases occurred in Kentucky and Montana. Among 18 to 25 year olds, decreases occurred in Michigan and Missouri. Among persons 26 years or older, an increase occurred in Hawaii.

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Please use the bookmarks palette to access the U.S. maps for this chapter (Figures 5.1 to 5.28 on pages 62-75).

Please note that these associated maps will open in separate PDF documents.

6. Mental Health Problems

6.1 Serious Psychological Distress among Adults

Serious psychological distress (SPD) is an overall indicator of past year psychological distress that is derived from the K6 screening instrument for nonspecific psychological distress (Kessler et al., 2003). In the National Survey on Drug Use and Health (NSDUH), the K6 scale is administered to adults aged 18 or older. Numerical scores derived from responses to these six questions range from 0 to 24. For this report, a score of 13 or higher is considered as having SPD (for details, see Section A.9 in Appendix A).

In 2006-2007, SPD was present in 11.1 percent of the population aged 18 or older and was statistically unchanged from the rate in 2005-2006 (11.3 percent) (Table C.23). West Virginia had the highest rate of SPD in the past year among persons aged 18 or older (14.4 percent), while Hawaii had the lowest rate (8.2 percent). Indiana, Tennessee, and West Virginia were in the top fifth for both age groups (18 to 25 and 26 or older) and among all persons 18 or older (Figures 6.1 to 6.3).

Hawaii, Vermont, and Washington showed significant declines in SPD between 2005-2006 and 2006-2007 among young adults aged 18 to 25. (Table C.23). In addition, the West region showed a significant decline among young adults aged 18 to 25. Kansas and Utah showed significant decreases among persons aged 26 or older and among persons aged 18 or older. No other changes occurred at the national, regional, or State level.

6.2 Major Depressive Episode

Major depressive episode (MDE) was derived from the criteria specified for major depression in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) (American Psychiatric Association [APA], 1994). The MDE questionnaire module in NSDUH permits estimates to be calculated for lifetime and past year prevalence of MDE, treatment for MDE, and role impairment resulting from MDE. For this report, estimates were produced only for having MDE in the past year. For details on how MDE is defined, refer to Section A.10 in Appendix A.

In 2006-2007, 7.3 percent of all persons aged 18 or older experienced having MDE in the past year, which remained unchanged from the rate in 2005-2006 (Table C.24). Rates for the three age groups nationally were 8.0 percent among youths aged 12 to 17, 9.0 percent among young adults aged 18 to 25, and 7.1 percent among adults aged 26 or older (Table B.24).

For the 18 or older population, Tennessee had the highest rate (9.8 percent) of having MDE in the past year in 2006-2007, and Hawaii had the lowest rate (5.0 percent) (Table B.24). Seven of the 10 States in the highest fifth for past year MDE among persons 18 or older were also in the highest fifth for past year SPD (Arkansas, Indiana, Kentucky, Missouri, Oklahoma, Tennessee, and West Virginia) (Figures 6.1 and 6.4).

Nationally, there was a decrease among persons aged 18 to 25 who experienced MDE in the past year from 2005-2006 (9.4 percent) to 2006-2007 (9.0 percent). In addition, there were decreases in MDE rates among youths aged 12 to 17 in Florida and young adults aged 18 to 25 in Massachusetts, Utah, and Vermont (Table C.24).

For details on the adult and adolescent modules for MDE, see Section B.4.5 in Appendix B of the 2007 NSDUH's national results report (Office of Applied Studies [OAS], 2008a, pp. 135-139).

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